**253774**
**Adhere to basic occupational health and safety practices pertaining to shaft operations**

Explanations must include defects involving the following; but not limited to: -

- Signalling and communication arrangements.
- Arresting devices.
- Shaft safety devices.
- Shaft conveyances and attachments.
- Super structure.
- Illumination.

The action to be taken in the event of a **key lost**, as well as the consequences of such loss to safety is explained in terms of legal, site-specific and operational requirements.

**The Banksman/Onsetter drops his key in the shaft. The Onsetter is not in the conveyance yet.**
**The Banksman/Onsetter must: -**
Transmit "one long ring" on the call-bell system to stop all shaft operations.
Report to the shaft foreman and sectional engineer.
Make an entry in shaft report book and state the time when the lock bell key was lost.
Request permission from a person in authority to use the spare lock bell key.
Request the driver to make an entry in the driver logbook.
Make arrangements to rig-up and use an alternative winder if available to look for the lost key.
Make the required pre-arrangements and an entry in the driver logbook, state the time and
sign the entry, the driver will countersign.
Obtain the required permission to use the spare lock bell key if the lost key can not be
retrieved.
Clear the driver log book and state the time, the driver countersigns.
Transmit signals to the driver to do a trail run.

**Using two underground lock bell keys at any one-time is "illegal" and could cause fatal injuries and may cause damage to property.**

**The action to be taken when the conveyance is locked at an incorrect position in the shaft, as well as the consequences to occupational health, safety and productivity if that should happen is explained in terms of legal, site-specific and operational requirements**.

**ASSESSMENT CRITERION RANGE**
**Explanations must include the following; but not limited to: -**

- Onsetter positioned in the conveyance.
- Onsetter positioned on the landing station.

**The onsetter is locked between landing stations in the shaft.**
**The onsetter must: -**
Ensure that persons stay inside the conveyance without attempting to leave the conveyance.
Inform the driver that the conveyance is locked between levels in the shaft on the intercom system inside the conveyance. (When provided)
Keep the conveyance doors secured and inform the persons that the driver will reposition the conveyance shortly.
Await actions to be conveyed to the correct landing station. (An artisan will assist to unlock the winder brakes)
Receive the required signals on the underground lock bell system to leave the conveyance.
Check that the robot indication is green.
Request all persons to leave the conveyance,
Close and secure the conveyance doors and shaft gate.
Interchange signals to travel to the correct landing station.
Continue with normal shaft operations.

**The onsetter is locked at a wrong landing station**
**The onsetter must: -**
Receive the signal 3 from driver. (Persons may leave the conveyance)
Check that the robot indication is green. (winder brakes are locked in the on position)
Open conveyance doors and shaft gate.
Leave the conveyance.
Inform the banksman and driver telephonically for stopping at the wrong landing station.
Interchange the required signals with the driver to continue travelling to the correct landing tation.
Continue with normal shaft operations.

**The conveyance is locked at an incorrect level <u>without the Onsetter in attendance</u>.**
**The driver and the banksman must always know the position of the onsetter who must be available to transmit and/or interchange the required lock bell signals with the driver.**

**Assume that the conveyance contains persons destined for the onsetter landing station.**

**The onsetter must: -**
Receive a signal 3 from the driver on the underground lock bell system.
The onsetter will react by transmitting 1 long ring on the "call bell system" due to the fact that the conveyance could possibly become obstructed in the shaft.
**The onsetter must:-**
Remove the lock bell key from the bell box to avoid accidental signalling which will un-lock the bell brake interlock system on the winder.

**The onsetter must:-**
Report to the banksman that the conveyance is not available and a signal has been received from the driver for persons to leave the conveyance.

**The banksman must:-**
Request the driver to verify the exact position of the conveyances on the winder depth indicator.
Inform the driver that the conveyance is wrongly positioned and locked at a level above the onsetter destination.
**If the driver confirms that the conveyance is accidentally locked in the shaft above the onsetter destination and acknowledges that the accident to shaft signal is received. (This is only a pre-cautionary measure should a conveyance become obstruction in the shaft)**

**The banksman must:-**
Inform the driver to cancel the accident to shaft signal which was only a pre-cautionary measure.
Inform the onsetter that the accident to shaft is cancelled.
Inform the onsetter to follow emergency procedures to rectify the operational problem.
**The onsetter must:-**
Identify a responsible person telephonically at the position where the conveyance is accidentally locked.
Provide the banksman with the name and company number of the responsible person at the station where the conveyance is locked. (Record in the shaft report book)
Request the person to stay at the telephone and ensure the safety of persons where the conveyance is locked
Inform the person that signals to move the conveyance is about to be transmitted.
Inform the driver telephonically that a responsible person is identified to safeguard persons at the position where the conveyance is accidentally locked.
Arrange telephonically with the responsible person to supervise all persons on the station and avoid un-authorised entrance to and from the conveyance. (Conveyance about to be moved)
Arrange telephonically with the responsible person to transmit the "accident to shaft signal" on the "call bell system" should persons be endangered. (Conveyance about to be moved)
Transmit the "destination signal where the onsetter is positioned" on the "lock bell system" to re-position the conveyance.

