

PART 5

WORK MANAGEMENT

CHAPTER 1 - WORK REQUESTS

1-1 INTRODUCTION

- A. Facilities Managers use work requests as one of their administrative tools to control the workload of the department without necessarily going to the job site. A work request is the method used by the Facilities Manager to document all work performed by his/her subordinates regardless of the type of duty or purpose. It is intended that all duties performed by facilities employees whether maintenance related (carpentry) or not (ambulance driving) be documented by use of the work request form (HSA-272, Maintenance Work Request). Complying with this methodology will allow all work performed by facilities employees to be tracked in a uniform system by employee, date, trade, equipment (if applicable) and cost. A work request may serve many purposes to a Facilities Manager other than simply to assign or document work performed by subordinates.

Various uses of work requests include:

- (1) Communication - Serves as a clear indication of the work the Facilities Manager assigns to subordinate employees. It contains a brief scope of the work that needs to be performed, the name of the individual who requested the work, the date the work was requested, the phone number where more information on the work request can be obtained, and the location (room number) where the work needs to be accomplished.
- (2) Estimating - Serves as a method to estimate the work that needs to be performed by the assigned subordinate employees and eventually the sum of the departmental staff hours. This can serve as a method for the Facilities Manager to check himself/herself on the effectiveness of the facilities work force and fine tune his/her estimating skills. It ultimately provides a more accurate means of estimating the staffing resources needed for operating the facilities department.
- (3) Authorization - Serves to document a request by a supervisor in another department, for work that requires facilities employee accomplishment. When the work request is approved by the Facilities Manager the request becomes an authorization for facilities employees to perform work (directly or indirectly) in the department specified in the work request.
- (4) Scheduling - Allows the Facilities Manager to schedule work as it is generated by internal facilities schedules (i.e., preventive maintenance). It ultimately allows a simple method of reviewing additional incoming daily work requests

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

for prioritization along with existing assigned facilities workloads.

- (5) Record Keeping - Allows the creation of a "historical record" that is filed for future use in the management of the facilities program. It allows facilities employees to insert in the work request document relevant information for the Facilities Manager to utilize in the implementation of the facilities work management program (i.e., labor and material costs). It provides a means of evaluating the maintenance effort being accomplished at the facility.
- (6) Cost Accounting - Allows the documentation of facilities labor and materials costs which can be used to back charge different department program accounts. The repair cost data is also posted in the equipment record cards which are used in the management of the equipment replacement program.
- (7) Material Control - Allows the tracking of material in inventory, through the posting of charges and deductions of material used to in work requests.
- (8) Labor Tracking - Allows the tracking of labor which will assist in facilities labor effectiveness studies. It can be used to document the labor that is required to staff certain aspects of a facilities department.

B. Work request procedures lie at the very heart of the department's management of work. Unless there is control of work requests, the work force cannot be controlled. In order for the Facilities Manager to operate a successful work management program the work request system must be adequate to:

- * Classify work
- * Describe work in clearly in writing
- * Obtain authorization from the Facilities Manager
- * Record, plan and schedule work (prioritize)
- * Assign work
- * Account for resources
- * Achieve tracking of effectiveness

1-2 CLASSIFICATION OF WORK REQUESTS

A. It is important that the Facilities Manager distinguish between verbal and written work requests. All requests for work must follow the following criteria:

VERBAL REQUESTS WILL BE ACCEPTED AND ACTED UPON BY FACILITIES IF;

- (1) A true emergency exists. True emergencies are situations which pose an imminent danger to patients, employee safety, visitors, and/or pose a threat to government property.

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

- (2) It is a quick job. Quick jobs must satisfy all three of the following:
- a. Job takes 15 minutes or less.
 - b. Job costs less than \$50.
 - c. Job can be done within the skill level of the person to whom the request is made and with the parts and materials on hand.

NOTE: ALL WORK PERFORMED ON "CRITICAL EQUIPMENT MUST BE FOLLOWED UP WITH A WRITTEN WORK REQUEST OPENED AND CLOSED AFTER COMPLETION OF THE JOB.

- B. All other requests for work must be in writing and be submitted in form HSA-272.
- C. Generally, work at a health care facility is routine and falls under clearly defined categories:

(1) MAINTENANCE - This is the type of work that facilities employees are required to accomplish at a facility and the main purpose of the facilities department. Under the maintenance category there are variations of this maintenance work. In IHS they are categorized as follows:

- a. Routine Maintenance - This is documented through the facilities work requests generated by other departments in the facility. This is unscheduled work; therefore, it cannot be forecasted in advance. This workload increases as the facility and the equipment get older. These requests are not emergencies. Generally the work can be scheduled by facilities within 5 to 30 days after receipt of the request and with available material on site. Delays in accomplishing this work will not drastically curtail the operation of the requestor. There is no adverse impact in patient care. The workload can be implied by a review of historical work requests in an existing facility. This can only be accomplished if the facility has an effective work management program in place.
- b. Emergency Repairs - This is unscheduled workload generated by other departments in the facility which require immediate action by facilities. Sometimes it requires immediate temporary action, with future permanent work at a later date. This deficiency obstructs or hinders patient care and cannot be delayed. Operation of a department is hampered as a result of the inability of employees to perform their duties and/or damage to government property. This work is generally attributed to the existence of a poor preventive maintenance program or the lack of a

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

regularly scheduled equipment replacement program. This work can never be estimated. It increases exponentially as the building ages.

