



Understanding new or aggravated exposures arising from the COVID-19 crisis for the Mining industry



The mining industry is being affected by the COVID-19 crisis, with the impact, consequences and effects depending on global, regional and country-specific factors.



Global trends

At a global level, we've seen gold prices surge, considered a safe haven for some investors. Meanwhile, base metal prices have gone down as the construction, manufacturing and industrial use plummets globally. With China being a top steel producer, after their lockdown, iron ore was one of the first products to dip, and global consumption of steel does not look promising. On the coal front, metallurgical and thermal coal appear to have opposite price trends. Notably, reduced energy consumption and low gas and oil prices seem to have reduced thermal coal prices. On the contrary, even though steel production is slowing, some supply restrictions could lead to a stable coking coal pricing.



Regional trends

At a regional level, the picture is very diverse. Currently, Australia is attempting to operate at "restricted" normal levels, some countries in South America and South Africa have mostly stopped mining activities, and some coal miners in the US are trying to operate at normal levels. These diverse approaches are dependent on local conditions. The level of production also depends on certain jurisdictions labelling mining as an "essential" activity. Nevertheless, being "essential" does not spare an industry from shutting down if the entire country is on lockdown, without the means to mobilize workers, supplies or final products.

Loss control measures for aggravated exposures

Operators are faced with tracking and adapting to this complex and changing landscape while trying their best to guard the health and safety of their miners – their most important asset. Based on the current operating environment, we expect that new or aggravated exposures will arise. Mining companies need to consider these risks and take all reasonable measures to mitigate losses and protect their sites in a considered way. In this document we intend to identify some of these key risks and outline mitigation measures.

Extended shutdowns/idling/mothballing

Where conditions in the country do not permit mining operators to continue production at any level, processing plants and mines are being placed on care and maintenance (C&M).

In some cases, the duration of the idle period is expected to be short (e.g. 3 weeks). In other cases, specific country lockdowns have been or are being extended. In the worst-case scenario, economic conditions after the lockdown have deteriorated to the point that C&M has been extended indefinitely.

Mitigation measures

- Clients should follow proper plant C&M procedures, where procedures must change depending on the length of the idle period (e.g. 3 months, 1 year, 3 years) and be adapted accordingly. Depending on the estimated timing, considerations for issues like corrosion, liquids drainage or equipment rotation could change.
- Main equipment vendors/OEMs should be involved for C&M procedures. Not involving them from the start could lead to equipment damage, loss of warranties or poor re-commissioning practices.
- Clear recommissioning procedures should be in place before the operation starts up again.

Hot Work Permit restrictions during C&M

Many activities in mining processing are inherently wet. Concentrators, coal wash plants, filtering plants, slurry plants and thickeners, among others, are normally wet processes that condition the need for fixed fire protection. However, this situation changes radically if the plant is under a C&M regime.

If a fire starts on a “dry” plant, the spread of fire—and expected associated damage—would be extensive.

This risk is particularly elevated since some operators take advantage of a plant not operating to undertake major maintenance/modification works, and these works usually involve hot works (welding, grinding, etc.)

Mitigation measures

- Due to elevated risk of fire, Hot work permit (HWP) application must be very strict during a C&M period. Operators should ensure that HWP are adequate and there is full compliance.
- Fire watch should be made available during and after the hotwork.
- If contractors are allowed inside the plant, they must be trained and strictly audited on the application of HWPs.
- Consider, do you have proper HWP procedures in place? Are all fire protection features properly operated and maintained? Are emergency personnel active during C&M in the case of a fire?

Stability of main infrastructure and availability of services

Structures such as open pits, tailings dams, waste dumps, or stockpiles are stable during the operation. However, these are “live” structures and the stability conditions vary with the development of the mine. They are usually designed to be stable in the long-term only at the end of the Life of Mine (LoM).

Therefore, it is important to ensure that all critical mine infrastructure is monitored for stability and soundness while the mine is on C&M.

Additionally, some services are critical to keep proper underground (UG) conditions for a safe return to operation.

Mitigation measures

During the C&M period, procedures should be developed to continue monitoring the stability of critical infrastructure, including, among others:

- Open pits
- Underground infrastructure (declines, working stopes, panels, etc.)
- Stockpiles
- Waste dumps
- Tailings dams
- Haul roads

For UG mines, critical services such as dewatering, ventilation, and gas monitoring should continue working during C&M.

Expert availability

At least during 2020, international travel restrictions and mandatory quarantines will affect the availability of technical experts of all specialities.

Foreign/overseas technical experts are often required for, among others:

- Geotechnical review panels
- Tailings dam inspections and reviews
- Maintenance/inspection of major equipment
- Specialised repairs

Mitigation measures

- Critical inspections should be re-scheduled as soon as practical.
- In the meantime, arrangements should be made to provide oversight and monitoring with on-site personnel and engaging experts remotely.
- Consider whether any major inspections or audits need to be postponed and if so for how long? Remote monitoring/inspection could be an alternative if the matter is time sensitive.

Availability of spare parts

A further deterioration of the situation in different countries could force OEMs to shut down or reduce production in certain factories. This could compromise the availability of spares and new equipment, with a consequential increase in lead times in general.

This may not be limited to critical spares, but also consumable parts. The ability to source spares and consumables from within the country versus international procurement will likely play a role.