When a responsible person is not available at the station where the conveyance is accidentally locked, arrangements should be made to convey the onsetter with another winding plant to the required landing station.

When only one winder is available (Dual winder) the onsetter must use the walkway (travelling way) to walk to the required station where the conveyance is accidentally locked, to transmit lock bell signal and assure the safety of persons.

A travelling-way between the different stations must be legally provided as a second escape route for persons employed underground.

**The safety of persons is important and work can not continue unless the onsetter or any other responsible person is in a position to supervise persons leaving the shaft conveyance.**

**Using two underground lock bell keys at any one-time is "illegal" and could cause fatal injuries and may cause damage to property.**

**Onsetter did not received a signal 3 to leave the cage.**

1. Onsetter arrived at a station, but the driver did not signal 3 to leave the cage.
2. Onsetter open the door slightly to check if the robot lights are green.
3. If the robot lights is green he can leave the cage.
4. If he cannot see them or if they are red, he stays in the cage.
5. Onsetter call someone on the station to phone the banksman, who phone the driver to give you another signal.
6. After you received the signal from the driver you may leave the conveyance.

**Driver stopped incorrectly just above or below the station.**

1. Get hold of a person on the station.
2. Task him to phone the banksman to inform him of the situation.
3. The banksman will send down an authorised person with a spare key in the service winder to solve the problem.
4. If there is no service winder available, the banksman will task that person who informed him of the situation to secure the cage and check that all persons are safe in the cage.
5. The winder electrician will obtain permission from the engineer to unlock the winders brakes to enable the driver to position the cage at the station.
6. You don't give your key to any person to give signals.

**Fire in the shaft**
**The banksman must: -**
Stop all winding and shaft operations.
Report to the shaft foreman and engineer.
Enter the message received from the person reporting the fire in the bank report book; record the time and underground position.
Record the person`s name and contact number.
Act only on instructions received form persons in authority.
Follow the shaft evacuation procedures in accordance with company specified requirements.
Record all persons coming up or going down the shaft in the shaft report book.
Report on the names of all persons submitted for medical observation and their company numbers.
Report production loss due to fire in the shaft report book.

**The obstruction of conveyance in the shaft;**
Legally an effective safety device is required to trip the winder in the event of a conveyance obstruction in the shaft, slack and tight rope protection operates from a load cell unit installed between the winding rope and conveyance.
All winders operated in the same shaft will trip out should any of the winders trip due to a conveyance obstruction.
The engineer will give written permission before the appointed artisan taking actions to rectify the slack or tight rope condition.

**The banksman/onsetter must: -**
Transmit "one long ring "on the call bell to stop winding if all winders did not stop.
Interchange signal to lock the winding compartments.
Report to the shaft foreman and engineer.
Act on written instructions given by the engineer in the driver logbook.

Interchange the signal to reopen the winding compartments.
Interchange signals to rig-up for shaft examination to rectify the condition when required.
The engineer make a clearance entry in the driver logbook when the slack rope condition is rectified.

**The banksman/onsetter must: -**
Transmit the clear signal to do a trial trip.
Report the production loss in the shaft report book on the bank.

**Derailment in an incline shaft**
The marshal derailment device is a safety device in an incline shaft to trip the winder when a conveyance derails or any conductor of electricity comes into contact with the wires of the marshal's device. (Metal, wet timber, conveyances or winding rope, mineral, spillage, water from the roof, faulty rails and equipment and faulty insulators on the marshal device)

**The banksman/onsetter must: -**
Transmit "one long ring "on the call bell system to stop all winding if required.
Report to the shaft foreman and engineer.
Act on instructions to examine and re-position the derailed conveyance when required.
Follow the procedures to test the marshal's derailment device.
Receive signals from the driver that the device is functional.
Request the appointed person to make a clearance entry in the driver log book.
Transmit the clear signal to the driver to do a trial trip.
Report the production loss in the shaft report book.

**Power failure;**
Report to the shaft foreman and engineer and await assistance.
Report the production loss in the shaft report book.

**Accident involving persons in the shaft;**
**The banksman/onsetter must: -**
Stop the normal shaft operations on the respective winder.
Request medical personnel to assist with the transportation of the injured person when required.
Interchange signals to clear the shaft conveyances in preparation to convey the injured person.
Inform the onsetter to interchange signals to travel to the required landing station.
Enter the time, name and company number of the injured person in the shaft report book.
Interchange the required signals to load and transport the injured person.

