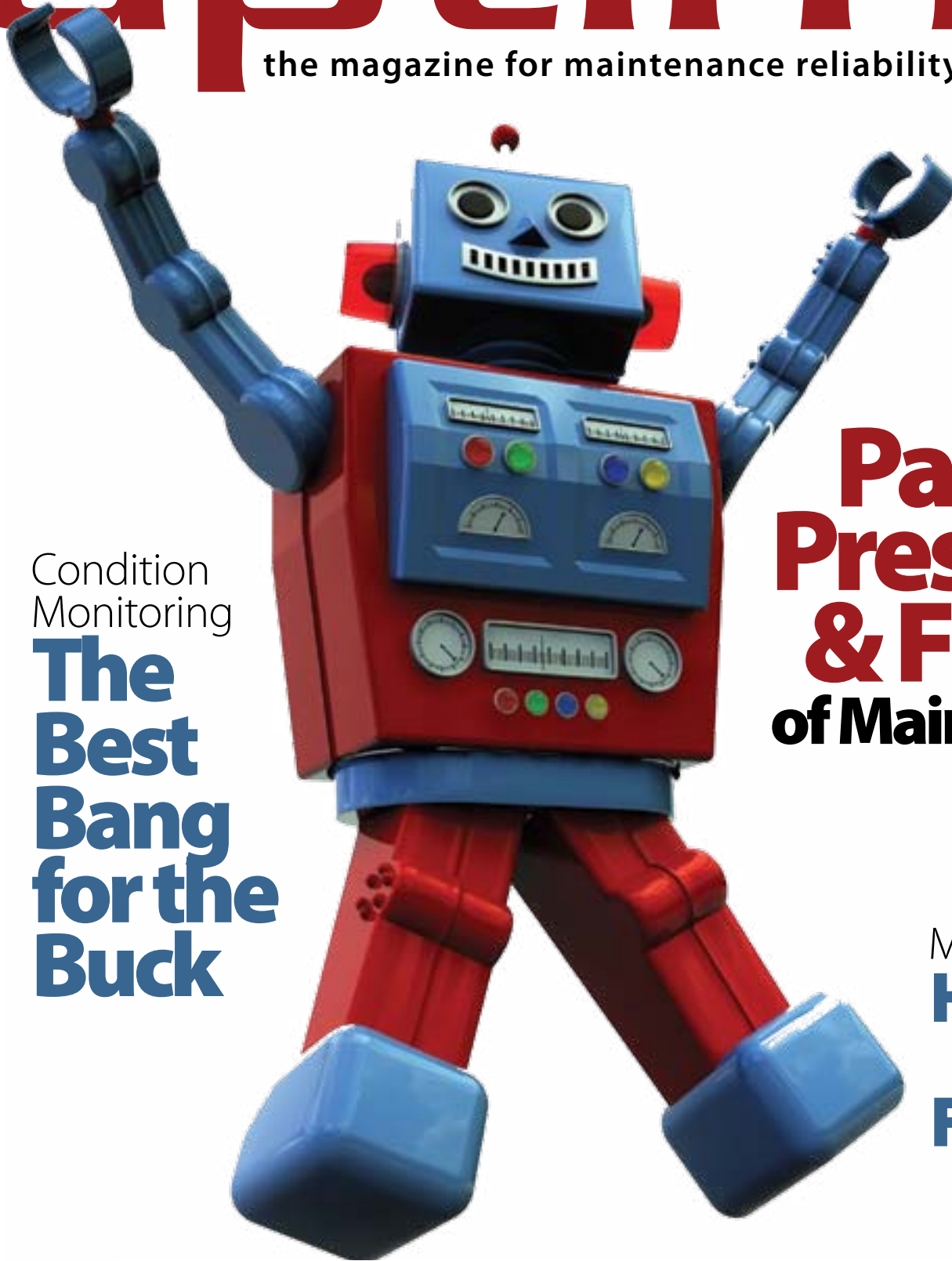


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# Common Pitfalls of Planning and Scheduling Maintenance Activities

