

Equipment Asset Management, A Lifeboat to the 21st Century

Written by John Mitchell
Thursday, 01 May 1997 15:54

Asset management is being advocated as a necessary improvement for the manufacturing, process, and production industries. But what is asset management? Why should you be interested? Furthermore, what value and benefits can you gain from asset management?

The fact is, I have never seen or heard a good definition of asset management applied to production and manufacturing equipment. So I offer the following definition:

Asset management, or more specifically equipment asset management, is a comprehensive strategy and process directed toward achieving greatest effectiveness and profitability from production and manufacturing equipment assets.

It is a mindset and total life-cycle strategy for optimum acquisition, installation, operation, and maintenance. Asset management links availability, capacity, and operating and maintenance (O&M) costs to business objectives.

Equipment asset management is results rather than task oriented. Priorities and measures of performance are financially based. The entire process is directed by profit center rather than cost center principles. It incorporates and builds on the best attributes of reliability centered maintenance (RCM), total productive maintenance (TPM), preventive maintenance (PM), predictive maintenance (PDM), and even reactive maintenance, with one crucial addition, application of profit-centered prioritization to arrive at an optimum balance.

Asset management is being described and advocated from the perspective of various disciplines, primarily control and maintenance. Within the just-stated definition, requirements and results may be much broader than can be delivered by any individual function. Perhaps asset management is best viewed as the unifying element between production planning, process control, and maintenance that assures safety along with optimum production capacity, quality, efficiency, and profitability.

The asset management process must be accomplished from the top down. Business conditions, and specifically the origin of profit, are the basis. To develop the fundamentals for asset management it is necessary to gain a clear understanding of the principal factor that determines

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and drives profit. Is it production availability (capacity), market conditions (demand), operating (conversion) and maintenance costs, or is it some combination? The answer is vitally important because it determines the deployment and allocation of resources.

Safety is a paramount consideration. Regulatory (environmental) factors have a strong effect, and so does quality. Does operating closer to quality standards produce greater profit at a given output?

Efficiency improvements are a potential source of added profit. In a facility operating 50,000 hp (37.5 MW) of electrical power consumers, an overall improvement of just 1 percent saves over \$260,000 a year in utility costs (at \$0.08 per kWh). This saving could be equivalent to \$2,600,000 in added production (at 10 percent net profit).

Benefits are many. Maximum profitability is gained by maximum conversion efficiency, minimized unscheduled outages and partial output, elimination of industrial injuries, and minimized risk to the environment.

Measures such as maintenance costs divided by current net asset value are currently used for assessing the performance and effectiveness of equipment assets. This measure forces all efforts toward controlling cost. But is this really where the emphasis should be placed? Progressive leaders are reporting that when all factors are considered--safety, quality, and production output, to name three--optimum cost is typically greater than least cost, illustrating the profit-center mentality that is the core of asset management.

A clear distinction exists between cost and profit-centered mentalities. A cost center has no systemic incentives to optimize. If anything, there are disincentives to optimize. Everyone knows the reward for coming in under budget in a cost center.

It is the opposite in a profit center. A premium is placed on optimization. Investments and added costs are evaluated from the standpoint of results and return. The latter is certainly more healthy and better suited to a complex process or manufacturing environment.

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Obviously there is a great deal more to think about. Stay tuned for details. **MT**

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