**Damage in a shaft**
Any damage discovered in the shaft which may endanger the safety of persons and such damage cannot be remedied immediately, the person making the discovery shall report such damage to the manager without delay. Until such damage is remedied the winding plant shall not be used except in so far as may be necessary to remedy such damage.

In the case of a single drum winder tripping out with people trapped in the conveyance, the stand-by hoist electrician and the electrical foreman must be called out immediately. In cases such as a power failure or physical damage to the shaft, winder or electrical power supply, the manager, engineer, electrical foreman, and electrician must be informed. Follow company procedure to rescue persons trapped in a conveyance. **The banksman/onsetter must: -**
Transmit one long ring on the call bell system to stop all winding operations.
Interchange the compartments lock signal on the different lock bell systems.
Report to the shaft foreman and engineer.
Report if any of the shaft conveyances contain persons.
Request the driver to reassure the persons trapped in the conveyance by using the voice communication system installed in the conveyance. (When provided)
Select the conveyance nearest to the bank position for emergency shaft operations.
Request a person in authority to make an entry in the driver log book and permit emergency shaft operations to clear persons from the shaft conveyances.

Shaft examination crew must safeguard persons in the shaft conveyances when required.

**The banksman/onsetter must: -**
Interchange signals to rig-up the applicable conveyance.
Interchange signals to test the shaft examination communication system.
Interchange signals for persons to examine and/or repair the damage in the shaft.
Interchange signals after shaft examination to rig-off the conveyance.

Persons responsible must make a clearance entry in the driver logbook. The engineer must clear the shaft before normal operations may continue.

**The banksman/onsetter must: -**
Transmit signals to request a trial trip to be conducted.
Report the production loss in the shaft report book.

**Flooding of the shaft bottom;**
Flooding will result if large volumes of water accumulate in or around the shaft area.
At the start of each shift the required trial trip with both conveyances must be used to check for indications of water in the shaft compartments.

When excessive water from any source is discovered the engineer and shaft foreman must be informed or the next level of management.

Follow instructions and procedures to evacuate persons from the working places where flooding cause a threat to human life.

**The banksman/onsetter must: -**
Transmit one long ring on the call bell to stop and secure all shaft operations.
Report to the shaft foreman and engineer.
Follow the emergency shaft procedures to evacuate persons.
Request a person in authority to make an entry in the driver log book to rig-up the roof of the selected conveyance to safeguard persons.
Make pre-arrangements for actions to be taken when the shaft examination signaling system fails during examining the shaft.
Follow specific actions and procedures to examine the shaft.
Make pre-arrangements to signal at specific intervals during examining the shaft (signal 2 to maintain constant communication while lowering).
Interchange the mark signal with the driver (Water level in the shaft)
Report the water level position in the bank report book and state the time.
Transmit signals to clutch the shaft conveyances for the “required position” above the water level.
Receive the clutching completed signal from the driver.
Interchange the compartments locked and water level destination signal with the driver.
Report the production loss in the shaft report book.

Enter a warning in the bank report book “that no clutching may be conducted below the position where the shaft is locked” unless the water level is under control and authorised in writing by the engineer.

Actions to be taken in the event of riots and unauthorised entry are but not limited to the following:
**Legal requirement: -**

Take all reasonable measures to prevent persons from having unauthorised access to the conveyance and to the winding compartments.

**The banksman/onsetter must: -**

Report to the security personnel when required.

Avoid aggravating the situation, good communicating.

Report to the shaft foreman and sectional engineer and await instructions.

Inform the driver that emergency shaft operations may be required.

Follow instructions given by a person in authority to deal with riots.

Close and secure the shift control gates to the shaft entrance.

Close and secure all safety devices to the shaft entrances.

Remove and store all tools and equipment in accordance with site specific requirements.

Position conveyances clear of shaft landing stations to avoid unauthorised access when required.

Report production loss in shaft report book.

Actions to be taken in the event of unauthorised operation of safety devices: -

The employer must install a device or combination of devices that prevent inadvertent access of vehicles to the shaft as close as practicable to all entrances to the shaft.

The devices or combination of devices must be fail-safe or lockable, equipped with mechanisms that prevent their unauthorised operation operated only under the direct supervision of a competent person appointed by the engineer.
Operated only if a conveyance is being used for the loading or unloading of persons, equipment, materials or explosives at the entrance to the shaft.

The employer must ensure that procedures are in place, or that the device orcombination of devices is equipped with mechanisms that prevent unauthorised operation or removal of such devices or combination of devices.

No self-propelled mobile machine may be parked in the shaft station.