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BSI PAS 55 is a specification, not a standard. Until the new ISO standards exist (between 2012 and 2013), we can refer to several documents that have been developed as management-system standards: All have six common elements (so will this latest addition to the ISO library). Detailed in ISO 72, “Guidelines for the justification and development of management system standards,” they include: 1) policy; 2) planning; 3) implementation and operation; 4) performance assessment; 5) improvement; 6) management review.

Those six elements create the “Plan, Do, Check, Act” model of continuous improvement and form the foundation for an optimized asset-management system. Developing a management plan that accounts for risk—*and, therefore, cost*—brings a marked advantage to the bottom line.

The new standard will illustrate the importance of transaction-level business processes, such as production and maintenance planning and scheduling. It will also require clearly communicated performance monitoring to maximize corporate resources and profitability. Typically, corporate objectives, business processes and information systems are not well integrated. Thus, they hide some of our limiting factors and risks and prevent us from optimizing our asset performance.

A four-phase risk-based asset-management model can provide the transparency to risk, and create, the operational stability that all manufacturing organizations require:

Classify… The first step is to classify assets. This includes value-stream mapping to understand the logical flow and how value is created, cataloging assets and creating functional hierarchies.

Analyze… The focus in the second phase is to apply criticality analysis, complete a risk assessment and risk ranking, in preparation for developing appropriate control strategies.

Control… Control strategies include preventive and predictive tasks; remote monitoring; condition monitoring; operating procedures; rebuild, replace, redesign criteria; operator care; and critical spares, to name a few. All should be documented in standard work procedures and define the risk and failure that they are mitigating. Once the predominant failure modes are identified, we can define the control strategy to eliminate or mitigate that failure to reduce the risk.

Measure… Once the management information system is configured to capture the data necessary to develop the appropriate queries and reporting, we have the means to effectively identify our opportunities. The metrics we use as part of our performance monitor-ing should closely tie to our strategic plan and corporate objectives. Work-order history is a key source of our measurement activities.

Why implement risk-based asset management

In a risk-based asset-management system, you collect relevant information based on importance to the value stream and use that information to make fiscally responsible decisions that will, in turn, create greater value for the organization. When you combine the four-phase risk-based asset-management model with business processes that support best practices and are seamlessly integrated to leverage critical information to make decisions and supported by a culture dedicated to continuous improvement, you can achieve results like these:

- People recognize the value of continuous improvement and demonstrate it with their actions.
- Limiting factors have been identified and considerably reduced.
- Capital investments have been avoided by improv-ing capacity and availability.
- There is a notable reduction in the cost of products sold.

Benefits of this nature result in significantly improved operational stability along with substantial financial improvement. **MT**

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The opinions expressed in this Viewpoint section are those of the author, and don't necessarily reflect those of the staff and management of Maintenance Technology magazine.