

## Mid-South Engineering Company

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### Save Energy, Turn Off Outdoor Lights During the Day

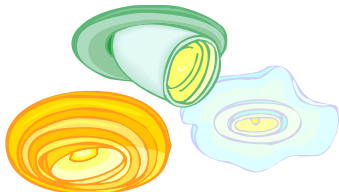
When we visit any industrial plant these days it is not uncommon to see several lighting fixtures burning in broad daylight. While this may be necessary in areas such as partially covered buildings for maintaining the requisite foot-candles, such is obviously not the case when it comes to floodlights and other outdoor fixtures.

Over the past several years steadily rising energy costs coupled with razor thin profit margins have caused industry to devise various ways to conserve energy. High efficiency motors have become the norm due to payback realized by their increased efficiency. However, the same attention is not given to conserving energy when it comes to lighting - floodlighting staying on around the clock is a case in point. To see how quickly these costs can add up, let us assume there are (15) 1000-Watt floodlight fixtures burning during the day (12-hour period). Assuming a rate of 4 cents per kWhr, the cost per year is:

$12 \times 365 \text{ (Hours/Year)} \times 0.04 \text{ (\$/kWhr)} \times [15 \times 1000 / 1000] \text{ (kW)} = \$2628.00 \text{ per year.}$  In a typical mill we should not be surprised to find a lot more than just (15) such fixtures. Think of all the money that is being wasted.

Most floodlights are controlled by photocells, however, one of the reasons that outdoor floodlights continue to burn in daylight is dirty photocells. These do need periodic cleaning but this task is usually relegated to the bottom of the maintenance totem pole.

There are several ways to prevent this. One is to control the lighting contractors feeding these lights with a PLC. Another alternative is to install hardwired "cycle timers" which can be programmed to allow for seasonal changes.



### Belief Is All You Need

A man was lost while driving through the country. As he tried to read a map, he accidentally drove off the road into a ditch. Though he wasn't injured, his car was stuck deep in the mud. So the man walked to a nearby farm to ask for help.

"Warwick can get you out of that ditch," said the farmer, pointing to an old mule standing in a field. The man looked at the haggardly mule and looked at the farmer who just stood there repeating, "Yep, old Warwick can do the job." The man figured he had nothing to lose. The two men and Warwick made their way back to the ditch.

The farmer hitched the mule to the car. With a snap of the reins he shouted, "Pull, Fred! Pull, Jack! Pull, Ted! Pull, Warwick!" And the mule pulled the car from the ditch with very little effort.

The man was amazed. He thanked the farmer, patted the mule and asked, "Why did you call out all those other names before you called Warwick?"

The farmer grinned and said, "Old Warwick is just about blind. As long as he believes he's part of a team, he doesn't mind pulling."

Adapted from *Some Folks Feel the Rain ... Others Just Get Wet*  
James W. Moore



"The Barn" built in the 1930's to house Welsh ponies, serves as Mid-South's offices.

## Hydraulic Cleanliness is Dynamic

In an earlier issue we discussed some of the basic steps you should consider when developing and maintaining hydraulic systems to keep it clean and operating well. Since hydraulic cleanliness is dynamic, (ever changing), by its nature, we want to briefly discuss the importance of keeping records, and the right kinds of information.

Perhaps one of the most compelling reasons for sampling fluids regularly and maintaining good records is your manufacturer's warranty. But beyond that, your life can be simplified if fluid and operational records are accurate, and timely. Also be certain that samples are taken at the proper location. A sample taken where any possible contaminants are still suspended in the fluid stream is vital. With proper information, some items where good records help are:

- Manufacturers' recommendations can be augmented by information you gather and from OEMs and research laboratories.
- Entrapped moisture can be determined early which if not addressed soon can wreak havoc with solenoids, pumps, etc. High humidity environments can lead to entrapped water if desiccant filters are not used and maintained.
- Enough operating and maintenance data over time provides confidence to make decisions on when parts, or fluids should be changed.
- Metal particulate caught early will save on parts and down time.
- The abrasives of contaminants needs to be monitored to reduce the risk from associated failures.

Gathering enough operating and maintenance data over time should include fluid variables of flow, pressure, temperature and viscosity. Particle counts by size range (>2, >5, >15, >25, >50, and >100) while cataloging metal, water content by percent volume, and other contaminants should also be kept in your records. Keep up with filter types and changes along with dates of service on other parts and problems by date.

Keeping your information in a database and using statistical analysis programs can correlate failures with fluid contamination levels. Then you can stay in control of your operations rather than react to a crisis.

*Excerpts of Al Zingaro's article, Hydraulics & Pneumatics*

## Laws to Qualify Engineering?

According to most U.S. State laws, it is clear that the intent is that engineers are to solicit and accept work only on the basis of their professional competency, qualifications, experience and reputation for high ethical standards. Financial remuneration should not be used as a primary consideration but should be negotiated after selection of the engineering firm is made. Many state engineering licensing boards are aware that procurement of professional services on a competitive basis has the potential of driving down quality of services. For that reason, state licensing boards encourage the selection of professional services through a qualification based selection procedure.

In most states it is unlawful to design foundations, structures, power distribution, building, machinery, etc., unless the company or individual is a registered professional engineer for the state. Don't get misled into hiring someone who is neither qualified nor registered for your area.



***When you reach for the stars you may not quite get one, but you won't come up with a handful of mud either.***

*Leo Burnett (1891-1971)*

## Mid-South Engineering Company

1658 Malvern Ave (71901) P.O. Box 1399

Hot Springs, Arkansas 71902

Telephone: 501-321-BARN (2276)

Contact: **Mark Culpepper**

[mculpepper@mseco.com](mailto:mculpepper@mseco.com)

Web Site: [www.mseco.com](http://www.mseco.com)