Terry Wireman

**In the June/July 2011 issue of Uptime Magazine, Tarek Atout offered the article, "The Planner: The Heart of the Maintenance Process." The article presented a good overview of the planning function within maintenance. This article presents the common pitfalls that will be encountered when implementing the planner/scheduler function in a maintenance organization.**

The business reason for having the planning and scheduling function in an organization is to increase the productivity of the maintenance technicians and minimize the impact that maintenance activities have on the capacity of the equipment. The planning

function can increase the labor productivity of the maintenance technicians from where it typically is in a reactive environment (roughly 20%) to where it should be in a "best practice" environment (60% or greater). The increased productivity compared to the maintenance environment is shown in Figure 1. The productivity delays that will be eliminated while moving from a reactive to a best practice environment include:

1. Lost productivity running from one reactive assignment to another reactive assignment
2. Waiting on spare parts
3. Waiting on contractor support
4. Waiting on LOTO instructions and/or work permits
5. Waiting on instructions or checking out the job

In addition to the increased technician productivity, there is an increase in equipment capacity, which includes availability, performance efficiency, and quality rate. The impact is also shown in Figure 1. A typical reactive organization has a lower equipment capacity than a best practice company. However, as the maintenance practices improve from reactive environments through preventive, planned, and best practice environments, the equipment capacity increases. This is due not just to improved maintenance practices, but also to improvements in related departments. This includes operations, since they will feel that maintenance is interested and committed to making their equipment perform better. Operations will then provide input to maintenance (using a work notification/work orders system) and show a higher level of concern for the way the equipment performs. Ultimately, the data collected by maintenance and operations can be fed to the engineering group, which will also look for ways of raising

the performance of existing equipment. Engineering will also use this data to look for ways of improving new equipment while it is in its design and procurement phases of the lifecycle.

All of these benefits start with planning and scheduling functions within the maintenance organization. Unfortunately, while implementing planning and scheduling maintenance activities, there are common pitfalls that must be recognized and avoided. The most common pitfalls can be classified into two main categories: strategy and execution.

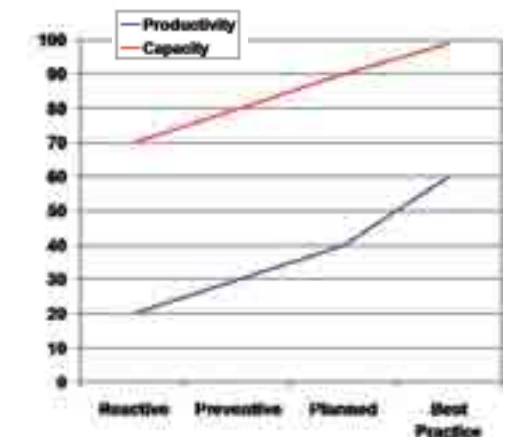


Figure 1: Maintenance Technician Productivity and Equipment Capacity

## Strategy Pitfalls

The strategy pitfalls are most commonly encountered when a company is deciding where to place their planning and scheduling functions within the organization. Some companies will decide to have the planner report to the maintenance supervisor. This results in the planner becoming a clerical assistant to the supervisor. Instead of planning, the planner will be initiat-

ing, processing, and closing work orders for the supervisors and technicians. This decreases the time a planner will plan and schedule, so it does not result in an increase in the maintenance technician's productivity, and the planning and scheduling efforts eventually fail.

Another misuse of the planner when they report to the supervisor is focusing them on acquiring spare parts and arranging other lo-

gistics for the supervisors during reactive maintenance. This reduces the planner's role to that of an expediter instead of allowing a focus on planning. This also will not result in an increase in the maintenance technician's productivity.

