

Maintenance 103

Making work processes more efficient

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Overview

Although maintenance management systems can help you reduce costs, you can make substantial reductions even before introducing such a system by carefully examining current maintenance work processes and changing the way some things are done. In fact, making work processes more efficient is the first step toward realizing the full potential of automated maintenance systems.

This course reviews each phase of well-organized maintenance work processes and outlines ways to make them more efficient.

Hint: As you go through the topics in this course, watch for answers to these questions:

- *What phases of the maintenance process offer opportunities for improvement?*
- *Which maintenance projects can probably be eliminated?*
- *How can work analysis reduce maintenance costs?*

Work- process phases

Maintenance management processes implement action in response to needs. But often these processes emphasize work initiation and execution without enough attention to evaluating maintenance requests, scheduling the work, or analyzing completed jobs.

The items that are overlooked aren't simply additional tasks; they're opportunities to reduce costs and improve results.

Well-organized maintenance work processes, on the other hand, incorporate four important phases:

- prioritizing
- scheduling
- executing
- analyzing

Systematically reviewing how your plant handles each of these phases usually reveals several ways to improve the overall maintenance process.

The Emerson advantage

Emerson offers services to develop performance metrics for tracking the efficiency of work processes, and then optimize your maintenance processes to achieve best results.

Our services can supplement your in-house maintenance resources, or assume primary responsibility for maintenance in your plant .

Prioritizing

Prioritizing maintenance projects may be the most critical phase of maintenance management, because it can eliminate work that's unnecessary or of marginal value before it is ever initiated.

All work requests should be carefully evaluated by a qualified maintenance manager who understands instrumentation and its role in the process. The objective is to determine the relative value each project would add to the plant.

Projects that aren't worth the cost can be eliminated, and those that are can be prioritized to ensure those that add the most value get the attention they need.

Scheduling

Good scheduling can cut 20 to 30 percent off the time required to complete a job.

Obviously, personnel capable of doing the work must be available. But it's just as important for all the necessary supplies and equipment to be in the right place at the right time.

For example, if expensive equipment has to be rented for a job, it is especially important that everything else be ready when the equipment arrives.

Executing

Savings in the execution phase result from good preparation.

An essential element is proper diagnosis of the problem. Nothing adds more to the cost of a project than trying to figure out what's wrong after all resources are committed and ready to go.

Diagnostics available in many of today's intelligent field devices can help.

The Emerson advantage

Emerson has the products, services, and expertise to handle maintenance of mechanical equipment, electrical systems, process equipment, instruments, and valves.

This combination of capabilities means we can provide the proper diagnosis even if the problem spans multiple disciplines and equipment types .

Analyzing

This may be the second most important step in the process, because analyzing problems and the work done to fix them can help you streamline future efforts — or even avoid the problem entirely.

Poor documentation of maintenance work makes it very difficult for you to analyze trends and spot recurrent problems. Often, only the symptoms are recorded while the root causes go unidentified. For example, if a transmitter always needs repair or adjustment, the problem may not lie with that transmitter at all, but with nearby equipment or upstream process conditions.

Accurate data collection, root cause analysis, and the application of standard reliability engineering principles can actually reduce the need for maintenance. Combined with optimized

maintenance processes and the right technology to localize and solve the maintenance problem, you can significantly reduce maintenance costs over the long term.