



MAINTENANCE "MATTERS"

How maintenance philosophies have evolved over the years.

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Thank You

Thank you for the positive response we received from the first three issues of this newsletter. We would appreciate any comments and ideas to make this newsletter more informative and interesting. Please contact me at rsaxton@lloydelectric.net

OUR STRENGTH IS OUR PEOPLE

Billy Chaffin



Billy, one of our Driver Sales Representatives, has been servicing his customers in many areas of Virginia and North Carolina for over 20 years. He considers them all good friends as well as valued customers.



"As part of our security check we'll need the name and blood type of your first born"

The following is a brief explanation of today's main maintenance philosophies .

- **Breakdown Maintenance**
Involves fixing things if, and only if, they break. This was OK 50 years ago but with the cost of equipment, labor and downtime today it is no longer a viable option in most cases. It is cheap to implement but the consequences can be catastrophic. It should be pointed out, however that all philosophies have their proper place. Each piece of equipment should be evaluated and the most cost-effective combinations of philosophies should be considered. For example; light bulbs are replaced when they blow not on a schedule.

- **Preventive Maintenance**
This evolved because it was soon realised that "Breakdown Maintenance" was not the best way to maintain most industrial equipment. This is better than the above but problems arise because the "maintenance intervals" are based "on an average" and some machines fail before they get attention while other machines that do not need attention are overhauled. "If it ain't broke, don't fix it" is still a good maxim.

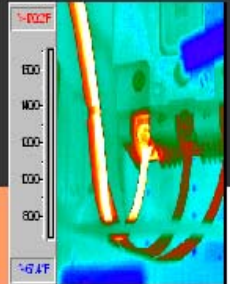
- **Predictive Maintenance**
This evolved from "Preventative Maintenance" .This is where "Condition Monitoring" techniques to determine what causes failures and how they can be prevented came into their own because this involves using as many nondestructive testing methods as necessary to determine the health of the equipment. Maintenance decisions are then made based on the results of these tests. The benefits of this philosophy are a reduction in catastrophic failures and an increase in planned maintenance activities.

- **Proactive Maintenance**
This grew out of the other three philosophies. It is concerned with the analysis of all "maintenance" and "condition-monitoring" techniques to determine what causes failures and how these situations can be prevented. "Root cause failure analysis" is central to this philosophy which is the philosophy of the future for many top class organizations. The benefits of this philosophy is a reduction in unscheduled downtime and lower operating costs

An Overview of one of the

Predictive & Preventative

on-site Maintenance Technologies available today



Infrared Thermography

Electrical system maintenance has always been a difficult, and often overlooked task. The use of Thermal maintenance or infrared Thermography proves to be the answer for a cost effective, efficient means of maintaining electrical equipment. Infrared thermography can pin point potential major equipment failures or even minor thermal variations indicating possible future problems. Many insurance companies mandate a annual survey or/and offer reduced rates to organizations that perform this voluntarily. In industrial maintenance this technology is used for motor control centers and other related electrical maintenance applications.

This technology is also ideal for surveys requiring other or more sophisticated analysis (e.g.: Tank level indication, underground steam or liquid leak detection, refractory on furnaces and boilers, heat and A/C efficiency in buildings etc.)

Advantages of thermal Maintenance

- All thermographic inspections are conducted while the systems are running and under load; therefore no downtime is necessary to conduct the survey.
- A thermographic survey provides a positive identification of problem locations, so maintenance can be performed on facts rather than guesswork
- Expensive unexpected downtime can be reduced to a minimum by scheduling periodic surveys
- Infrared surveys are noncontact and nondestructive, this therefore is a safe and reliable method to test and survey high-voltage equipment