A second strategy pitfall is whether the planner should be hourly or salaried. In many companies, the Human Resources department controls the addition of new positions in a de-

partment and will set policies as to what can be a salaried position versus an hourly position. The pitfall develops when the planner's position is going to be hourly and will be determined by seniority. This may prevent the most qualified employee from becoming the planner; instead, the position will be awarded to the most senior employee. Now this individual, who impacts the productivity of the 15 to 20 technicians they are planning for, could have a negative impact. The appearance of wasting a resource in planning and scheduling will quickly result in sending the planning back to the crew.

The decision to make a planner hourly or salaried should focus on getting the right person with the correct skills in the planning assign-

***The solution to the execution problems is to focus on the value that is derived from planning and scheduling maintenance work: increased technician productivity or increased equipment capacity.***

ment. If the union forces the most senior person in the job (even if they are not qualified), then it would be best to make it a salaried function. If the union environment is cooperative and the union focuses on getting the most qualified person in the planner assignment, then there is no issue with having an hourly planner.

Although these pitfalls occur during the initialization of the planning and scheduling function, they should have been addressed while the strategy was being developed. All organizational issues should be decided before the planners are selected. This includes where the planners report organizationally, how many technicians each will plan for, and a detailed job description that will be strictly adhered to during the implementation and utilization of the planning and scheduling function.

#### Execution Pitfalls

Once the planners/schedulers are in place and the strategy is clearly understood by the maintenance and operations personnel, problems will still develop. These execution problems include:

1. No effective preventive maintenance
2. Insufficient MRO support
3. Poor use of a WO system
4. Poor organizational cooperation (maintenance or operations)

The first pitfall is the lack of an effective preventive maintenance program. This will allow a high rate (>50%) of reactive work to continue, even with the planner/scheduler in place. This results in plans and schedules that are inaccurate or always slipping due to a high level of reactive maintenance. The planners/schedulers become frustrated and will return (if possible) to working on a crew. Even if the planners/schedulers remain in their assignments, the organization will not see any benefits (either increased productivity or improved equipment capacity) to their job assignments and thus eventually will eliminate the positions.

The second pitfall is insufficient MRO inventory and purchasing support. This usually will show up as poor service levels (<95%) from the stores. This means that the stores either are not stocking the right parts or are not stocking a sufficient number of the right parts. The typical root cause here is the lack of sufficient staffing in the stores areas. This allows for spare parts to disappear from the stores areas with a negative impact on the service levels and inventory accuracy.

The third pitfall is the poor use of a work order system (typically in a CMMS or EAM system). Without the work order to utilize as a control document for planning and scheduling, the planners/schedulers lack the information necessary for them to be effective in their assignments. They will not have sufficient information to begin planning a job without closely investigating each request. This will require too much time, and they will be ineffective in planning for the right number of maintenance technicians. This will again make the planner/scheduler position seem ineffective and cause the planners/schedulers to become frustrated and the managers to eventually end planning and scheduling.

The fourth pitfall is the lack of cooperation from both maintenance and operations supervision with the planning and scheduling process. For example, many times the maintenance schedule is published for the next week, but when it comes time to execute the work on the schedule, the supervisor (particularly on second or third shifts) will decide not to perform the work that is scheduled. This results in the constant reshuffling of the scheduled work or the sliding of the work from one weekly schedule to the next.

