GUIDANCE ON SAFE START-UP PROCEDURE FOR MINES POST THE COVID-19 NATIONAL LOCKDOWN

Background

It is acknowledged that since the President declared a national disaster in March 2020 and later a national lockdown, a number of related regulations were promulgated and accordingly amended as circumstances changed and the practicality of implementation became clearer. These are intended to support and ensure that organisations are directed on how to comply with the relevant regulations in the interest of the health and safety of employees and the nation in general.

This guidance on safe start-up procedure for mines post the COVID-19 National lockdown is drafted in accordance with the directive issued to mines to ensure compliance with Section 5(1) of the Mine Health and Safety Act (Act No. 29 of 1996), as amended, which requires that every employer must as far as reasonably practicable, provide and maintain a safe working environment. The guidance focuses on the areas highlighted in the latest disaster management regulations and the **President's risk-adjusted strategy for economic activity**. As a result, the guidance is intended to address the following:

- measures to be taken to prevent the spread of COVID-19, and
- actions to provide a safe working environment, especially following the prolonged closure of some operations.

Measures to be taken to prevent the spread of COVID-19

The measures as outlined in the DMRE directive to prevent the spread of COVID-19 is adequately covered in the attached MOHAC **Guidance Note on COVID-19.** Among others, the following elements of the measures to prevent the spread of the virus are addressed in the document:

1. Rigorous screening of all employees, including contractors, prior to accessing the mine;
2. Testing of employees with symptoms of Covid-19;
3. Adequate social distancing;
4. Provision of quarantine facilities for employees showing signs of COVID-19;
5. Establishment and maintenance of a personal hygiene programme; and
6. Provision of appropriate Personal Protective Equipment (PPE) including face masks.

It is anticipated that the relevant comprehensive operational risk assessments processes that would be undertaken to ensure that the health related measures in place to address the above are implemented properly without compromising the safety of employees in the process.

Actions to provide a safe working environment following prolonged closure of operations.

Historic statistics have shown that the prolonged stoppage of working places at mines may result in the deterioration of measures in place to mitigate against health and safety risks. Examples of high risk areas following prolonged stoppages include but are not limited to the following:

- Deterioration of ground support systems, particularly in underground workings;
- Time dependent deterioration of ground conditions (e.g hanging wall bed separation; poor hanging wall conditions; poor conditions of highwalls etc.)
- Increased seismic risk for underground operations;
- Lack of or poor ventilation of old/ abandoned working places or those shut down due to lockdown;
- Accumulation of hazardous gases resulting in increase of fires and explosions risks;
- Mud rush risks especially for orepasses that were left containing ore when lockdown was declared.

Nationally, mines conduct comprehensive risk assessments from which they draft Safe Shut-down procedures and Safe-start-up procedures for normally pre-known or planned extended breaks or holidays. These includes breaks for the festive seasons in December or the Easter breaks during March/ April. Similar procedures are followed when activities in active working places are suspended for some time for some reason or another. The dates and length of occurrence of these "normal breaks" are often well known in advance and the shut-down thereof adequately planned for to ensure safe Start-up. As a result, minimal issue based risk assessments are done on an annual basis to review these procedures for relevance and adequacy for the next planned break.

Conversely, the current lockdown was relatively sudden, hence these guidance is intended to highlight and overemphasise areas that should be closely guarded, monitored and improved in the mine's Start-up procedures to ensure an even safer start-up of workplaces that have been left idle during the lock down.

The safe start-up procedures are intended to identify all risks and hazards associated with an extended break focusing t each and every element of the operating mining system including the following:

- Mining
- Engineering.
- Environment; Health and Ventilation.
- Security
- Human Resources, HRD and Medical Surveillance.
- Geology.
- Rock Engineering
- Protection Services

After the post lockdown COVID-19 protocols to prevent the spread of COVID-19 has been implemented and complied with; the following would provide an overall guide on areas to be addressed and attended to, to ensure that the start-up of operations on mines is as safe as reasonably practicable:

Post break pre-start up Meeting

Hold the pre-start-up meeting as scheduled and co-ordinate the required work to ensure all applicable areas are covered. The following agenda items must be used when doing the pre-start-up meeting on the post break pre-start-up shift.