- c. Preventive Maintenance - This involves scheduled facilities generated work that is accomplished on a routine basis to inspect and make adjustments to the real property and equipment which will enhance, prolong and ensure its operation. This work is performed solely as an economic means to utilize resources more effectively.
 - d. Seasonal Maintenance - This is scheduled facilities generated work that may be accomplished by in-house or contractor staff during the off season. This type of work includes replacement of baffles in the cooling towers, cleaning of chiller tubes, internal inspection of boilers and other similar work. Generally this type of work is contracted out due to lack of staffing.
 - e. Inspection and Testing - The great majority of this workload is generally conducted by contractors due to lack of in-house skills, manpower and/or equipment to perform the work. It involves mandatory testing and inspection that is required by laws, regulations and codes. The frequency or extent of this work cannot be reduced or modified due to the liabilities incurred. This is not maintenance work in the true sense. This work verifies that equipment is operating within acceptable parameters. Examples include testing and inspections required by elevators, boilers, exhaust emitting equipment and others.
- (2) CONSTRUCTION - This involves minor, major and/or new construction. This work generally is supported by the Area Office and the Engineering Service (ES). This work is not essential to the management of a maintenance program. It is accomplished with additional staffing through services of ES, Area and contractors.
- a. In-House - This involves alterations and/or remodeling that is imposed on the facilities in-house staff by management without compensation of additional manpower. This is the workload that most commonly affects the accomplishment of the facilities maintenance program. This is specialized facilities work and is not included in the IHS resource and staffing methodology. This workload is a great contributor to reduction or elimination of the preventive maintenance program. Many Facilities Managers volunteer for this type of additional workload. Eventually they wonder why they cannot accomplish the work that is mandated by the maintenance program and accreditation requirements.

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

- b. Contractor - This involves minor or major alterations and/or remodeling that is required by management for areas in the facility. This is a direct result of improvements to existing medical or administrative programs or an increase in the existing health care facility workload. This workload most commonly affects the Facilities Manager directly due to the increased coordination of the work that is required. Existing facilities staffing is directly affected after the construction work is completed because traditionally additional staffing is not assigned to the facilities department. There is no compensation of additional staff to offset the increase in facilities workload generated by additional space and/or equipment resulting from the construction. This work is a great contributor to reduction or elimination of the preventive maintenance program.
 - c. Equipment Installation - This workload is a result of occasional installation of additional and/or replacement of existing equipment due to changes in programs without increase in the additional space. This work is accomplished with in-house labor or by contractor.
- (3) OPERATIONS - This involves work that is required on a recurring daily basis. Reduced activity in some of this work can adversely affect the operation of the facility.
- a. Grounds - This involves all the workload involved in the upkeep of the facility grounds. These duties are an operational expense in the management of the facility. The cost is not attributed to maintenance. The duties include mowing, pruning, erosion control, sweeping of parking lots, snow removal and other similar duties. This work may be reduced without adversely reducing operation of the facility. Some of the workload, such as snow removal, cannot be reduced or eliminated.
 - b. Transportation - This involves some of the recurring motor vehicle operation (driving) by facilities employees required in the operation of a health care facility. This involves pick up and delivery of mail to the local post office, ambulance driving, pick up and delivery of material, parts and supplies for the facilities department operation and/or the installation.
 - c. Plant Operation - This includes watches or tours by operators of utility plants and/or in smaller facilities the recurring daily routine walk-thru by some assigned employees (i.e., penthouses, dietetic kitchen, switchgear room, boiler room, surgery, critical care areas). The work is required at the

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

beginning of a tour, towards the end of a tour and during the administrative workday. It consists of visually monitoring for significant occurrences in non-habitable equipment space. Failure to accomplish this can have significant impact on the operation of the facility. This workload cannot be reduced.

- (4) NON-MAINTENANCE DUTIES - These are duties that are assigned by management to the maintenance department without any additional staffing (i.e., mail pick up, safety officer, clinical engineering, housekeeping, security, ambulance driving) to compensate for the increased workload. The IHS resource staffing methodology for facilities does not include this workload. These duties create the greatest impediment in the reduction of facilities engineering program elements. It is of extreme importance that all of this work be accounted and documented by the use of work requests. In this manner you will be able to create a historical record on how facilities engineering manpower is utilized. It is recommended that this work be documented individually by separate sub-categories (e.g., motor vehicle operation) for easy retrieval and analysis.

- B. The work categories above, need to be classified by trade (e.g., carpentry, plumbing, electrical, refrigeration) and any other classification that the Facilities Manager may want to use to track the non-maintenance work.

