

Client Reference

Mining | Coal

Continuous Miner Utilisation



Client Background

Our client consists of four mid-size coal mines, covering underground, opencast, beneficiation plant as well as discard handling disciplines. The coal mines supply coal to both inland, Eskom, as well as export markets.

The underground mines consist of mechanized sections in low, mid and high seam applications with the following equipment suite: Continuous miners, shuttle cars, roof bolters, feeder breakers as well as a suite of supporting infrastructures such as conveyor systems, electrical, instrumentation and water reticulation. There is also secondary support equipment such as tractors, LHD's, MPV's and LDV's. The four mines are serviced by three beneficiation plants.

The asset base consists of both the clients as well as outsourced ownership.

Key Challenges

- The utilisation of the primary asset, the Continuous Miner, is incorrectly calculated.
- Not all production downtimes are taken into consideration.
- There is no standard of how the bookings are made by the control room operators.

Value add

- Baseline and standardisation were established.
- Easier detection and focus on problematic equipment followed up by root cause analysis.
- A true reflection of the utilisation on primary equipment was achieved.



The Business Improvement Facilitator at the mine said the following:
“Although the utilisation is now lower than the expected target, we are at least measuring it correctly now. This standard will be used across the business”

Pragma Intervention

- Pragma's team compared the time booked in the database to the one in the benchmark.
- They also calculated the utilisation on a weekly basis.
- The AC scheduler populates the graph that represents the utilisation per week across the 4 sections.
- The benchmark documentation is continuously updated to align theory with reality.



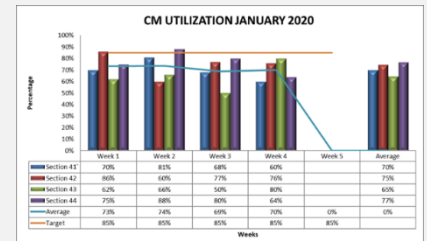
CM utilisation – how it was calculated ?

A benchmark was developed and documented to cater for the expected delays such as tramming , reroute cable, torque shaft replacements, etc.

The utilisation was calculated using the production downtimes booked against the Continuous Miner and that are not on the Benchmark. The benchmark includes projected time frames and occurrences that a delay will usually take.

CM utilisation – how it is calculated now?

The utilisation is now calculated by including all downtimes that affects the Continuous Miners and is booked against production. If the downtime on the benchmark exceeds the specified duration, the excess is now booked as downtime and included in utilisation.



Tools and Technology

- Control Room Database report
- Excel Spreadsheet
- Pivot Tables

