

## Reliability and Maintenance Management Current Best Practices part 1

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Feedback on this reliability article is appreciated.

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You have been told you that your maintenance cost as a percent of estimated replacement value (ERV) is 4.6% and that this is too high. Best performers, you are told, should have maintenance cost lower than 3% of ERV. (Our database shows that the average maintenance cost as percent of ERV in the process industry is 4.2%.) So, now what do you do about this?

### **COMPARING MAINTENANCE COSTS.**

Before we discuss what you can do, I would like to discuss the reliability of maintenance cost comparisons between plants. During the last year, I have worked with two companies that were competing in the same market segment with the same products. For years, cost comparisons, including maintenance costs, had been made between the two companies' plants. One company's plants always had the lowest maintenance cost per ton. Then, these companies merged and "overnight" the maintenance cost for the company with the lowest maintenance cost per product produced went up 50%!

The reason for this increase was different guidelines for what maintenance to expense and what maintenance to capitalize. The company with the lowest maintenance cost per ton capitalized as much as they could, while the other company expensed as much as they could. When new guidelines were applied, the "low maintenance cost company" was told to follow the "high maintenance cost company's" guidelines, so, instead of a maintenance cost of \$60 per product produced, its cost was now close to \$90 per product produced.

### **ESTABLISHING A RELIABLE ERV.**

A reliable ERV is equally difficult to establish. To make an attempt for getting it as close to right as possible, you need to go back to the original investment of the mill. Then, you have to decide what index to use for estimating current replacement value. After that, you need to cluster all investments and divestments, for example, in a three-year time period. When all this is done, you can calculate ERV.

Well, I know that you will have to live with all these cost comparisons, and you will continue to argue over why they might be right or wrong. If the numbers are right and used for trending your own performance, they can be useful.

The most important matter will still be to do something about improving your competitiveness and your productivity. So, whatever way you have been measured and compared, you will have to develop an action plan and then execute this action plan to improve the numbers used to compare you.

### **DEFINING CURRENT BEST PRACTICES.**

You can name maintenance any three-letter acronym you want, but if you break the maintenance function down to its elements or practices, you will soon notice that they will all have to be done in an efficient manner to deliver better performance. So, what are these practices? Many years ago we defined all these practices and have used them to evaluate and identify maintenance improvement opportunities in hundreds of maintenance organizations all over the world. Recently, we sat down again with corporate management of a major international company to define all these practices. To no one's surprise, these practices were the same as 30 years ago. It must be explained that these practices only describe WHAT the best practices are, the execution—or HOW—can vary between plants and also within plants.

I think it can help many organizations to describe some of these practices. It can help you understand the complete maintenance process. You can also use it to educate others and to describe job responsibilities. We use it to uniformly evaluate essential reliability and maintenance processes. We call them current best practices (CBP) to indicate that this is the best way we know currently—the future will find better practices.

If you want to develop your own CBPs, I advise you to start with structuring the whole concept into key processes, then sub-processes, and then elements of these sub-processes—elements that are the ones we call CBPs. When you perform this exercise down to the CBPs, you will soon notice that you are back to the very basics of maintenance such as alignment, balancing, filtration, operating practices, etc. It is still on this level that improvements need to be done in order to increase reliability and lower maintenance costs.

The key processes we identify include: leadership, support facilities, preventive maintenance, planning and scheduling, materials management, technical database, skills development, etc.

For a copy of CBP material, please contact me.

In the following columns, I will explain some of the CBPs in detail.