- **Security**
  - Access control
    - Also reminder that ALL access to the mine by suppliers/ contractors to be strictly monitored in line with the COVID-19 prevention protocols
  - Tests for intoxication and/or use/ abuse of illegal substances
  - Random searches and screening, where required.
- **HR**
  - Attendance
    - Critical occupations available to ensure safe work (e.g adequate supervision and correct number per crew to work safely)
  - Crush permission and time and attendance process
  - Novices "first timers" dezoned
  - Management Brief
  - Appointments
- **Health**
  - Emergency medical staff on standby.
- **Engineering**

Shaft Schedules and Work Schedules to be adjusted to take cognisance of the delay caused by the various screening processes which could be time consuming, in consideration of the Basic Conditions of Employment Act in relation to hours of work. This will affect both engineering and mining. Furthermore, the following to be considered/ checked:

  - All shaft planned and scheduled work completed
  - Power failures during the break
  - Fire detection and suppression system Starting of Surface fans and Underground fans.
  - Air, water and electricity restored at the beginning of night shift.
  - Drinking water availability
  - Pump Attendants availability.
  - Lamps person and lamp room staff availability.

- o All TMMs batteries to be reconnected and all machines checked for proper functionality at the start of morning shift prior to the beginning of night shift.

- **Ventilation**
  - o Critical door installations
  - o Known Flammable gas intersections
  - o Refuge bays

- **Rock Engineering**
  - o Rock Engineering reports and appropriate risk mitigation actions
  - o Known Panel list for treatment
  - o Seismicity reports during break with possible FOG working places.

- **Mining**
  - o Miner and Shift supervisor reporting (tracking Labour availability /team composition)
  - o Day Shift / Night Shift
  - o Early/late shifts of Supervisors
  - o Working place induction
  - o Early Entry Examination (Stoping, development and Logistics' start-up checklists)
  - o Panels only to be started up with by correct team

- **Areas that must be inspected are:**
  - o Known Flammable gas intersections
  - o Potential Rock Engineering "Hot Spots "
  - o Critical fan installations
  - o Water, air and power restoration areas
  - o Check and report any water leaks

Mining

It must be emphasised that the mine's risk assessment for the restarting of active working places that were left "idling" due to lockdown should clearly identify the level of supervision, expertise and/or competency required to restart such workplaces, particularly in addressing the risks highlighted on page 2 above. The below is a guide on the process, the implementation of which will be informed by the risk assessment

- The day shift Mine Overseer must hand out the stopping / re-starting checklists to each day shift Shift Supervisor for over inspection and follow up during the start-up process. The checklist will verify if conditions observed during the last working shift prior to the break and associated special instructions issued by the Mine Overseer are adhered to. Where working places have not been stopped in accordance with the stopping procedure, only the holder of a blasting certificate (Miner or Shift Boss) may complete the competency "A" declaration for that working place.
- Shift Supervisors must do early/late shifts during the **first working dayshift.**

- Supervisors to ensure that all employees familiarise themselves with the working areas; and ensure that all resources for safe operations e.g. Support equipment, barring equipment etc. are available in the workplace.
- All Shift Supervisors, Miners to over-inspect safe declarations and ensure that all necessary precautions are adhered to. A Stop-and-Fix rule must be strictly observed.
- Ensure sufficient drinking water is available in the work place and encourage the drinking of water at regular intervals during the shift.
- Open Services valves slowly to fill columns first and only then pressurise. In the case of water this is to prevent what is called "water hammer'' which is caused by the sudden inrush of water, which may cause the flanges to fail and water/air and cause massive leaks.
- Ensure that all power at the stope gully boxes are switched on again at the start of the shift.

Development and Stoping Ends Flammable Gas issues:

- All areas to be checked for flammable gas and necessary entry examination precautions followed. In the event of flammable gas detected, barricade working place and notify ventilation department.
- Employees to be encouraged to pace themselves to maintain an acceptable work rate and report to the supervisor if not feeling well.

Ventilation Department

- Execute the plan to inspect high risk areas and ensure all areas are covered.

Store & Safety Department

- Ensure ground support equipment, PPE and other safe work equipment are available in enough quantities for supply to working places.
- Ensure that the Personal Protective Equipment store is open on the 1st shift after the break.

HR Department

- Ensure that time and attendance systems are functioning well and that all required documentation is available for the start of the shift.
- Address any block parades that should have been deferred during the shut-down period.