1-3 DESCRIPTION OF WORK

- A. A clear description of the work requested is essential to the scheduling, planning and accomplishment of the task. The Facilities Manager should contact the requesting department prior to assigning the work to a facilities employee, if the description of the work on the work request form is not sufficiently clear. The Facilities Manager should never send a facilities employee to a site to accomplish work if the nature of the request is not clearly understood from the information on the request. Remember that what everyone calls "work orders" are not really orders but "work requests". They can be very easily disapproved by the Facilities Manager. It is extremely important that facilities staff be aware of the fact that, although work has been authorized by the Facilities Manager, final judgement by the facilities employee at the site is extremely important. Although the work request has become an order when the Facilities Manager assigns the work, circumstances at the site may require that the facilities employee contact the Facilities Manager. It may be possible that work on the request is not feasible or the department wants to change the scope of the work that was approved. The facilities employee should not accomplish the work, and immediately contact his/her supervisor. It may be possible that the work that is required will create a code deficiency or not be cost effective. There may be a more

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

effective method of performing the work which non-supervisory employees in the department may not want to accept. Another method of handling the problem is for the employee to continue on to the next scheduled assignment and inform the Facilities Manager of the problem the next time he/she sees the Facilities Manager.

- B. It is recommended that if a work request is to be disapproved it be returned to the department head not the initiator of the request and clear written justification for the disapproval be attached to the request. If the request will create a fire code violation state, so and quote the exact source verbatim. In some service units it might be of benefit to route the request back through the service unit director or administrative officer. In this manner the department head will notice that the disapproval was concurred by the Service Unit Director or the Administrative Officer. In either case it is imperative that the department head be contacted before a request is disapproved. The requested work may be disapproved but an alternative method may be acceptable or an alternate method must be devised. Remember, the request or a modification of the work request may need to be accomplished regardless of what the Facilities Manager or facilities employees think of the merits of the request. The facilities department is a service organization; learn to work with the people you serve.
- C. The above statement should not be confused with the need to occasionally troubleshoot facilities work before it can be determined what corrective actions are necessary. This is very often inherently required in facilities work. Occasionally the Facilities Manager may delegate too much authority to facilities employees and the result is the creation of fire code or safety violations created by the in-house facilities staff in performing work through work requests. An example is when a work request is submitted for the removal of a door or door closer in an office area. Although the removal may not be obvious to the facilities employee, the door may be a code requirement. If the Facilities Manager reviews the request it will help clarify the work and prevent facilities employees from making erroneous assumptions detrimental to the intent of codes. Following the above procedures will in the long haul reduce the staff hours needed to accomplish the requested work the first time around.

1-4 BLANKET WORK REQUESTS

- A. Some tasks are so repetitive at a facility that it becomes inefficient to write an individual work request for each employee each time the same work is being accomplished (i.e., change light bulbs, adjust door closers, unplug toilets, check boiler plant, check air conditioning equipment, check surgery, etc.). This can be simplified by the issuance of blanket work orders for the accomplishment of the repetitive tasks.

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

- B. Blanket "work orders" are work requests that are issued to individual designated employees, for specific work, for a period not to exceed 30 calendar days. Do not fall in the trap of issuing blanket work request for all the duties accomplished by an individual employee during a specific time frame. This will negate the purpose of having a work management program.
- C. The purpose of the work management program is to document the work of the department by trade, and equipment (if applicable), rather than by individual employee. The bottom line for the purpose of using blanket work requests is to diminish the issuance of multiple work requests. This eliminates the number of work requests for the same individual for continuous repetitive work involving the same trade and that do not involve documenting charges in an equipment card.
- D. Do not issue blanket requests for the same work to different individuals to charge to the same request. Blanket orders should be issued at a minimum for a month and never beyond a quarter.

1-5 PREVENTIVE MAINTENANCE

Preventive maintenance ideally should be scheduled using monthly blanket work requests by craft (electrical) or scope (air handlers) depending on how your preventive maintenance system is established. The purpose of monthly work requests is for the Facilities Manager to "track" planned maintenance versus actual maintenance accomplished. When blanket orders are allowed to be issued for periods longer than a month the result is lack of control and liberty for the tradesmen to leave the preventive maintenance for the end of the month. Then there is not sufficient time to accomplish the preventive maintenance. Always assign scheduled dates for preventive maintenance. It forces employees to meet your expectations, not theirs. All preventive maintenance work should be measured (estimated versus actual). Spot checking should be mandatory as an internal control measure.

1-6 IN-HOUSE PROJECTS

Quite often you schedule work in your annual facilities program plan (FEPP) that is best suited for accomplishment by your own work force. However, the nature of the work and the materials involved make it more complex than "routine" work. This type of work should be issued through work requests, by individual employee, but upon completion of the project, copies of the work requests and requisitions (HHS 393's) involving the project should be filed together. All the documentation should be filed separately as a project with the appropriate project number and project title approved in your facilities engineering program plan.

