

## So, should we cut maintenance or training?

Written by Robert M. Williamson, Strategic Work Systems, Inc.  
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Robert M. Williamson, Strategic Work Systems, Inc. A top manager from one of the largest businesses (I will call it the Company) in the U.S. who is responsible for the procurement and installation of hundreds of millions of dollars of next-generation, new-technology equipment recently asked me: “In order to meet our project and cost goals we have to cut somewhere. So, which is more important—maintenance or training?”

I was speechless. He was in a hurry. So I gave him a 60-second blast that ended with...“the equipment will fail to do what you expect it to do without proper training and maintenance. Unfortunately these are the historical first-to-be-cut budget items—a prescription for failure. Especially now: Maintenance and training should be a top priority as we are in the midst of an ever-worsening shortage of skilled and qualified maintenance people in the U. S.”

The Company’s new equipment was designed and developed at great expense to significantly improve its business efficiency (accuracy and volume) and lower the Company’s operating costs in one of its growth markets. Now this Company is about to shoot itself in its proverbial foot. How can it spend hundreds of millions of dollars on equipment development, procurement, and installation to improve its competitive position and not spend the necessary resources to make it operate reliably as designed for the next 10, 15, or 20 years?

The manufacturers of the new-technology equipment recommended about 4000 hr/yr for routine maintenance. However, the Company is budgeting approximately 2000 hr/yr. What these decision makers often fail to realize is that repairs can cost 10-100 times more than thorough preventive maintenance considering parts, labor, and lost production revenues, not to mention customer dissatisfaction and opening the door to the competition in growth markets.

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The bottom line with his “maintenance question” is not whether to cut maintenance costs but rather to ask “what does the equipment truly require to perform reliably—to do what we need it to do first time every time?” Then, how can we make the equipment require less maintenance (maintenance prevention design/ modification)? What can we do to make maintenance and operations easier to perform (maintainability and operability). And, what can we do to improve preventive maintenance efficiency (running PMs, condition monitoring, and predictive maintenance)?

The bottom line with his “training question” is not whether to cut training costs but rather to ask “what does the equipment truly require people to know and to do to keep the equipment running reliably?” If people are not trained and qualified to properly operate and maintain the equipment, their mistakes and trial-and-error methods will result in damaged equipment, delays, and unprocessed products.

My training recommendation: do not cut back on equipment-specific training in any manner; make it more efficient and more effective. Make sure all of the operators and maintainers have the necessary core skills and knowledge or the prerequisite skills to comprehend and apply the equipment specifics. Then, apply visuals to every critical component and indicate every critical operating parameter on the equipment.

Physically locate and identify every lubrication point on the equipment. Attach lubrication pictorials or diagrams to the equipment indicating the frequency, lube type, and methods. Match-mark all critical nuts, bolts, and fittings, making it easier to spot looseness.

Label every major component with its name and identification number so everyone uses the same terminology thus improving communications and equipment repair and maintenance history accuracy. Label replacement part numbers and sizes for belts, filters, and light bulbs. Locate all vibration analysis pickup points with labeled discs on critical motors and drives.

And finally, hold the equipment manufacturers and system integrators responsible for the timely delivery of all documentation for maintenance and training prior to equipment installation.

Maintenance defined: sustaining the desired level of performance (not fixing things that break). If you think maintenance is expensive, what about the cost of no maintenance? If you think education and training are expensive, what about the cost of ignorance? Not knowing what the equipment requires for reliable operation throughout its life cycle can be easily

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corrected and then proper actions can be taken. But, making such decisions based on project and operating budgets rather than equipment requirements is frightening! And, “there is nothing more frightful than ignorance in action” (I believe Goethe said that.). **MT**