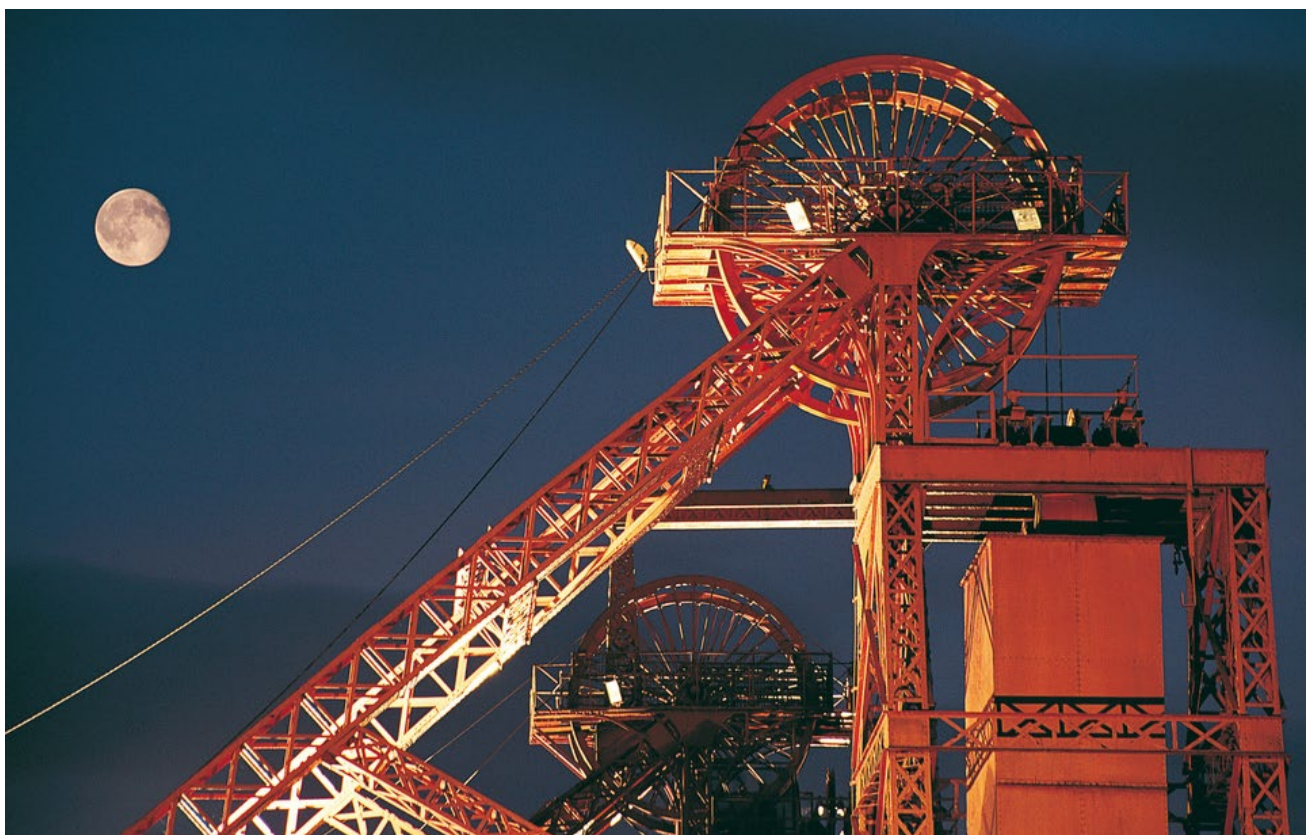
Operators should consider that the importation of goods will most likely take longer and could impact the duration of a forced shutdown.

Mitigation measures

- Ensure a good spare parts and consumable stock to allow continuous operation for longer periods without external dependence.
- Re-assess the availability and lead times of critical spares and supplies.

Operators should consider the following:

- Are all critical spare parts available on site?
- Do the Business Continuity Plans consider critical spares availability and alternative consumable suppliers?
- How long will consumable stocks last?
- Are delays expected in the importation of goods? If so, what would the impact be in terms of time?



Partial Operation

Some major processing facilities may opt to reduce their output and operate at reduced capacity. Depending on the type of operation, some plants are more exposed to incidents if operating outside the regular throughput or operating parameters.

Plants with smelting, refining or solvent extraction/electrowinning (SX/EW) processes could be required to operate on partial mode, and therefore need to evaluate the proper balance of flow of materials and utilities in the plant. This is important to ensure the plant does not run the risk of operating outside the Safe Operating Envelope.

Mitigation measures

- Proper Management of Change (MoC) procedures should be developed for partial operations, addressing all risks and exposures.

Maintenance and other capital investment deferrals

Due to strained economic conditions, some operations could be forced to delay/postpone some major or critical maintenance of the plant. Spare parts availability or restricted access to external personnel/contractors could also lead to the maintenance delays.

Mitigation measures

- Ensure that all scheduled major maintenance works take place within a reasonable time, without jeopardizing equipment integrity and operation.

Operators should consider the following:

- Are any major maintenance outages planned for this year?
- Are proper spare parts and personnel available for any planned outages?
- Is any equipment overdue for major inspection/overhaul?
- Are there other smaller projects being postponed?

Socio-economic conditions in adjacent communities

- Short-term and potential long-term reductions of employment at mining locations and/or at adjacent communities could produce social unrest. Road or mine access blockage could also occur under such conditions.

Mitigation measures

- Ensure proper Community Relations plans are available.
- Evaluate community outreach plans and monitor evolving conditions.

Operators should consider:

- Are proper communications channels established with all local stakeholders?
- Are proper mitigation plans in place in case of road or access blockage?

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