

The Maintenance Mission

Written by John Moubray, Aladon
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What exactly is the purpose of the maintenance function? In a world of endless reorganizations, shifting technological paradigms, growing expectations, and increasingly onerous regulatory constraints, all of which must be dealt with urgently, it is easy to lose the way. Most major corporations have developed formal mission statements to help them maintain a steady course through this ocean of distractions. It may be worth developing a formal mission statement for maintenance to help us do likewise.

Perhaps a good place to start would be to look at the meaning of the word maintain, which the Oxford dictionary defines as "cause to continue." Cause what, you may ask, to continue what?

The first "what" is easy to answer. Maintenance exists because we have physical assets that need maintaining. So our mission statement must reflect the fact that maintenance is first and foremost about physical assets.

Continue "what"? What is it that we wish to cause to continue? The answer lies in the fact that every physical asset is put into service because someone wants it to do something. In other words, it is expected to fulfill a specific function or functions. Therefore, it follows that when we maintain an asset, the state we wish to preserve must be one in which it continues to do whatever its users want it to do. This shift in emphasis from preserving what it is to preserving what it does should be acknowledged in the mission statement.

Our maintenance mission statement also should recognize our customers: the owners of the assets, the users of the assets, and society as a whole. We satisfy owners by ensuring that their assets generate a satisfactory return on the investment made to acquire them. We satisfy users by ensuring that each asset continues to do whatever they want it to do at a standard of performance that the users consider to be satisfactory. Finally, we satisfy society as a whole by ensuring that our assets do not fail in ways that threaten the environment.

If things didn't fail they wouldn't need maintenance. The technology of maintenance is all about finding and applying appropriate failure management techniques: predictive maintenance, preventive maintenance, failure-finding, run to failure, and once-off changes to the design of the asset or the way it is operated.

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Each category represents a host of options. A major challenge facing us nowadays is not only to learn what these options are, but to decide which are worthwhile and which are not, in our own organizations. If we make the right choices, it is possible to improve asset performance and at the same time contain and even reduce the cost of maintenance. If we make the wrong choices, new problems are created and existing problems only get worse. Our mission statement should remind us of our obligation to try to make the right choices from the full array of options.

However, when considering failure management options, we must bear in mind that we worry about failures because they have consequences. Failures incur consequences in the form of repair costs. They also can affect safety, environmental integrity, output, product quality, customer service, loss of protection, and operating costs. The severity and frequency with which a failure incurs any of these consequences dictates whether any failure management technique is worth applying. Our mission statement needs to acknowledge the pivotal role that consequence avoidance plays in maintenance.

We also must acknowledge that most of us work in a highly resource-constrained environment. The most effective maintainers are those who apply the resources they need (people, spares, and tools) as cost effectively as possible, but not so cheaply that they damage the long-term functionality of their assets. In other words, we must minimize the cost of ownership of the assets throughout their useful lives, not just to the end of the next accounting period.

Finally, our mission statement should recognize that maintenance depends on people, not only maintainers, but also operators, designers, and vendors. It should acknowledge the need to create an environment where everyone involved with our assets shares a common and correct understanding of what needs to be done and is able and willing to do whatever is needed right the first time, every time.

These criteria suggest the following as a possible maintenance mission statement:

- To preserve the functions of our physical assets throughout their technologically useful lives
- To the satisfaction of their owners, of their users, and of society as a whole
- By selecting and applying the most cost-effective techniques
- For managing failures and their consequences
- With the active support of all the people involved. **MT**

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