

## Controlling Maintenance Inventory

Written by Daniel L. Davis and Ronald Hemming, Maintenance Technologies International, LLC  
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### **Solid management process supported by CMMS can ensure that parts and materials are available and costs are documented.**

A plant's maintenance storeroom is set up to provide maintenance personnel with the parts and materials needed to keep the plant's facilities and production machinery running efficiently. A well-managed inventory system helps alleviate workers' downtime and improve their productivity.

A comprehensive management process applied to the maintenance storeroom will ensure that the parts are there when needed, redundant items are not being purchased, items will be automatically re-ordered as needed, obsolete items are reported upon for depletion, cost-effective methods are being used for purchasing lot type items, and item usage costs are being documented and reported to plant management.

A plant's maintenance storeroom when integrated with a computerized maintenance management system (CMMS) should improve maintenance productivity, identify maintenance material costs, identify equipment spare parts and usage, and identify equipment with problems.

### **Maintenance productivity**

What is the importance of a well-managed maintenance inventory operation and how does it affect overall maintenance productivity? To answer this question, look at how maintenance personnel spend their workdays.

On-the-job working time does not allow for such necessary activities as travel to and from a job, interdepartmental communications, personal time, break times, etc. These activities are inherent in all work environments and must be provided for with an additional allowance factor. Industry studies have shown that these per-shift time periods could typically be 10 min for personal time, 25 min for communications, 20 min for morning and afternoon breaks, and 30 min for traveling to and from breaks.

In an average sized plant under normal working conditions, an allowance of 85 minutes or 18 percent would be subtracted from the normal craftsman's workday for these activities. This allows 82 percent of the craftsman's time to be spent working on the job each day. It is this time that could be improved by effective planning, scheduling, and maintenance inventory

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control.

In the available working time, a craftsman is expected to be:

- Working. The efforts of the craftsman are productive. For example, he is traveling with tools, parts, or equipment as specified in the work order job plan; reading an operations/maintenance manual; pulling wire through a conduit; or aligning a motor.

Traveling loaded with tools, parts, or equipment not specified in the work order job plan.

- Traveling empty to and from the job at an unspecified break time without tools or parts.
- Waiting on or off the job at unspecified times for instructions, parts, tools, etc.
- Idle, when the craftsman's time does not fall into any of the above categories.

Major causes of lost maintenance productivity include:

### 1. Waiting time

- Job is not set up properly
- Equipment is not available
- Permits are not ready
- Crafts are not scheduled in the proper sequence
- Work request is not clear
- Parts are not readily available

### 2. Traveling empty

- Parts or materials are not centrally located or described in a work order job plan
- Special tools are not indicated on a work order job plan or not available
- Work request or job plan is not clear
- Maintenance personnel are deployed to jobs without specified tools

### 3. Idle time

- Excessive break times
- Early quits and late starts
- Work order manpower estimates are too high or too low
- There is not enough work on the schedule

Maintenance inventory management plays a large part in the craftsman's idle time but what

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about that of the maintenance planner, purchasing agent, and storekeeper? How much of their time is unnecessarily wasted looking for and purchasing parts, tools, and supplies for maintenance work?

### CMMS selection

If you have some sort of computerized inventory system, you may know the cost of your inventory usage but do you know where the maintenance dollars are being spent?

A well-designed CMMS will track work order costs back to equipment, recording not only the labor cost but material cost as well.

Most CMMS systems will provide for equipment spare parts cross referencing. Does the system also have the ability to identify the total number of an inventory item required to maintain equipment?

A well-designed CMMS not only will display inventory by equipment for work order planning but also will identify potential plant requirements as well as historical usage for helping determine stocking levels.

A well-designed CMMS will contain reports identifying inventory by high volume usage as well as high cost usage. Both reports typically identify equipment with problems.

When purchasing a CMMS, you also should consider the system's capability to:

- Identify equipment spare parts from the equipment and job plan records
- Identify all pieces of equipment that a part could be used in at the inventory record level
- Commit inventory to job plans
- Record material cost to equipment maintenance
- Automatically reorder maintenance stock
- Provide sorting categories for quick location of inventory parts and for printing catalogs
- Produce maintenance usage reports sorted by item and equipment **MT**

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