1-7 PRIORITIES

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

- A. Health care lends itself to a unique environment that requires close scrutiny of the order in which work gets accomplished. It may affect the efficient and effective delivery of patient care or very purpose the facility existence. Categories for accomplishing work requests should be based on clear definitions.
- B. You will need to develop categories that are consistent with the type of facility that you are responsible for maintaining support. Your customer equipment categories should be generated using the following criteria:

(1) **MAJOR BASIC FACILITIES EQUIPMENT CRITICAL TO SAFETY AND FUNCTIONING OF THE ENTIRE INSTALLATION.**

Absolutely critical equipment or utility system, very expensive downtime, department cannot function with interruption of a system or equipment.

Boilers, electrical switchgear and distribution, emergency generator, water supply, fire alarm, or fire protection equipment.

(2) **EQUIPMENT WITH DIRECT RELATION TO PATIENT OR EMPLOYEE SAFETY.**

Important equipment or utility system, back up available or problem can be managed for a short time (hours, days, week).

Electrical grounding, sterilizers.

(3) **EQUIPMENT ESSENTIAL TO OPERATION OF A DEPARTMENT OR MAJOR AREA.**

Air conditioning and ventilation systems, key laundry equipment, walk-in refrigerators, dishwashers, other key kitchen equipment, radiology, key laboratory equipment.

(4) **EQUIPMENT ESSENTIAL TO SMALLER OPERATIONS, FOR PATIENT COMFORT, OR FOR SAVINGS.**

Wheelchairs, stretchers, floor machines, machine tools, condensate pumps, business machines, patient furniture, automatic doors.

(5) **EQUIPMENT NOT ESSENTIAL TO OPERATIONS, BUT FOR COMFORT OR CONVENIENCE, FOR WHICH SPARES ARE AVAILABLE AND INDIVIDUAL REPLACEMENT COST IS LOW.**

Water coolers, small fans, or ventilating equipment, small air conditioning units, carts, most furniture, television sets.

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

- B. Every work request will carry a written priority assigned by the Facilities Manager.

Use the following definitions:

- PRIORITY 1** EMERGENCY- Respond immediately (do it now!!). Do whatever is necessary to bring the situation under control and restore operations. Authorizes the expenditure of overtime and/or outside resources and/or equipment shutdown.
- PRIORITY 2** TROUBLESHOOT- Respond immediately, find out what the nature of the situation is, solve it if possible, report back to the Facilities Manager within 30 minutes. Does not authorize overtime or outside resources.
- PRIORITY 3** 24 HOUR RESPONSE- Work must be started within 24 hours of assignment to a facilities employee. Also for priority 4 Work requests not started on time.
- PRIORITY 4** 7 DAY RESPONSE- Work request must be started within 7 days of receipt in facilities.
- PRIORITY 5** 14 DAY RESPONSE- Work request must be started within 14 days of receipt in facilities.
- PRIORITY 6** DEFERRABLE- Work request not to exceed 60 days. Will be started when maintenance has funding, time or available staff hours. If the work will not be accomplished within the following 60 days it should be deferred and sent back to the requesting department stating that resources are not currently available and state the future date when they may resubmit again.
- PRIORITY 7** BLANKET WORK REQUEST- Work requests which are repeated tasks and which do not require separate regeneration each time, but must be tracked in the work management system.

- C. A monitoring system to track work requests once they have been assigned needs to be devised in order to track the work. Facilities is responsible for tracking every work request in its work management system. While work requests are "open" in the work management system they are in various stages of activity. Each work request will contain a "STATUS" which will indicate the current state of work. When status changes it must be edited to reflect the change. This requires daily checking.

Work request status is defined as follows:

- (1) WORK IN PROGRESS - Work scheduled and assigned.

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

- (2) WAITING FOR PARTS/MATERIALS
- (3) WAITING FOR ENGINEERING DESIGN
- (4) WAITING FOR FUNDS
- (5) WAITING FOR AUTHORIZATION
- (6) SCHEDULED FOR THE NEXT EQUIPMENT OR UTILITY SHUTDOWN
- (7) HELD FOR COMPLETION BY CONTRACTOR
- (8) WORK REQUEST CLOSED
- (9) WORK REQUEST CANCELED

**REMEMBER, EVERY FACILITY MUST BE EVALUATED ON ITS MERITS.
THE ABOVE PRIORITIES ARE INTENDED FOR GUIDANCE ONLY.**

1-8 TIMEKEEPING

- A. The work management program requires that the time utilized in accomplishing each work request be tracked and documented on the form. The Facilities Manager needs to keep handy the current wage rates of each facilities subordinate, including fringe benefits. The record of time spent on each work request is essential for evaluating performance on each task, allocating costs to the equipment record card and ultimately assisting you in sharpening your perception for future estimates of similar work.
- B. Space for this record keeping is available in the work request form. Carryover of the total labor and material costs in dollars is found in the front portion of the form. Spot checking for accuracy should be mandatory. A method of accounting for all maintenance work is obviously good management.

1-9 COST ACCOUNTING

- A. Work requests serve as a source for tracking material purchased versus what is installed or used for repairs. It therefore creates an inventory tracking mechanism. The Facilities Manager must ensure that facilities employees are brief yet clear when documenting the materials used in accomplishing a work request (i.e., don't state "lock" if it really was "door knob", don't say "miscellaneous materials" and then list "\$500". State quantities whenever necessary and appropriate, "wire" or "pipe" is not acceptable. It should more appropriately be stated as wire, #8 - 100 ft.; pipe, Schedule 80, 20 ft.

