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Mine Health and Safety Council

Trackless Mobile Machinery (TMMs) Workshop

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Organized Labour Key Note Address on TMMs

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Presentation Outline

- Introduction – Presentation will cover the TMM's in the S.A surface and underground base mineral, gold, coal and platinum mines
- Challenges faced by operators in the industry at large
(Safety, Engineering, Occupational Hygiene, Ergonomics)
- Advantages of TMM's in the mines
- Way forward
- Conclusions/Questions



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Introduction- MHSC Mandate

The presentation is very is essential in terms of Section 21 (1) (c) of the Mine Health and Safety Act (Act 29 of 1996).

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21. Manufacturer's and supplier's duty for health and safety

(1) Any person who-

(c) designs, manufactures, erects or installs any article for use at a mine, must

ensure, as far as reasonably practicable, that ergonomic principles are considered and implemented during design, manufacture, erection or installation.



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Challenges faced by operators during their daily performance

Safety Aspects

During COVID 19 Levels from 5-2

- It became very difficult for an operator to wear goggles and mask at the same time due to the moisture that blurs your goggles during breathing
- Difficult to sanitise vehicles every time the next operator takes charge of the vehicle
- Fatigue Management is a very serious challenge-No rest period
- Restricted vision (obscured line of sight) from the driving position of an operator
- There is also poor illumination systems on TMM

Occupational hygiene hazards

- Noise exposure from vehicle and underground workings, especially with vehicles that are not fitted with silencers



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Challenges faced by operators during their daily performances-Cont

- Employees are forced to work extra shifts to make time for Christmas Break period –No Rest periods
- Production pressure/ chase as a result of COVID 19 Lockdown as the employees where not earning during that Lockdown period
- Fatigue Management is a very serious challenge, as it is not aligned with the revised relevant TMM COP's
- Exposure to diesel fumes due to cabin design and operational issues (Tipping and driving around in workings) specifically as result of poor maintenance.
- Dust exposure from TMM and underground workings, without proper mask designed for dust particles or diesel emission-(One dust mask issue for the entire 12 hour shift)
- Operators exposed to heat from vehicle and underground operations;
- Long hours of operation on the machine (TMM) to those working CONOPS



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Challenges faced by operators during their daily performances-Cont

Ergonomics Aspects Section 21 (1) (c) of the Mine Health and SA (Act 29 of 1996).

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- Most Mechanised Mining houses Roadways are often poorly maintained, which increases the driver exposure to WBV and risk of vehicle accidents
- It becomes very difficult to access the vehicle because of confined space for ingress/egress
- The cabin space is very restricted and is commonly reported by operators with nothing happening after all
- We have discovered that the seating is of poor quality , with limited vibration damping for hard rock mining environments, thus causing strain on operators post their mining career
- Ergonomics to be improved to allow better operator's performance and reduce fatigue and unnecessary absenteeism
- Long Trammig Distance after development new working areas



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Challenges faced by operators during their daily performances-Cont

Engineering Aspects

- TMM Mine Standards on Maintenance are poor, and this results in operators exposure to noise, dust, Diesel Particulate fumes , exhaust Emissions ; and heat
- PDS System not working effectively and or not being maintained timeously as per Maintenance Schedule/Plan
- No proper training to Technicians provided
- Maintenance Schedule/Plan not being properly adhered to by management as a result of production targets
- No or Less Planned Task Observations done on TMM operators in most cases in different mines, and no monitoring done also
- Short Cuts on maintenance due to poor and cheap vehicle parts/spares sourced from different dealers used during planned maintenance
- Using/Utilizing machines/TMM's that are "old"-difficult to maintain-breakdowns at all times
- Roadways not being maintained as per the schedule due to production chase



WHAT DO WE SUGGEST OR RECOMMEND

- To better communication between operators and supervisors, create platforms and room for suggestions
- Improve motivation on operators in terms of better health and safety working conditions
- Provide short courses on new technologies on Technicians and operators to improve their skills and enhance production
- Our other focus must be to increase the efficiency of extraction and improvement in Occupational Health and Safety, coupled with job security.
- Modernisation practices will at the end of the day ensure sustainability of current operations, ensuring that work is done more efficiently, safely and healthier.



WHAT DO WE SUGGEST OR RECOMMEND

- Better communication between operators and supervisors, create platforms and room for suggestions
- Communication between supervisors and operators to be improved-To allow operators to voice out their challenges, as this is not done
- Tipping areas are very far from the loading points/blasted areas-This causes a lot of strain and disturbs concentration to operators
- Traffic Management System must be properly enforced and monitored as per the Legislation promulgated by the Department of Mineral Resources (DMRE) so that we prevent physical contact between mobile machines and humans
- Mine COP's must always be aligned with the Fatigue Management to ensure proper management and compliance
- Proper maintenance of Roadways to be prioritised on daily basis



WHAT DO WE SUGGEST OR RECOMMEND

Production pressure has always been a challenge that results in unnecessary accidents and fatalities at all times

- Our main aim must be to remove people from dangerous areas and introduce remote operations throughout the mining industry , but taking into cognisance job security in the country
- Operators of TMM should be consulted during any design, change planning and design of TMM
- Improve the illumination system design must be prioritised , particularly for underground gold, platinum and coal mining operations
- Design of TMM's must be such that it becomes easy/simple for technicians to access the inner parts of the TMM
- Anthropometry of the South African mining population must be considered during the design of the TMM's cabins



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Thank you

EVERY MINE WORKER RETURNING FROM WORK UNHARMED EVERYDAY

23 Years of Positive Contribution to Zero Harm for mine workers.

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