

# PROCESS DOCUMENT ON OCCUPATIONAL HEALTH MILESTONES INTERPRETATION AND REPORTING

## 1. BACKGROUND

At the Leadership Tripartite Summit held in 2014, the mining industry stakeholders agreed on the milestone targets that needed to be achieved by 2024 to improve the performance of Occupational Health and Safety in order to achieve Zero Harm.

The following Occupational Health Milestones were agreed upon:

### 1.1 Elimination of Occupational lung diseases

- By December 2024, 95% of all exposure measurement results will be below the milestone level for respirable crystalline silica of  $0.05 \text{ mg/m}^3$  (these results are individual readings and not average results).
- Using the present diagnostic techniques, no new cases of silicosis will occur amongst previously unexposed individuals. (“previously unexposed individual” are those unexposed to mining dust prior to December 2008 i.e. equivalent to a new persons who entered the industry in 2009).
- By December 2024, 95% of all exposure measurement results will be below the milestone level for platinum mine dust respirable particulate of  $1.5 \text{ mg/m}^3$  (<5% crystalline silica) (these results are individual platinum mine dust respirable particulate readings and not average results).
- Using the present diagnostic techniques, no new cases of pneumoconiosis will occur amongst previously unexposed individuals. (“previously unexposed individual” are those unexposed to mining dust prior to December 2008 i.e. equivalent to a new persons who entered the industry in 2009).
- By December 2024, 95% of all exposure measurement results will be below the milestone level for coal dust respirable particulate of  $1.5 \text{ mg/m}^3$  (<5% crystalline silica) (these results are individual readings and not average results).
- Using the present diagnostic techniques, no new cases of coal worker pneumoconiosis will occur amongst previously unexposed individuals. (“previously unexposed individual” are those unexposed to mining dust prior to December 2008 i.e. equivalent to a new persons who entered the industry in 2009)

### 1.2 Elimination of Noise Induced Hearing Loss

- By December 2024, the total operational or process noise emitted by any equipment must not exceed a milestone sound pressure level of 107 dB(A). (***This milestone of the sound pressure levels will be verified by initiatives under the CoE and MOSH and reviewed in 2016.***)
- By January 2018, no employee's Standard Threshold Shift (STS) will exceed 25 dB from the baseline when averaged at 2000, 3000, and 4000 Hz in one or both ears.

### 1.3 Reduction and prevention of TB, HIV & AIDS infections

- By December 2024, the TB incidence rate should be at or below the National TB incident rate and
- 100% of employees should be offered HCT annually with all eligible employees linked to an ART programme as per the NSP.

## 2. Definitions and Acronyms

“**Milestones**” for the purpose of this document milestones means voluntarily limitations on exposure levels measurements, health and improvements and safety improvements that have been agreed to by the tripartite stakeholders to further accelerate the mining industry's journey to zero harm.

“**Monitoring**” means repetitive and continued observation, measurement, and evaluation of health and/or environmental or technical data, according to pre-arranged schedules, using national or international acceptable method

“**Process/Operational Noise** for the purpose of this document, process or operational noise means noise emitted when an equipment is in operation for its intended use.

“**Milestones And Charter Report**” Number of all new cases of Silicosis amongst previously unexposed individuals. Those unexposed to mining dust prior to December 2008 i.e. Equivalent to new persons who entered the industry after December 2008.

Number of all new cases of Coal Workers Pneumoconiosis amongst previously unexposed individuals. Those unexposed to coal mining dust prior to December 2008 i.e. Equivalent to new persons who entered the industry after December 2008.

Number of all new cases of Pneumoconiosis resulted from platinum dust exposure amongst previously unexposed individuals. Those unexposed to platinum mining dust prior to December 2008 i.e. Equivalent to new persons who entered the industry after December 2008.

**“Noise Measurement And Exposure (2015 Data)”** Number of employees reported with Standard Threshold Shift (STS) that exceeds 25 dB from the baseline when averaged at 2000, 3000 and 4000 Hz in one or both ears from January 2018.

**“PTB and HIV/AIDS 2015”** The number of employees including contractors that were offered HIV Counselling and Testing (HCT).