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

- B. A key requirement in the tracking of cost in a work management program is the identification of equipment being repaired with its individual assigned equipment number. The number we are referring to is the personal property number assigned by the property management department or the preventive maintenance number assigned by the Facilities Manager. All work request must have this identifying number on the request. Without this number the cost accounting of the repair work on equipment cannot be posted on the equipment record card. It is the responsibility of each department head to ensure that the assigned equipment number in the Consolidated Memorandum Receipt (CMR) issue by the property management has an equipment tag assigned to the equipment when the annual inventory is certified by the department. Additionally, the Facilities Manager is responsible for ensuring that all the tags on the real property equipment in the facility are also enforced for the tracking of that property. Work requests that do not contain the equipment number should be returned to the requesting department with instructions that the number be indicated, so that the cost of repairs can be tracked as required by IHS policy.

1-10 CLOSING OUT WORK ORDERS

- A. When work orders are closed out, the following information must be entered into the data file:
- (1) Brief narrative of the repair work accomplished (brief description entered into the "work performed" section and details in the "comments" section as needed).
 - (2) Name of the facilities employee performing the work.
 - (3) Total number of hours required to perform the work by each employee and the corresponding hourly rate associated with each employee. If the work is performed by contractor the same information is needed. If the service report does not have this information it should be requested and/or estimated. However, make sure that the correct cost from the requisition is obtained.
 - (4) Material/parts costs incurred by the installation and/or the contractor(if applicable).
 - (5) Work action taken to accomplish the work.
 - (6) The "comments" field of the work order file should be utilized to provide additional information about the work performed.
- B. All work orders for equipment items must automatically be cross-referenced to the equipment history of the inventory file at the time the work order is closed out. For items which are not, but should be, in the inventory file, facilities engineering

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

personnel shall obtain and enter the inventory information into the computer or manual data file prior to work order closeout.

- C. Users, the personal property management department or the Facilities Manager must evaluate the repair history whenever repairs are indicated on an equipment item. Facilities engineering shall review the repair history prior to going to the site for repairs or writing a requisition for repairs by a contractor. This is necessary to determine if replacement of the equipment is indicated before any further expense is incurred on the equipment. The Facilities Manager should use the criteria in Part 4, Preventive Maintenance to help make the recommendation for replacement.
- D. The equipment inventory and repair history in the equipment management data bank shall be used as a source of information for:
- (1) Identification of equipment subject to recall or affected by hazard alerts.
 - (2) Analysis of device failures for periodic reviews. This may be used to identify user errors, poorly manufactured parts or inappropriate inspection frequencies/procedures.
 - (3) Scheduling of preventive maintenance.
 - (4) Periodic reports required by management, such as efficiency reviews, budget predictions, quality assurance, staffing analysis or management control.
- E. Information which can be derived from the equipment management database:
- (1) Dollar value of the inventory currently maintained by Engineering Service.
 - (2) Work/labor distribution, M&R costs broken down by owning service, device type, responsible shop, year, month, etc.

1-11 EFFECTIVENESS REVIEW

- A. An effectiveness review is a management review conducted by the Facilities Manager at least on an annual basis to determine the effectiveness of his/her work management program. The Facilities Manager should occasionally measure the performance of work accomplished by his/her subordinates. It serves as a method of determining the performance of workers and make them aware that you are holding them accountable for their work. At random select a work request to measure employee performance and estimate the number of hours to accomplish the work. This must be for tasks that are readily measurable. They cannot include work that involves troubleshooting or which the scope of work is not clearly known before the work is assigned to an employee.

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

Compare the estimated amount with the actual amount reported by the employee after the request is completed. If your estimate does not agree with the actual staff hours entered by your subordinate, discuss it with him/her and either upgrade your estimating or counsel the employee. Your job is to manage a crew efficiently and economically.

- B. This review can be computed for each employee or by trade for the entire department. This is accomplished by totaling all the staff hours for the measured work requests. This would be for all the trades for a specific employee or for the entire department by individual trade. Measured work requests are the work requests that the Facilities Manager assigned staff hours estimates to before they were accomplished by subordinates. This amount is divided by the total actual staff hours entered on the work request by employees after accomplishment of the work. This calculation yields an index that is used to determine the effectiveness (performance) of the employee in accomplishing a specific work request or requests for a designated period (i.e., quarterly, annual). This information allows the Facilities Manager to gauge or evaluate the performance of the work force. Certain correlations can now be made relative to the work force when previous fiscal years are compared.