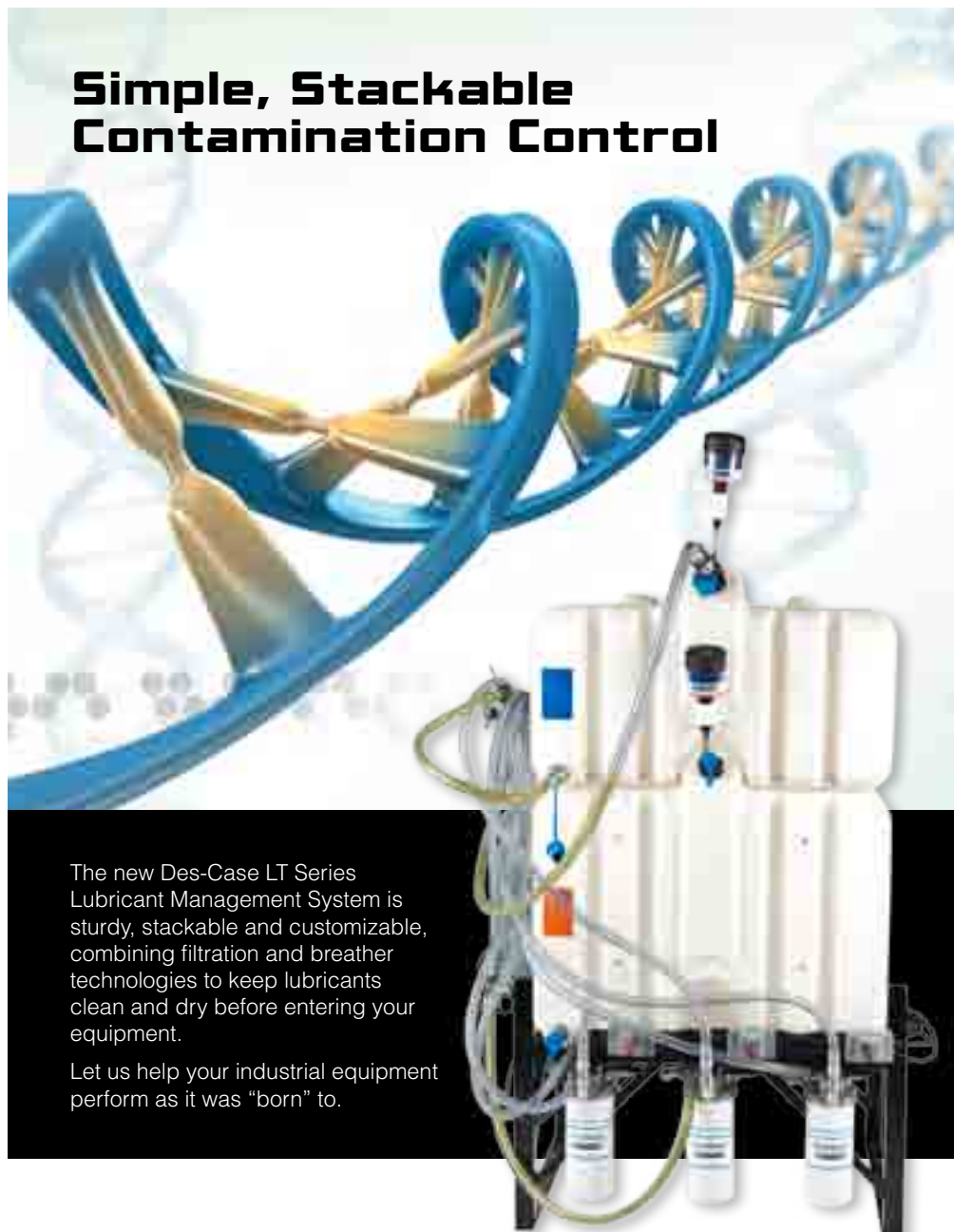
The solution to the execution problems is to focus on the value that is derived from planning and scheduling maintenance work: increased technician productivity or increased equipment capacity. If the entire organization understands the costs involved and how they are minimized by best

practice planning and scheduling practices, the easier it is to overcome the execution problems. If certain employees fail to cooperate in the execution phase of planning and scheduling process, perhaps it would be better for the entire organization if they are reassigned to a position where they will not impact the organization's profitability.



Terry Wireman, CPMM & CMRP, Senior Vice President Vesta Partners, LLC has authored dozens of books, including the new Maintenance

Strategy series published by Reliabilityweb.com and sold at: books.mro-zone.com.



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