How to view PM (Preventive Maintenance) and PdM (Predictive Maintenance)

Effective PM is 4 dimensional

In prior books and articles PM is been treated as an engineering issue (what tasks will have the greatest impact?), or as a management issue (as in the procedures and preparation for TPM). Other writers have considered PM in the view of a combination of ways (RCM- engineering and economic).

In fact, down in the trenches on the shop floor, in the buildings, on the road, PM is more complicated than that. Effective PM or PdM is like a skyscraper with 4 sides. PM initiatives commonly fail or just dim out of existence when one side is neglected. If the program is to be successful it needs to have structural integrity (or balance) in all 4 areas:

Engineering: The tasks have to be the right tasks, being done with the right techniques at the right frequency. Many PM systems have elaborate PM tasking but breakdowns occur anyway because the wrong things are being looked at, in the wrong frequency. In other words, the tasks have to detect or correct critical wear that is occurring. Analysis of statistics of failure, uptime and repair is included in the engineering dimension of PM.

Economic: The tasks must be 'worth' doing. One measure is that doing the tasks furthers the business goals of the organization. Is the value of the failure greater than the cost of the tasks? Spending $1000 to maintain an asset worth $500 is usually a waste of resources unless there is a downtime, environmental or safety issues. This is the critical economic question. The RCM approach includes in the 'worth doing' equation tasks where failures could result in environmental catastrophe or loss of life or limb. In any case, the economic dimension is the critical one when deciding to go with PM or not.

People-Psychological: The people doing the PM have to be motivated to the extent that they actually do the designated tasks properly. Without motivation and buy-in PM rapidly becomes mind numbing. They also need to attend to the level of detail generated by a PM system. The actual PM workers also have be properly trained to know what they are looking at and why.

Management: PM has to be built into the systems and procedures that control the business. The business systems need to cause good PM to take place. W.E Demming, the quality guru, said that quality was in the system of production not in the individual effort. A 'tacked-on' PM system is rarely effective for the long haul. Information collected from PM has to be integrated into the flow of business information. PM data (such as PM compliance) has to be reported to the Plant Manager or Director of Operations so that there is a structure outside maintenance causing accountability.

The thought question for you is which of the 4 dimensions has been neglected?

This is taken from the to be published book *The Complete Guide of Preventive and Predictive Maintenance* (publish date fall 2002 by Industrial Press).
Joel
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Joel Levitt, Director International Projects JLEVITT@LCE.COM
Life Cycle Engineering | 4360 Corporate Road Office | Charleston, SC 29405
843.744.7110
Mobile +1-267-254-0061
www.LCE.com