1-12 CUSTOMER FEEDBACK

- A. It is important that departments receive feedback on work requests after the request is received by facilities. A work request should never go beyond three days without feedback to the department on its status regardless of the type of work. This will avoid "duplicate" requests, second and third requests and sometimes eliminate phone calls from the supervisor of the area, the department head, the Administrative Officer or Service Unit Director. Facilities employees should be required to inform the supervisor of the area where work is to be accomplished by checking in first when they arrive at the work site. The fact that the facilities department received a work request does not mean that the timing to perform the work in a patient care area is appropriate. This is true even when the work request has been coordinated with the supervisor or department head. The Facilities Manager should also require that subordinate employees also inform the supervisor of the area when work is completed. In this manner the supervisor of the area can verify that the work they requested is what was accomplished. This leads to good rapport and excellent public relations for the facilities department.
- B. Occasionally the Facilities Manager should spot check the facilities workers. The area should be visited by the Facilities Manager after the work has been completed. The Facilities Manager should chat with the area supervisor. Check to see if the facilities employees have been following the established

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

guidelines. The supervisor of the area should be asked if he/she was satisfied with the performance of the facilities work.

1-13 WORKLOAD STANDARDS

Facilities work generally can be distributed into the following duties.

- A. TOURS - Observing and inspecting equipment daily for proper operation, turning it on or off, and making minor adjustments. 7%
- B. WATCHES - operation of boilers, chillers, refrigeration equipment, and other related equipment in a centralized location on a recurring basis 24 hours per day, 7 days per week 17%
- C. PREVENTIVE MAINTENANCE (IN-HOUSE) - Maintenance at scheduled intervals, involves inspection, adjustments, lubrication, performance testing, and other functions for the purpose of maintaining equipment in a useful condition. 50%
- D. SERVICE CALLS - Involves work for breakdowns and malfunctions of a minor nature. (Repair requests for equipment, building systems and buildings). 17%
- E. MISCELLANEOUS - Tasks not included under the above functions usually performed on an as-required basis, (i.e. shop cleanup, shop safety meetings and training, etc.) 9%
 - (1) Maintenance Repair (In-House) - Maintenance repairs, replacements, modifications, and restorations costing less than \$10,000 and not included in tours, watches, preventive maintenance and service calls.
 - (2) Maintenance Repair Contract - Maintenance repairs replacements, modifications, and restorations costing less than \$10,000 performed by a contractor. This may be due to lack of expertise, staffing, tools, and/or equipment.
 - (3) Projects (In-House) - Maintenance, repairs, replacements, modifications and restorations costing over \$10,000 performed by in-house staff.
 - (4) Projects (Contractor) - Maintenance, repairs, replacements, modifications, and restorations costing over \$10,000 performed by contractor. This may be due to lack of expertise staffing, tools, and/or equipment.

1-14 ANALYSIS OF WORKLOAD

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

Although employees receive compensation for working 2080 hours each year they are not available for work that length of time. The analysis below serves to document the distribution of non-productive work that receives compensation when the employee is not at the work site.

| A. | <u>Employee Available Staff Hours</u> | <u>Hours</u> |
|----|---------------------------------------|--------------|
| | 1 Full Time Employee (FTE) | 2080 |
| | 20 days average annual leave | -160 |
| | 10 days average sick leave | - 80 |
| | 10 days holidays | <u>-80</u> |
| | | 1760 |

Maintenance Staffing = A + B + C + D + E X 1.3 = FTE

(1.3 is a factor that assumes an efficiency of 70%, therefore necessitating an adjustment in the staffing to compensate for the inefficiency)

| <u>CODE</u> | <u>SOURCE</u> |
|-------------------------------|-----------------|
| A = Tour staff hours | Known |
| B = Watches staff hours | Known |
| C = In-House PM staff hours | Known |
| D = Service Call staff hours | Historical Data |
| E = Miscellaneous staff hours | Known |

In-Hours PM = Total PM - Service Contracts PM

Facilities Maintenance Staff: Exclude (Facilities Manager and clerical staff)

CHAPTER 2 - WORK PLANNING

2-1 INTRODUCTION

- A. Maintenance labor is only as efficient as the Facilities Manager plans and schedules the work. Unless facilities employees know the supervisor has an expectation of performance, they will seek their own performance level. This naturally will be lower than the supervisor's expectation. This leads to lack of productivity, inferior workmanship, backlog of work, and poor departmental image.

THE FACILITIES MANAGER MUST BE IN CHARGE!!!

- B. The best way to know what your workload is at a facility is to visit other departments and find out what your customers expect and need from you as a Facilities Manager. You should make a plan to serve the other departments so that it is clear to all parties what is expected from maintenance.

This is accomplished in the following steps:

- (1) Make a list of your customers (department heads that you will interface with at the facility).
 - (2) Make an appointment with each department head.
 - (3) Ask each department head what are their department needs from facilities.
 - (4) Go back to facilities and develop a maintenance plan that satisfies each department's needs within your existing resources.
 - (5) Visit each department head again and sell your maintenance plan.
 - (6) Carry out the maintenance plan. Honor your commitments. Make sure that any modifications to the agreed plan are again discussed with the department heads.
- C. The planning function should be occasionally reviewed and analyzed.

