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Capital-intensive companies today are realizing the importance of maximizing asset reliability. It is no longer enough to focus on traditional maintenance objectives such as minimizing repair costs and improving the efficiency of work execution. By focusing on the goal of maximizing reliability, companies are realizing strategic benefits such as increased revenue and profits, improved product quality, increased safety and environmental integrity, and overall improved customer satisfaction.

Traditional maintenance activities alone cannot support a company's goal of improved reliability. To achieve and sustain maximum reliability, companies must deploy a reliability focused business process. I call this process the Reliability Driven Maintenance Process. It includes the following stages:

- Plan
- Assess
- Improve
- Control

In the **plan** stage, the maintenance strategy is aligned with the business goals of the organization.

This alignment enables maintenance to identify the assets that contribute most to achieving business goals. Next, the assets that are most critical and where the risk is highest in terms of impact on business performance are determined. For these assets, specific performance targets are established. This stage focuses maintenance reliability improvements on the performance targets of critical assets that contribute most to the company's success.

The **assess** stage analyses the performance of the asset, comparing asset performance targets to the maintained asset's actual performance. Performance analysis identifies and prioritizes gaps in performance.

In the **improve** stage, work identification strategies are utilized to identify appropriate actions to address the causes of failures in a timely manner. Strategies for this phase may include reliability centered maintenance, best practice review, or other appropriate work identification

practices. The maintenance plan for an asset may include a mix of preventive maintenance, predictive maintenance, and run-to-failure decisions.

Work identification is the cornerstone of the Reliability Driven Maintenance Process. The work identification element determines the right work at the right time.

Once work is identified, companies move into the **control** stage for planning, scheduling, execution, and follow up. Almost all capital-intensive companies today use a computerized maintenance management or enterprise asset management system to maximize the efficiency of this phase. If properly followed up, the control stage of the process provides valuable information back to the assess stage in terms of the actual performance of the assets.

Managing feedback from the control stage, a company moves back into the assess stage, resulting in a continuous improvement loop that maximizes asset reliability. The assess stage evaluates and makes visible an organization's effectiveness in each element of the Reliability Driven Maintenance Process.

Reliability practices and technology are needed to support the Reliability Driven Maintenance Process. Appropriate technology is essential to expedite results and achieve long-term success on the road to reliability. The best systems today complement the reliability practices and serve as a day-to-day tool for true maintainers of equipment.

Maintenance, engineering, and operations collect an enormous volume of potentially valuable data as they work together to conduct condition monitoring activities. But we need to go further to maximize reliability. We need to make effective use of the data collected and ensure that we do the right work at the right time.

Leading companies have found technologies to convert their mountains of condition data into effective reliability improvement processes. These technologies enable maintenance, engineering, and operations to combine their respective talents to define the ways in which condition indicators will drive improved asset health.

In my view, to be successful in maximizing asset reliability, companies must implement a business process that focuses on reliability. And that process must be supported by appropriate

reliability practices and technology. Strategic value will be achieved in the form of increased revenue and profit, improved quality and customer satisfaction, and improved safety and environmental integrity. **MT**

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