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Maintenance Management Newsletter

Vertical Maintenance (VM)

How to Defeat Your Deferred Maintenance Backlog

By David Tod Geaslin
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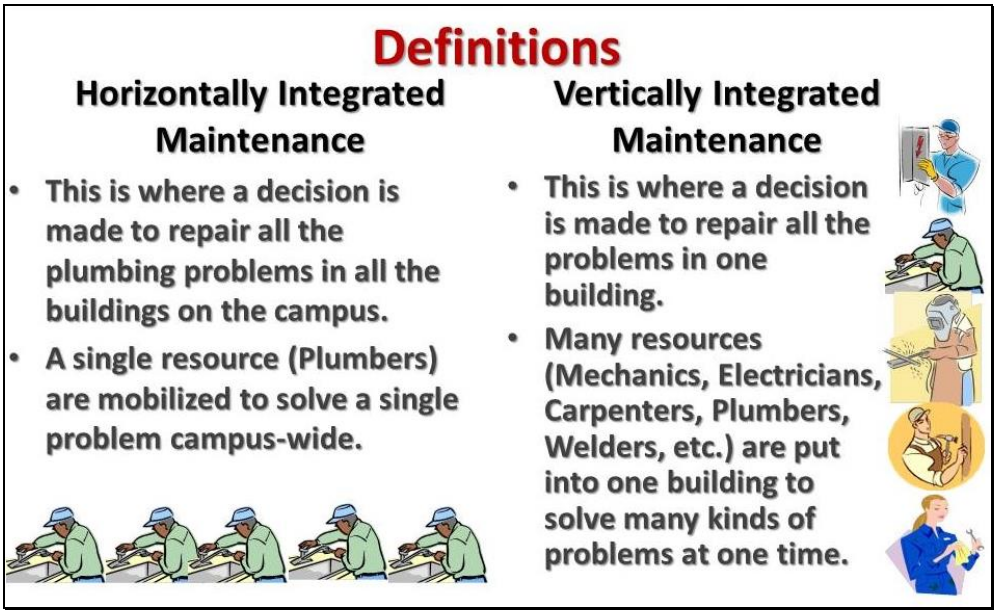
If you, as leader in your company, feel that your True Risk/Reward Ratio for Deferred Maintenance is excessive and want to defeat your backlogged maintenance there are some very good tools to accomplish this.

One of the most effective is what I call **Vertical Maintenance (VM).** This is a form of vertically integrated maintenance that puts as many maintenance disciplines as possible into one asset group at one time for a two day period to create a surge effort to write off as many open work orders (WOs) as possible. This offers several distinct advantages.



Planning – In my program, we try to schedule two major assets a week until all the assets have had the benefit of the surge effort, and then start over again. This is not a vaccination; it is a maintenance therapy that is scheduled indefinitely into the future. Every effort is made to create a scheduled date for each asset. One month before the VM event, we inspect the asset with several people that includes the VM Maintenance Leader, a Repair Maintenance Leader, operator representative, a management representative and any supporting suppliers deemed necessary.

This team has a list of all outstanding WOs and examines each. During this inspection the team records any new and unreported maintenance needs and creates new WOs. It is not unusual for the team to double the WOs for the asset. This is not a bad thing because it is known that it takes 15-times more man/hours to fix something after it breaks than before. So, fifteen newly discovered things that have not broken down can be fixed in the time it take to fix one thing that does operate to failure.

Parts – Awaiting Parts is the biggest problem in maintenance; however, since vendors are encouraged to participate in the inspection, their eyes are actually on the assets that need repair and can provide a superior service to have all the needed parts ordered and in place when the VM event starts.

Worker Efficiency – Planning a month ahead, the VM Team can assure and schedule the technical people necessary to accomplish the tasks by segregating the WOs by specialty needs such as preventive maintenance, mechanical, electrical, welding, plumbing, HVAC, and carpentry personnel. Since each worker will have multiple jobs assigned during the surge, they will remain at the asset working off as many WOs as possible. If they do go Awaiting Parts, they notify the VM Leader and the parts are ordered and the worker selects another WO. When the parts arrive, the worker uses the parts to finish the first job. This efficiency dramatically reduces "windshield time" and allows the worker to stay at the asset and work off two or three times the number of WOs possible if working alone and chasing parts.

Worker Support – In operations with a large number of assets, the worker often works unsupported. In a VM Event, there are workers from other disciplines to help them with specialty knowledge or direct testing or wrench turning. This has proven to be invaluable at the interface between electrical and mechanical machines where the problem cascades from one need to another. Having them at the same asset for a couple of days generates significant efficiencies in the quality of the work and training on the job.

Building User Confidence in the Maintenance Effort – During the planning and execution phases of a VM Event the machine operator is kept in the loop as to what is happening. It is not possible to correct everything every time, so the VM Team has to reassure operators that the outstanding WOs will be handled in a specific order. First, they will make the asset safe. Second, they will make the asset reliable. Then third, they will make the asset pretty again. As long as the operator is involved and is kept up to date as to the progress they will have confidence in the quality of the maintenance. This may require several VM cycles to accomplish but it will be done.

Operator Involvement Concerning Maintenance – During this VM relationship, the operator will become much more competent in the management of the asset. After a few VM cycles, the user will become aware of the maintenance WOs that are being caused by other users interacting with the asset. We classify these as Operationally Induced Events (OIEs). These are events that are not maintenance issues but damage created by the way the asset is used. Tracking OIEs offers a great opportunity. When the source of the OIE can be identified the Maintenance Department can provide one-on-one training to the user to train the problem out of the process. When intentional and unintentional damage is stopped within a process by putting a dollar value on the behavior of individuals, the operational readiness of the asset improves tremendously and maintenance costs drop.

The effectiveness of the Vertical Maintenance surge effort is dramatic in the number of WOs that can be worked off in a very short time before the machines fail. There are management techniques that can be integrated to manage emergency and priority WOs simultaneously with the VM Program.

A VM Program cannot be accomplished without the direct leadership and support at vice presidential level and above in the scheduling of access, funding, participation by the departments, and the designation of an operating user representative to be a permanent part of the VM Team. Once the leadership declares that a Vertical Maintenance Program will be a permanent part of the plan to work off deferred maintenance, the recaptured 40:1 dollars once spent on breakdown events and the 15:1 in recovered maintenance man/hours can be plowed back into the process to create a self-financing solution to improved maintenance cost at their organization.

The author:

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