Among the topics should be:

- * All facilities supervised service contracts
- * Incoming work requests ("work orders")
- * Completed work requests
- * Specifications for equipment purchases
- * Preventive maintenance requirements
- * Status of the facilities budget

2-2 ADVANTAGES OF PLANNING

The advantage of planning is that it allows the Facilities Manager to acquire and control the workload of the department while supporting the operation of the facility. Lack of clear policies is the major cause of reaction maintenance.

Planning will yield the following results:

- (1) Allows the estimating of the staff hours required for each work request. This results in the control of daily, weekly, and monthly schedules.
- (2) Provides a way of distinguishing between what must be done immediately and what may wait (prioritization).
- (3) Allows the estimating of the start and completion dates of work requests.
- (4) Eliminates lapse time between trades waiting for each other to finish each others portion of the work. It coordinates the various steps to accomplish the total work task.
- (5) Eliminates delays due to lack of material at the start of work. Work requests will not be started until all the material is on site to complete the work.
- (6) Allows follow up of requisitions for material and supplies necessary for the completion of the work task. It ultimately allows expediting of purchase orders issued by procurement to ensure timely delivery of procured needs.
- (7) Coordinates the work with other affected departments. It gives advance notice of utility shutdowns if, applicable.
- (8) Assigns work to individual facilities employees.
- (9) Discloses need for training of facilities employees.
- (10) Tracks the utilization and distribution of the department staff hours (electrical, plumbing, pick up mail etc.) through the workload in the facility.

**THE END RESULT OF PLANNING IS ACCOMPLISHMENT
OF MORE WORK WITHOUT ADDITIONAL STAFFING**

2-3 ADJUSTMENTS

Scheduling of work must be flexible if you are to succeed as a Facilities Manager in a health care setting. The most carefully prepared detail schedule may be upset suddenly by unforeseen changes or emergencies. When that occurs, the Facilities Manager must be able

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

to improvise or reschedule rapidly to meet new conditions. This will be your success and the one ability that will set you apart from the rest of your peers.

2-4 WORK ASSIGNMENTS

- A. To make the most effective use of available staffing, the Facilities Manager must be allowed to evaluate, measure and gauge the performance of subordinates. The Facilities Manager must have effective and positive means for daily planning, scheduling and follow up of work assignments for measuring the effectiveness of subordinates.
- B. A daily schedule is a tool that makes work happen as planned. Hourly or at most two-hour control measures insure predictability. Such procedures get the work to the people, control it, and measure it.
- C. The completion of each work request which has been previously estimated will lead subordinates to a sense of goal accomplishment, as they are aware the supervisor has established an expectation for the work assigned to them.
- D. Assign and distribute work by worker capabilities. Some employees are more adept at performing certain tasks than others. Find out what motivates each of your subordinates and utilize it to your advantage. It will lead to more productivity and enhance morale in the work force. Outline work by priority. Develop a list for call back or emergency work by specialty, followed by workers in priority (i.e., electrical: Joe Smith/first call, Dan Ross/ alternate; Heating: Donald Moore/first call, Phil Lowe/ alternate). In this manner not only the Facilities Manager but the staff at the facility will know what employee needs to be called back in emergencies. The listing will allow a non-facilities employee to determine the employee that need to be called back in emergencies.

2-5 WORKLOAD DISTRIBUTION

- A. The technique of "charging" departments for work to maintain their areas provides the Facility Manager with a method of analyzing where resources (staff hours and materials) are directed. In this manner you generate historical records to document where your departmental efforts are being utilized. This can be accomplished by inserting a code in the work request form that will indicate the area where work was accomplished for later correlation.
- B. To accomplish this you need to divide the facility into different areas or control environments that will be used to document the work accomplished by your subordinates. The facility must be

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

divided into areas which pose a significant impact in the overall operation of the facility.

A typical division and recommended codes are as follows:

| <u>Department</u> | <u>Code</u> |
|-------------------|-------------|
| Medicine | 01 |
| Obstetrics | 02 |
| Pediatrics | 03 |
| Surgery | 04 |
| Pharmacy | 05 |
| Community Health | 06 |
| Radiology | 07 |
| Outpatient | 08 |
| Dietetics | 09 |
| Administration | 10 |
| Dental | 11 |
| Utilities | 12 |
| Grounds | 13 |
| Structure | 14 |

- C. A code can also be designated for each craft. This will allow to you to also track the work by trade.

A typical designation and recommended codes are as follows:

| <u>Craft</u> | <u>Code</u> |
|-------------------|-------------|
| Carpentry | 20 |
| HVAC | 21 |
| Electrical | 22 |
| Plumbing | 23 |
| Mechanical | 24 |
| Painting | 25 |
| Grounds | 26 |
| Ambulance Driving | 27 |
| Mail Pick Up | 28 |

- D. The next step is to assign a number to each work order that will identify the work request and also include the codes that we have discussed above. If you are utilizing a computer for your work management, the computer will assign a consecutive number on each work request entry. You will only need to add the codes developed above to allow you to retrieve the rest of the information. If you are performing your work management manually, you will need to assign the number to insert in your work request log. The number should include a consecutive number, the date of the work request was issued, the craft code, and the department or area where the work will be charged to.

