Written by John Moubray, Aladon
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My first article in this series proposed a maintenance mission statement. In doing so, it stressed that maintainers serve three distinct sets of customers: the owners of the assets, the users of the assets--usually the operators--and society as a whole.

- Owners are satisfied if their assets generate a satisfactory return on investment.
- Users are satisfied if each asset continues to do what they want it to do to standards of performance which they--the users--consider to be satisfactory. (In this context, satisfactory performance includes the notion that the risk of death or injury caused by equipment failure should be reduced to tolerable levels.)
- Society is satisfied if the assets do not fail in ways which threaten the environment.
- Because we are maintaining assets on behalf of other people, it could be said that we are in fact the custodians of the assets concerned.

In this context, parallels can be drawn between the custodianship of physical assets and the custodianship of financial assets.

In 1494, a Florentine named Pacioli invented double-entry bookkeeping, the process at the heart of financial custodianship. To this day, throughout all branches of organized human endeavor, armies of bookkeepers and accountants use Pacioli's ideas to look after financial assets on behalf of the people who actually own, earn, and spend the money. In their world, responsible custodianship means ensuring that all financial transactions are accounted for and the books balanced to the nearest penny at the end of every accounting period.

In the world of maintenance, our "currency" is the failure mode. To exercise standards of custodianship similar to those of our financial brethren, we must ensure that every failure mode is properly "accounted for." Such custodianship obliges us to exercise due diligence in trying to identify every failure mode which is reasonably likely to affect the functions of the assets in our care, to understand the consequences of each failure mode, to select the most cost-effective failure management policies, to deploy the most appropriate human and physical resources to execute the chosen policies, and to ensure that each task is planned and executed in the right way, at the right time, and by the right people.

It is worth comparing what happens when things go wrong in the context of the analogy between financial and physical asset management.

The worst consequences of the irresponsible custodianship of financial assets are that a business may go bankrupt and its custodians end up in prison. However, the worst consequence of the incorrect or irresponsible custodianship of physical assets is that people die, sometimes in very large numbers. And yet, at this point in time, industry in general seems to spend much more energy on the high precision management of its financial assets than on the management of its physical assets. (The manifestations and the implications of this imbalance will be explored further in my next article in this series.)

A final point about this analogy concerns auditing. Financial managers have to submit their custodianship to exhaustive, expensive--and mandatory--external scrutiny at least once a year. At present, the notion of regular external audits of physical asset management activities is still in its infancy. However, the concept of an "audit trail" is featuring in more and more industrial safety legislation. Our regulators are asking us not only to do the right things, but to be able to demonstrate in writing why we are doing them. The day is approaching when this will evolve into an audit process every bit as formalized and highly regulated as that to which our financial colleagues are subjected.

The depth, intrusiveness, and cost of this audit process will be governed by the extent to which our regulators accept the validity of the methods we use to exercise custodianship of our physical assets, and the rigor and precision with which they consider us to be applying them.

In short, if the world of physical asset management wishes to maintain a reasonable degree of control over its own destiny, it must match if not exceed the standards of custodianship which are the norm in the world of financial asset management. Right now, how many of us can honestly say that it does? **MT**