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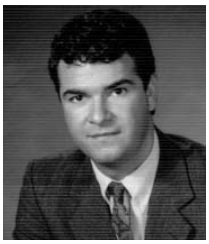
THE LONGO LETTER

July/August 2003

Predictive Maintenance ≠ Reliability?

CURRENT EVENTS
Joseph M. Longo
President



Does having a predictive maintenance group automatically result in improved plant reliability? Not necessarily.

Over the years more and more plant engineers and maintenance managers have been turning to a host of predictive technologies to determine the maintenance or the condition of their critical equipment. The idea being that they can catch an impending breakdown and prevent either in-service failures or minimize major repair costs. Today, there are several types of testing that can be used to evaluate your equipments' current condition and with proper baseline data, examine past trends with an eye to future performance.

Contemporary testing is available in such areas as:

- Oil analysis
- Infrared thermography
- Ultrasonic testing
- Vibration analysis
- Electrical testing

There is no doubt that this information has enabled maintenance personnel to tackle high priority repairs during routine shutdowns, however this is more like putting out fires than preventing them. The bearings, windings, seals, etc. that have shown up as impending failures are replaced or repaired and the units put back into service. While it seems you may have things under control, unplanned outage and breakdowns are still a constant nightmare for production managers and maintenance managers alike.

Predictive information can tell you what is going bad, but it cannot tell you why. Looking over a history of your equipment, you may begin to see repetitive failures continually being identified. By ignoring the root cause of these failures overall reliability will improve. Once the root cause of the failure has been determined two things occur. First, the expense of these interim repairs is reduced significantly and secondly, overall reliability begins to rise.

On the surface there can be many apparent reasons for a particular failure, but only one true root cause. It no longer makes sense to just repeat the same repairs over and over when a solution can be determined. Diagnosing the true root cause of these problems can be tricky and involved. For this reason it takes a unique melding of experience and technical expertise to provide this type of analysis and find the real problem, not merely another superficial solution. This has always been a part of **Longos** approach when examining equipment in for repair. We make the effort to correct the **cause**, not merely the **effect**, and improve the overall reliability of the equipment–***truly a Longo Advantage.***

Temperflex® is now a Registered Trademark

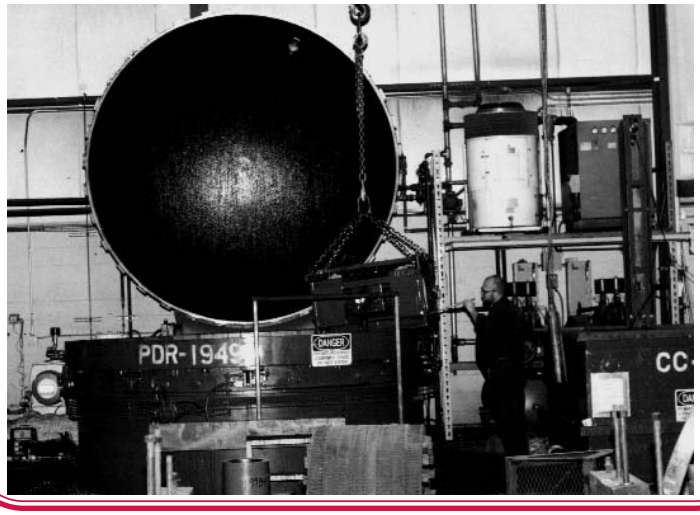
"Why would you register a simple epoxy coating?" people ask. Well, it is neither simple nor like any other epoxy.

It is one of the details, one of the Longo Advantages, that make Longo's motor work one of the best. Temperflex is just one part of our VPI System.

Our vacuum pressure impregnation tank is substantial at 10 feet in diameter and holds up to 4,000 gallons of temperature controlled Temperflex epoxy. Its size and shape allow us to immerse up to a 6,000 hp/4pole motor.

The resin we use, Temperflex®, is a unique proprietary formula developed in conjunction with a major chemical company.. It has a unique capability to set up hard enough to limit movement of the windings under moments of severe torque, yet remain flexible to prevent cracking and ensure its coating stays intact for a long life of protection against environmental attack. In a way, it is like combining the best of a willow and an oak tree. It is the unique properties of flexibility and strength that prompted the name Temperflex®

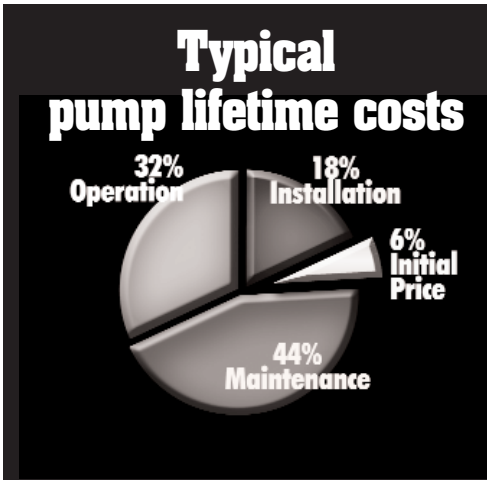
Temperflex® is our exclusive product and is now a registered trademark with the patent office of the United States.



At one time the purchase price, "the deal", was everything.

The rest of the costs were more or less hidden in maintenance, repairs and other budget centers. The cost of down time and lost production were other expenses or costs that were never really tied to the actual equipment itself. That is all changing.

Today we know that the cost of a piece of equipment encompasses a whole host of costs and expenses . The lifecycle cost is the real cost and more often far exceeds the original purchase price. The pump costs illustration shows just much impact maintenance, installation and operation have on the overall lifecycle costs. Software programs have been making this fairly clear and provide useful data. Now Longo, along with the Tango, its website and database, take this one step further.



We invite you to see for your self what is now possible when it comes to evaluating not only your lifecycle costs, but the related functions, such as maintenance, PdM, inventory, etc. that play such a big part in your over equipment expense and durability.

Once you have reached our website at www.elongo.com, go to the Customer Resource section. There you will find a link to the "Advance Equipment Management Program". Extensive information that is more than impressive...it is usable!