



## BELOW THE RADAR

Factors that Steal Tons, Increase Costs and Prevent Change

### Longwall Productivity – Planning and Coordination are Key

One of the greatest challenges in longwall mining is following the planned maintenance schedule while maximizing run time. In mines where geologic issues negatively affect run rates and accelerate component wear, choosing to go down for maintenance can be even more difficult because runtime can be “stolen” at any moment by unpredictable interruptions. This kind of operating environment creates a sense of urgency that filters down from the management to the workforce. As a result, prevention activities such as planning and coordination may not be emphasized, and the losses associated with a lack of planning and coordination may go unnoticed.

In this article, I am providing some honest feedback about factors that negatively impact longwall productivity and costs. Based on years of experience spent analyzing equipment productivity and costs, I believe that low priorities on planning and coordination between shifts and departments are **major causes** of production shortfalls and high costs. Both planning and coordination are non-negotiable success factors if longwall operations are serious about maximizing operational and financial results.

Areas that can benefit from improved planning and coordination include maintenance, operating delays, supply delivery, development work and communications. When management teams do not emphasize planning and coordination on a daily basis,

- Employees must deal with the problems that result. Employees also recognize that things could be different.
- Managers and employees **act out of desperation** to get more tons each shift (sometimes resulting in equipment damage.)
- A reactive culture is created, which raises the sense of urgency and reinforces a reactive operating mode.
- **Tons slip through the cracks every shift** because a reactive culture is not comfortable dedicating time to problem prevention.
- Tonnage losses caused by poor planning and coordination are seldom measured or quantified, so their bottom line impact is unknown; however, their annualized impacts could easily exceed the losses associated with a longwall move that takes a few days longer than expected.

Raising awareness about the impacts of a reactive management style helps managers 1) choose a proactive management style and 2) increase production and reduce costs at little or no cost. Following are additional observations that raise awareness about this topic:

- “Firefighting” feels like productive work because the clock is ticking when equipment goes down unexpectedly.
- Preventing problems may not feel like productive work, even though planning and coordination increase tons and save dollars.
- Because geologic problems can be encountered at any moment, it is easy to be tempted to run whenever possible instead of follow the plan for maintenance. As a result, planned maintenance may be postponed if a few more tons are needed now.
- Low availability and utilization ratios are often accepted as “normal” at longwall operations. Poor planning and problems between shifts or departments are a major cause of low availability and utilization. When highly productive equipment is running, it offsets the negative impacts of maintenance and operating inefficiencies, hiding the true magnitude of the problem.
- Breaking the “desperation cycle” can be difficult. It requires a sustained change in priorities and a recognition that follow-through on planned activities underground is worth millions of dollars in additional profit and cost savings. Example:
  - For a 2000 tph longwall, an additional 1% of availability achieved through better planning and coordination could increase production by 175,000 tons/year (which is equal to 1-1.5 extra trains per month).
  - 1% availability is equivalent to 7 hours/month or 100 minutes/week. 100 extra minutes/week could yield 12-18 unit trains per year (depending on the number of cars per train).

In closing, extra production capacity and lower costs are often kept just out of reach by old beliefs and behaviors. We may blame geologic conditions or a lack of equipment replacements and expansions, when planning and coordination are required for improved performance.

Here's the thought for June:

Consistent longwall production depends on optimizing the balance between run time and downtime AND excellent coordination of planned activities.

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