Engineering

- Start-up fans as per the post break pre-start-up shift requirements.
- Restore water, air and electricity as required.
- Arrange for persons to check the charging of cap lamps and gas detection devices on the post break pre-start-up shift.
- Ensure adequate staff is available in the lamp room on the first working shift.
- Ensure that there is no water locked in the ore passes.

- Conduct conveyor/ conveyance/ personnel transportation inspection and chairlift inspection.
  - ***Inspection protocols must ensure that lockdown COVID-19 protocols to prevent the spread of COVID-19 are adhered to at all times.***

Tramming Operations

- The supervisors of the **first working dayshift** and the **first working nightshift** must ensure that all box holes are inspected for water logging and that where water is present, the pulling of these boxes is prevented until the water is drained. It is extremely important to ensure that proper communication is made with the tramming crews, and the following is adhered to:
  - All Ore passes to be evaluated and inspected for the presence of water.
  - Report excessive water leaks to the control room.
  - Ensure that main haulage ventilation doors are kept in a closed position.

Geology

- High risk areas should be visited on the first production shift and treated with caution until confirmed that there is no flammable gas or water intersection risks.

Rock Engineering recommendations.

- Rock Engineer to attend the post break pre-start-up meeting with other duty officials.
- Consolidate potential Rock Engineering "Hot Spots" data and communicate the information to responsible production sections with specific reference to **the first working dayshift** and the **first working nightshift** to address any potential hazardous conditions.

Explosives control

- Inspect all explosives storage areas and compare stock with shutdown record. Report any deviation to the respective section area management and protection services.

Chronic Medical Conditions

The guide below will be informed by the **lockdown COVID-19 protocols to prevent the spread of COVID-19** and supplement them where applicable. **Where any of the guidance below is in contrast with the COVID-19 prevention protocols, the COVID protocols will take precedent**.

Primary Health Clinics:

- Adequate measures shall be put in place to identify and manage employees who are on chronic medication;
- Employees who are in default of their chronic medication protocol, must be flagged and blocked-paraded for referral and appropriate remedial measures.

Employee tracing:

- All employees who have defaulted on their chronic medication should be flagged. Tracing of such employee (s) will be initiated in an effort to assist such employee (s) and ensure observance of the chronic medication regimen.

Medical screening at the workplace

- The medical surveillance program requirements shall be adhered to with regards to the number of days' persons who have been absent from the mine need to be booked for a review of their medical fitness certificates by the OMP.
- The backlog of medicals will be tracked by the OMP and closed out as far as reasonably practicable.
- **The provisions below are to be applied as far as reasonably practicable in close reference to the COVID-19 protocols to prevent the spread of COVID-19:**
  - All employees retuning from the extended break will be subjected to a medical questionnaire and appropriate screening at the access control points. Where concerns are noted, such persons will be referred to the on-mine clinic for further assistance and screening.
  - All persons who have visited high risk pandemic areas to first report to the medical centre for screening and present a note to the effect that they have been cleared to proceed to the workplaces.
  - The hot spot pandemic areas will be communicated from time to time by the Department of Health, the National Institute of Communicable Diseases or the UN/WHO (World Health Organization).

Records

- A shutdown and Start-up file should be maintained. This file will include all minutes, action logs and additional documentation (including the medical questionnaires) to be submitted to the section management and saved electronically on the SHE systems by the respective Chief Safety Officers at the operations.
- An additional copy of the file to be submitted to Control room for referencing of all approved work, standby list and whereabouts of responsible supervision.

Furthermore, the latest amended disaster management regulations and the President's risk-adjusted strategy for economic activity provides that before any resumption of any activity at an operation, the following conditions must be in place:

- In addition to generally applicable health and safety protocols, the employer's COVID-19 prevention and mitigation plan must be agreed upon with the Minister of Employment and Labour, the Minister of Health and the Minister of Minerals and Energy.
- Individual operations or workplaces must have COVID-19 risk assessments and plans in place, and must conduct worker education on COVID-19 and protection measures including the following:
    - Identification and protection of vulnerable employees
    - Safe transport of employees
    - Screening of employees on entering the workplace
    - Prevention of viral spread in the workplace:
    - Cleaning of surfaces and shared equipment
    - Good ventilation
    - Managing sick employees
- Monitoring systems must be in place to (1) ensure compliance with safety protocols and (2) identify infections among employees.