A typical number in a work request log will look like this:

E-112-3-05-22

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

E - This was classified an emergency work request by the Facilities Manager.

112 - This work request was the one hundred twelfth issued

3 - It was issued in fiscal year 1993

05 - The work was performed in Pharmacy

22 - The type of craft involved was electrical.

E. You can now determine the cost that you want to charge back to the departments.

DEPARTMENT COST = DIRECT COSTS + INDIRECT COST

Direct Costs = Labor + Materials
(This is obtained from the work request)

Indirect Costs = Overhead (Benefits)
(This is obtained from the work request)

2-6 STATISTICAL REVIEW

The Facilities Manager should occasionally conduct a statistical analysis of the categories of work to determine how the workload is being distributed and accomplished. In other words look at your planned versus your accomplished. Remember that the calculations below need to be considered on a net basis. This means that when utilizing the total available staff hours for the department you need to deduct the time that positions were vacant, and employee leave (sick and annual).

A. Planned Maintenance Hours - Compare the planned maintenance staff hours versus the accomplished maintenance man-hours expressed as a percentage. It should be 80% or higher if you want to pat yourself on the back.

B. Emergency Hours - Compare the man-hours usually restricted, though not necessarily, to one or two-hour jobs which must be done NOW!! Compare this as a percentage of total available staff hours for the department. Normally it should be between 17-20% of total available staff hours. If it is more than that, you have a problem. This generally is attributed to lack of preventive maintenance, equipment that needs to be replaced, or operators that do not know how to use the equipment and need training.

C. Unscheduled Overtime Hours - Overtime staff hours caused by emergencies (call back) expressed as a percentage of total available staff hours for the department. A good preventive maintenance program will usually bring this below 7%.

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

- D. Scheduled Overtime Hours - Overtime scheduled to accommodate hospital function expressed as a percentage of total available staff hours for the department. This measures ability to plan and schedule work. No overtime usually indicates excess staffing. Acceptable range is usually 2%, practical is 5%.
- E. Downtime Hours - Staff hours lost due to malfunction, failure or breakdown of equipment. JCAHO requires that you keep written review documentation of this time, analyze its cause, take appropriate corrective action, and inform the service unit safety committee of review.

CHAPTER 3 - INVENTORY CONTROL

3-1 INTRODUCTION

In the real world of funding shortages and scrutiny of our operational methods we must be concerned about our decision making process. It is imperative that you maintain safeguards that, if scrutinized, will show that steps have been taken to systematically operate your department effectively and efficiently. A complete and accurate inventory is the prime requirement in the installation of a work management system. The inventory is an index of the maintenance workload in the facility. Accountability for budget, parts, and materials is an essential requirement of the facilities operation. Therefore, it is important that ordering policies for materials and parts be established in writing.

The policies should at a minimum:

- * Define parts and material that will be ordered as needed.
- * Define the maximum and minimum quantities that will be kept in the inventory.
- * Define the critical equipment parts.
- * Define the rationalization for excessing parts in inventory.
- * Require annual assessment.

3-2 DEFICIENCIES COMMONLY ENCOUNTERED

- * Unrealistic inventories of parts and materials.
- * Stock of parts for equipment that has been excessed.
- * Inventories not accounted for.
- * Stock added or removed without proper justification.
- * Subordinates determine quantity, quality and source.
- * Little knowledge of stock inventory and stock turnover.
- * No knowledge of parts compatibility.
- * No accountability of material used versus material purchased.
- * No accounting of parts and material used in work requests.
- * No physical inventory on any regularly scheduled basis.

INDIAN HEALTH SERVICE
DIVISION OF FACILITIES AND ENVIRONMENTAL ENGINEERING
FACILITIES ENGINEERING OPERATIONS MANUAL
PART 5 - WORK MANAGEMENT

3-3 RECORDS CONTROL

- A. Equipment Record Cards (HSA 271) - A card must be maintained for each piece of equipment. The card must be kept updated and contain all pertinent history on repairs to the equipment.
- B. Work Requests (HSA 272) - They must be completed thoroughly so that accounting of labor and materials can be documented. They must be filed by activity (craft), not by employee name.
- C. Requisitions (HHS 393) - Must be filed by quarter and fiscal year of obligation, not delivery or receiving date.
- D. Inventory Control Schedule - A listing of parts and materials of significant value (over \$5) which are routinely ordered must be maintained to organize and account for quantities required to be kept in stock.
- D. Ordering, Receiving and Issuance - Must be accomplished by the Facilities Manager, or some other method of inventory control must be utilized. An inventory of tools, parts, and materials should be conducted annually. This will reveal slow moving items, obsolescence, pilferage, initiate disposal, and tighten security controls.
- E. Limiting Access - Access to the storeroom should be limited to the Facilities Manager and/or foreman. During non-administrative hours, weekends and holidays, access to the storeroom should be controlled by a supervisor, security, or the facilities employee should be escorted to the facilities shops with security.
- F. Storeroom Facilities - Methods of achieving control may vary from individual locked cabinets assigned to individual employees or central storerooms. Bulky, long lead items should be stored close to the source of use (i.e., filters in penthouse).