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**Bob Williamson, Contributing Editor Partnering with your company to aggressively pursue reliability excellence will pay off all the way around. This maintenance expert shows you how it can be done.**

High-performing, low-cost, competitive operations depend on reliable equipment. Turbomachinery and other rotating equipment is exposed to numerous conditions that cause functional failures, catastrophic failures, damage leading to eventual failures and work practices that contribute to short- and long-term equipment problems.While routine preventive maintenance, condition-based maintenance, condition monitoring programs and overhauls extend equipment life and performance reliability, in dayto- day operation, there are many instances of interruption or damage caused by factors outside the direct control of the maintenance group.

For example, equipment reliability and operating integrity can be challenged by employee turnover due to retirements, promotions or job changes. Employee turnover and retention already are becoming difficult issues for many operations. As increasing numbers of aging "Baby Boomers" leave the workforce, more and more critical responsibilities are falling on the shoulders of inexperienced, untrained replacements.

Successful equipment-intensive operations must accelerate the use of strategies that ensure BASIC operations and maintenance requirements are being met. This is fundamental to reliable performance of the equipment in almost any environment. Maintaining basic operations and maintenance conditions is the foundation of reliability upon which to deploy advanced tools and technologies. Unfortunately, basic equipment conditions are often overlooked or assumed because they are thought to be too "basic" –almost second nature or common sense to the experienced person. Yet, as new people take on responsibilities for operating and maintaining turbomachinery, they must first master the basics–in other words, common sense must become common practice. Consider the following concepts:

***Basics***. Proper operation not only includes adhering to "operating procedures," but also avoiding decisions that may exceed what the equipment was designed to do. Proper maintenance not only includes adhering to "maintenance procedures," but purchasing and stocking the correct replacements parts and supplies that are fit for service. Proper maintenance also means maintaining stored spares and storing precision parts in an environment where the "fit-for-service" condition is maintained. But, whose job is it?

***Basics***. Operating conditions sometimes mandate a need for frequent cleaning and inspection of equipment. Buildups of external dirt, grime, moisture, and other contaminants can contribute to premature failures and shorten the life cycles of the equipment. Listening and looking for leaks, looseness and signs of wear are the most fundamental forms of preventive maintenance. Routine inspection, care and upkeep can pay big dividends. But whose job is it?

***Basics***. Equipment design, specification, procurement, installation and startup/commissioning set the stage for a long, problem-free life cycle, or a short, problem-prone life cycle. "Ahead of schedule and under budget" is the mantra of most project groups–admirable goals as long as the basic conditions that guarantee lowest operating costs over the planned life cycle are attainable after the project phase is complete. But whose job is it?

***Basics***.Training all employees to properly operate, maintain and monitor equipment, as well as to purchase, inspect and store parts, makes sense. Training must be based on "best practices" as they apply to actual equipment and job-performance requirements. Skills and knowledge from the training sessions must actually be used on the job by everyone (standardized work practices).Management and front-line supervision must set the expectations and accountabilities for everyone who touches the equipment. The goal of training for proper job performance is to drive out human variation (humaninduced failures). But whose job is it?

***Basics***. A critical piece of equipment must be the focal point. That being said, everyone who touches that equipment and everyone who makesdecisions about that equipment must be on the same page, using a common strategy, heading for the same goals – 100% reliability. That’s the same organizational priority as 100% defect-free, 100% accident-free, 100% environmentally-safe operation. Reliability of the critical equipment must be a high priority because it results in the highest output at the lowest operating and maintenance cost for the longest life cycle. But whose job is it?

***Basics***. Teamwork focused on common goals works! Concentrating limited resources on the most critical, problem-prone, costly-to-operateand- maintain, unreliable equipment can eliminate many problems. . . and lead to changes in the work culture. This approach also frees up constrained human and capital resources for more productive work–as opposed to reactive repairs. Team-based maintenance recognizes that the maintenance department cannot necessarily achieve "world-class" levels of equipment reliability without help from all of the others in the organization who either directly or indirectly affect the reliability of the targeted critical equipment. But whose job is it?

"Leadership and teamwork" is the answer. That's whose job it is to achieve the highest levels of equipment reliability. Top company, plant or site leaders must define the vision for reliability and define the business case for aggressively pursuing it.Cross-functional team structures for project groups, as well as daily operations' "natural work group," must be engaged in developing strategies, tactics and "best practice procedures."Vendors, suppliers and manufacturers also must be on the reliability team.Making decisions based on DATA, versus opinions–making decisions based on proven methods–must become common practice. Implementing "programs" in the hopes of improving performance can be risky, ineffective and resource-consuming,with little or no payback. Top-level leadership has the responsibility and the authority to lead the team to a high-reliability, low-operating-and-maintenance-cost business.

High-performing equipment needs high-performing teamwork and leadership to win the race for reliability. In turn, team-based reliability approaches will generate huge payback from more reliable, higher-performing turbomachinery. **MT**

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