



## Singing the (maintenance) tune

By Jack Poley

In November I carped about the need for people involved in oil analysis programs to establish specific goals, commit to those goals by following up on reports indicating existing or developing problems and assess the benefits properly and thoroughly. Once given sponsorship, there is a need to claim ownership, accept accountability and perform accordingly.

Prior to that column I presented two case studies that centered around human indifference or lack of perception in the face of sound evidence that critical situations existed that required immediate and drastic action. One case resulted in millions of dollars lost and the other came uncomfortably close to the same outcome.

What drives successful programs? Is it commitment, dedication or experience? Probably all of those but, cutting to the chase or, quite literally, getting to the bottom line, money is always the motivator for making any maintenance program work. The key, therefore, is for management to (1.) believe that proper attention to implementation and follow through results in tangible savings and (2.) take their conclusions and mandates to the shop floor for buy-in at the point of action.

To persons who've already sponsored and developed successful programs with documented savings, I'm "preaching to the choir." But what about folks in the choir who are not singing in tune? I'm referring to persons involved in oil analysis programs but not proactively paying attention to the process or not using the information to best, if any, effect. How does one get them to exhibit a necessary sense of urgency?

I'm so close to the oil analysis profession that I can't understand why all this isn't blatantly obvious, but I've come to accept the fact that, for some maintenance personnel, be they managers or technicians, the need to be proactive simply isn't urgent. Somehow the oil analysis just takes care of itself. Well, it doesn't. The analogy of bringing the horse to water is appropriate here; the horse has to make the decision to drink or else he'll die of thirst. Taking samples does not constitute an oil analysis program; it is the direction and intensity of the follow-up that determines if the program is successful.

Perhaps one way to improve motivation is to ensure (insist) that savings are documented and that such information is shared with the entire maintenance team. Even

though there is plenty of cynicism to go around nowadays, most people like to be part of a positive experience. In some companies successful programs yielding verified savings could even include cash bonuses or other rewards for members of the team. This sounds good, but how does one go about it?

During the period of time when I operated a commercial oil analysis facility, I once made an offer to a large customer: my company would analyze oil samples at no charge if we were given 10%-15% of the documented savings, reviewed and paid quarterly. I was curious to see how this idea would be received, and I was somewhat convinced we would get a higher overall fee with this approach.

In principal the customer accepted the somewhat impromptu (I had no idea if I'd like the outcome of this proposal) offer, but we were not able to agree on how to assess the true savings, thus the proposition was never

Oil Analysis Findings	# Units	Savings/Unit	Savings
Engine failure averted.	3	\$7,000	<b>\$21,000</b>
Extended life from warnings of air intake system failures.	10	\$275	<b>\$2,750</b>
Early warning of connecting rod bearing failure, enabling replacement of rod shells only, avoiding crankshaft regrind.	4	\$200	<b>\$800</b>
Early warning of antifreeze in oil, avoiding accelerated wear or failure.	5	\$1,000	<b>\$5,000</b>
Extension of major overhaul period based on normal data patterns.	10	\$6,500	<b>\$65,000</b>
Savings from the ability to schedule maintenance in advance of predicted breakdown, which would have occurred on the road.	5	\$300	<b>\$1,500</b>
Extended docking intervals for minor repairs from 12 to 18 months.	32	\$400	<b>\$12,800</b>
Extended oil drain intervals, eliminating 3 changes per year.	100	\$180	<b>\$18,000</b>
		<b>Sub-Total</b>	<b>\$126,850</b>
Cost of Oil Analysis Program	# Units	Cost/Unit	Total Cost
Cost of samples	100	\$108	<b>\$10,800</b>
Sampling and administration	100	\$24	<b>\$2,400</b>
		<b>Sub-Total</b>	<b>\$13,200</b>
Net savings on 100 units			<b>\$113,650</b>
Payback ratio			<b>9.6:1</b>

transacted. We were able to ascribe value to parts within the sampled component, but extrapolating and pro-rating wear of these parts to end-of-life became a bit of an issue. The largest potential savings piece, that of reduced downtime, also was an issue, not because it wasn't perceived as the largest factor but because we each assessed the scenario differently and, once again, could not reach an agreement.

I've always been disappointed I didn't advance the concept more vigorously to my customer, insisting that we find a mutually acceptable way to place value on these types of events and others germane to a savings-assessment module. In truth, I was not proactive enough, and it cost me a chance to try something potentially innovative.

Consider that we have elected to establish a sampling program that is "near certain," based on hearsay, to save us money, but we've no math in place to vet the savings. I suppose we have the same issue with life insurance purchases, wherein we inherently know we need it, so it's simply a question of how much to buy, not if we will buy.

But when it comes to a piece of iron, this is a cop out. The value of a person is, perhaps, intangible, although life insurance payouts imply otherwise. Regardless, the value of a machine can be derived and so can the production it enables.

True, this is already listed as part of the program objectives, but chances are that a program that is languishing is not being properly vetted. It is not a simple exercise to develop this information, but it surely is worth it.

The chart shown in this article is an example of a savings assessment module for a typical fleet of tractor trailer power units. It's not essential to agree with the values ascribed to each category or finding, but it is important to understand that all these

factors indeed exist and to attempt to render a qualified estimate.

For this trucking company the savings is between eight and nine times the program's costs. Now imagine the potential savings when one performs a similar exercise in a major manufacturing plant, where unscheduled downtime alone can be a near-astronomical monetary event.

Could this serve as a motivator? Are you determined to help the choir sing in tune? **TLT**

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