Not the Royal Canadian Mounties, although you just might need the police if you fail to observe the basic principles of equipment maintenance.

So what’s RCM? No, Reliability Centered Maintenance—how to get more reliable performance from mechanical systems. This, and variations of it, has been the hot button issue in the maintenance industry for some time now.

I attended several conferences this spring and early summer where this topic, one way or another, was central to the program. Sadly, I was struck by the number of people I met who seemed to know little about basic lubrication engineering and the basics of tribology theory. Further, most had not even heard of STLE.

The first meeting I attended was Henry Pusey’s Mechanical Failure Prevention Technology (MFPT) Conference. This is a very technically advanced conference taking a close look at the leading-edge technologies for sensing and diagnosing the onset of mechanical failure in a variety of mechanical systems.

Many of these projects are funded by the Defense Advanced Research Program Administration (DARPA) and have a decid-
edly military tone. One of the invited-speaker addresses was given by our own Chris DellaCorte from NASA, who discussed, “Future Issues and Approaches to Health Monitoring and Failure Prevention for Oil-Free Gas Turbines.” This has to do primarily with using air foil bearings that have been an integral part of our technical program for some years now.

David Zimmerman, an invited speaker from the University of Houston, talked on the “Structural Health Monitoring Case Studies: Analysis Aided with Engineering Insight.” He was trying to determine how to predict when a wing spar, hit by a piece of shrapnel that results in stress cracking, would fail under a variety of service conditions. The idea is that a commander could decide, based on technology that predicts propagation of stress cracking, whether to take the plane out of service, go one more time or use the plane for a limited time in light duty such as hauling freight or wounded soldiers back to the rear.

Another conference I attended was the Maintenance and Reliability Technology Summit (MARTS), co-sponsored by Bob Baldwin, Maintenance Technology magazine, and Terry O’Hanlon of ReliabilityWeb.com. This conference focused on the latest advances in reliability maintenance practices in industrial manufacturing.

Then there was the Society of Reliability Maintenance Professionals (SRMP) Conference, whose current president is a long-time STLE member, Larry Cote, CLS®. The SRMP people focus on high-level program management using the most advanced statistical techniques for measuring, monitoring and predicting the performance of their mechanical systems. Indeed, they have a certification program for reliability maintenance professionals.

Finally, I attended a conference in Mexico City in June, sponsored by our own Mexico City Section with Per Arnold Elgqvist O. and Miguel Bonin—the Third International Symposium of Reliability and Energy Triboefficiency. The primary focus of this conference was on how to save energy and improve reliability through the use of advanced maintenance practices. In fact, the two tend to go hand in hand. Well-running equipment lasts longer and operates more efficiently. All these new technologies and the people to manage them are expensive, but clearly the payoff is there financially, environmentally and in terms of employee safety and well-being.

It was at the Mexico City conference that I, a true champion of the KISS principle, was brought back to earth by some sage wisdom proffered by Dr. Heinz Bloch in one of his presentations. His point was that all the snazzy, high-tech sensing and testing devices for vibration analysis, thermal analysis, sonar analysis, oil analysis and power consumption and analysis and all the fancy computer programs to analyze, slice and dice the data and all the newly hired people to put this into effect aren’t really worth much unless the basics are in place.

By that he meant that tremendous savings in equipment downtime, frantic repairs and energy consumption can be achieved by first ensuring that the simplest practices are firmly in place.

For example, we constantly talk about the problems associated with contamination. Thus, housekeeping in the plant must be immaculate. It does no good to install a vibration analysis system if we install our pump bearings with a hammer and don’t bother to line up piping, pumps, couplings and motors precisely—not forgetting to mount the assembly on a firm, level base.

You get the idea. Without first assuring that the basics are not only in place but an integral part of our total manufacturing culture, RCM is like a logging operation that takes a magnificent, shiny new logging chain, shackles one end to a beautiful new Caterpillar tractor and ties the other end to the fallen tree with a piece of string. <<

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