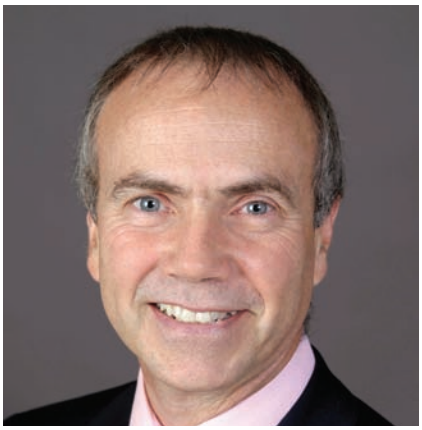
To Maximize Uptime, Be Prepared to Change



By James Reyes-Picknell

Gold — if you can produce it and keep producing it consistently, you can make a tidy profit. But maintenance downtime, unexpected breakdowns and problems when you start back up all chip away at productive uptime and profitability. Worse, safety risks increase when things break down. Leaks, excessive emissions and failure to keep people and animals from harm can result from failures in the systems designed to prevent those events. You want zero breakdowns, maximum uptime in your processing plants and maximum availability in your mobile equipment.

You need maintenance to be doing the right things, the right way and at the right time. If not, the wrong maintenance leads to even more failures, the right maintenance is done not at all or not on time, and schedules are not met due to urgent work being needed elsewhere. And, because of rushed work, which is far too common, mistakes are made. All of this lowers maintenance quality while increasing downtime. Maintainers complain about lack of access to equipment, lack of resources (i.e. qualified people), lack of parts and lack of care by operators who damage equipment. Sometimes they are right and sometimes they are not.

Lean manufacturing practices have been around since before the offshore automotive manufacturers began to win market share from North American producers in the '70s. "Lean" is music to the accountant's ears; he hears "cheap." But that is not the true meaning of "lean." "Lean" really means "no waste." And waste abounds in mines.

Production schedules, the push for more tonnage and bonuses based on quotas drive production to run the equipment hard and keep it running even when it needs to be maintained. And "need" is the operative word. Maintenance schedules are (or should be) based on the condition of the equipment, either observed through condition monitoring, highly probable due to its age or usage (preventive maintenance) or to keep risk levels within tolerable limits (testing).

If you suspect that maintenance is overdoing it, you may be right. Maintenance schedules should be created as a result of a thorough analysis process supported by data or operating experience. Manufacturers' recommendations are only partially correct. The manufacturers do not know how you will use their equipment and that vital knowledge only comes from your own people. But they need a process to follow to ask the right questions and make the right choices.

Once that is done it is imperative that those schedules be followed or the whole purpose is defeated. Yes, you might get lucky putting extra hours on it this time, but do not expect this luck to last. If equipment is allowed to deteriorate, which is a form of abuse, it will fail. This also happens if operators misuse or abuse the equipment in operation. When it fails unexpectedly you get excessive downtime, higher than necessary maintenance costs, inability to meet maintenance budgets, increased risks, emotional stress and lost profitability. Good maintenance is good loss prevention. Just look at the sort of risks it addresses: operational downtime, costs, profitability, safety and environmental losses. But how do you get there from here?

If you have had a "lean" program you may well be "anorexic." Many companies have gone too far with cost reductions; if planned maintenance schedules cannot be met that is a sure sign. If downtime is high, that is another. But those are symptoms. You need to re-program maintenance and very likely realign expectations within operations groups. You may need to support maintenance with improvements in spare parts inventory management. Poor maintenance practices are almost always accompanied by problems with stores. The departments responsible for maintenance, stores and production must work together. Maintenance, and particularly the reliability it produces, is the result of that joint effort and, as with a three-legged stool, if one "leg" is broken or missing, the "stool" falls over.

If you have pursued "best practices" you might also be in trouble. They are like drugs; everyone wants them and gets addicted to them at the departmental level. The efforts of those departments need coordination. That is what works best regardless of the other practices being followed. High-performing companies are made up of teams that work together; they are not collections of stars. You want "successful" practices, not best practices. You want teamwork and that takes a shift in how you manage, how departments manage and how people behave, right down to the individual. A realignment of values is required based on what works best for your mine, not what works best elsewhere.

To maximize uptime you may well need to make some major changes. Whatever you are doing now, and however you are doing it, if you are not getting the results you want, your practices must change. Continuing as you are will not deliver. Continuing to try is insanity. Maximum uptime will require that hugely scary proposition – change. ■

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Links and References

- Lean Manufacturing
- Best Practice

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http://go.mining.com/nov10-a18