

Lubrication Fundamentals



Waste management and recycling—Now there's an exciting subject!

Addressing proper management issues and developing a good business model can go a long way toward protecting our environment.



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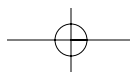
We have discussed a number of interesting fundamental topics pertaining to the lubricants industry in this column, but have not talked much about what to do with the stuff when you are done with it. Industry has gotten progressively more and more competitive, overlaid with an increasing concern with the environment and being a good corporate citizen. This means looking at every aspect of our industry and, in particular, not forgetting waste management and recycling.

I have long preached the need to “sell up” to our increasingly MBA-ed, bean counting-

oriented managements. This is not altogether a bad thing, as it causes us to look at all things in a productive manner.

Waste is not exclusively a major drain on profitability. With proper management, waste can be a source of indirect revenue by reducing new lubricant purchases, reducing the cost of waste treatment, selling certain waste as boiler fuel, reducing environmental impact and eliminating fines and a negative social image. In other words, a business case can and should be made for waste management and recycling.

All this sounds good so far, but there are



a few key tenets of such a program:

1. A proactive maintenance program must be in place and operating properly.

2. A top/down commitment must be made to reduce waste and pollutants, conserve resources and recycle materials at every stage of the product life cycle with an objective of improving the environment at each of these stages.

3. Only use lubricants or metalworking fluids, whether new, refurbished or recycled, that meet the specifications for its intended application.

4. Recycling only makes sense when a global business case can be made for it.

A global approach to manufacturing is needed for success. It is not acceptable to compromise product quality, machine and tool life, manufacturing productivity or the environment but rather to maximize each of these in concert. And whether direct or indirect, these can be measured by global financial results—the overall system must reduce total cost per unit manufactured to achieve maximum profitability.

Again, all this sounds good, but how do we do it?

Well, as stated above, we need a proactive maintenance program: maintaining the equipment and sorting out and fixing the root causes of problems. As it applies to waste management, we fix the leaks! The key is to control the mass balance of fluids and lubricants to prevent pollution—and, by the way, save the cost of replenishing lost materials. Seems somehow obvious doesn't it?

Then we need a top/down commitment from everyone, management, operations and maintenance, and, yes, even the bean counters. They can help us learn how to put a value on what we do and how to track that value through the manufacturing cycle. If everyone is thinking about how to conserve resources, managing their areas of responsibility, we will capture each opportunity to meet our goals. Collectively this will add up to a very significant financial gain.

As stated above, use only lubricants or metalworking fluids, whether new, used, refurbished or recycled, that meet specifica-

tion. This step takes real effort. Each single operation must be looked at closely. How does the fluid eventually fail? At what point, do we consider it no longer viable?

The fluid from each operation must be collected, transported and refurbished to meet the specification for some operation (not necessarily one from which it came) and returned to service. This is where the discipline comes in. If possible, we would like to recondition the fluid at tank side, perhaps through filtration or whatever is needed. If this is not possible, the fluid needs to be collected, but not contaminated by dissimilar materials, tramp oils, water or whatever.

These segregated fluids then are transported to a facility, usually local, for more extensive refurbishing and returned to a service for which it meets the specification. If not, then transport the fluid to a contract facility for more extensive refurbishing or perhaps refining. The key is that in collecting the fluids and keeping them as clean and segregated as possible, we maintain each fluid in the highest quality state possible. This reduces the cost of recycling, refurbishing or refining.

Some fluids might not be recyclable, but if they are kept as clean as possible they may be good enough to be sold as boiler fuel—generating revenue. In so doing, we squeeze every last cent of value out of the fluid. Clearly, this takes commitment and discipline on the part of everyone in the facility.

Finally, a financial analysis needs to be made at each step in the context of the total operation. We do not recycle for recycling's sake, but, rather, because it makes sense, usually financial sense, in the context of the global operation of the plant. When we think this way, our operations will be cleaner, more efficient, more profitable and better for the environment, employees and the community. Such a plant is a good place to earn your living. <<

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