**“Employees screened”** The total number of employees to whom the cough questionnaire was applied

<b>“AIDS”</b>	Acquired Immune Deficiency Syndrome.
<b>“CioM”</b>	Chief Inspector of Mines
<b>“CoE”</b>	Centre of Excellence
<b>“dB(A)”</b>	Decibels in A scale
<b>“DMR”</b>	Department of Mineral and Resources
<b>“HCT”</b>	HIV counseling and testing
<b>“HEG”</b>	Homogenous Exposure Group
<b>“HIRA”</b>	Hazard Identification Risk Assessment
<b>“HIV”</b>	Human Immunodeficiency Virus
<b>“MHSC”</b>	Mine Health and Safety Council
<b>“MOSH”</b>	Mining Industry Occupational Safety and Health

<b>“NIHL”</b>	Noise-Induced Hearing Loss
<b>“PTB”</b>	Pulmonary tuberculosis
<b>“SAMOHP Code Book”</b>	South African Mines Occupational Hygiene Programme
<b>“STS”</b>	Standard Threshold Shift
<b>“XDR”</b>	Extensively drug-resistant

### 3. **PURPOSE**

The purpose of this process document is to describe a procedure to be followed by the industry for reporting occupational Health Milestones

### 4. **SCOPE**

This document is intended for Mining Operations that have identified through their quantitative assessment as supported by portfolio of evidence that their employees' are at risk of:

- Exposure to dust containing respirable crystalline silica;
- Exposure to respirable platinum mine dust;
- Exposure to respirable coal dust; and
- Exposure to noise equipment/s that emits sound pressure level of  $\geq 85$  dB (A) at any workplace; and
- TB and HIV/AIDS

Furthermore the number of employees who have suffered adverse health effects resulting from the above mentioned risks.

### 5. **ROLES AND RESPONSIBILITIES**

For the purpose of the document the following shall apply:

- The Section 12.1 Appointee will be responsible for monitoring, analyzing and interpreting milestone on Occupational Hygiene data and also to provide credible data for reporting purposes to the Employer.
- The Section 13 Appointee will be responsible for monitoring, analyzing and interpreting milestone on Occupational Medicine data and also to provide credible data for reporting purposes to the Employer.
- The Employer will consult with the Health and Safety Committee/Representatives on the Occupational Health milestone report.
- The Health and Safety Committee/Representatives will communicate the outcomes of the Occupational Health milestone report to the employees.
- The Employer will be accountable for the Occupational Health milestone data reported to the MHSC as per the set reporting template.

## **6. PROCEDURE**

### **6.1 Portfolio of Evidence**

All the mining operations as prescribed in the **Mine Health and Safety Act** must keep records and such evidence to be recorded by the operations with the inclusion of the following as minimum requirements:

- Baseline and HIRA
- Exposure records
- Analysis records
- Quality assurance documentation
- Medical surveillance records

### **6.2 Occupational Hygiene Milestone reporting Templates**

GENERAL INFORMATION	
Mine Group	
Mine Name	
DMR Mine Code	
DMR Sub Mine Code	
Main Commodity	
Name of the Section 12.1 appointee that signed off on these information	
Total number of Mine Employees (including contractors)	
Reporting Year	

**6.2.1 The following template will be implemented by those mines with dust containing respirable crystalline silica**

(i)	Total number of employees (total number of mine employees including contractors) i.e. Total number of employees will be the same as that used for the HEG classification data (HEG A+B+C=Total number of employees at risk)  <b>NOTE: This information should be reported on a quarterly basis</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>TOTAL</b>
<b>FREQUENCY OF REPORTING</b>		<b>Q1</b>	<b>Q2</b>	<b>Q3</b>	<b>Q4</b>
(ii)	Number of respirable crystalline silica dust sample/s taken				
(iii)	Number of individual personal respirable crystalline silica dust exposure measurements (i.e. samples from item (ii) ) that are $\geq 0.05 \text{ mg/m}^3$				

(iv)	Percentage (%) of individual personal respirable crystalline silica dust exposure measurements (i.e. each sample taken) are $\geq 0.05 \text{ mg/m}^3$ <b><i>i.e. value from item (iii) divided by the value from item (ii) and multiply by 100%</i></b>				
(v)	Performance trend towards meeting the milestone target as determined on item (iv) i.e. $\leq 95\%$ <b>Note:</b> Positive - on track to meet the target (improved from previous quarter). Negative – fallen behind plan (worse than previous quarter). Unchanged – no significant progress to meet the target.				
(vi)	Corrective action/s for the non-conformance to the milestones must be reported in line with hierarchy of controls				

**6.2.2 The following template will be implemented by those mines with respirable platinum mine dust:**

(i)	Total number of employees (total number of mine employees including contractors) i.e. Total number of employees will be the same as that used for the HEG classification data (HEG $A+B+C$ =Total number of employees at risk) <b>NOTE: This information should be reported on a quarterly basis</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>TOTAL</b>

FREQUENCY OF REPORTING		Q1	Q2	Q3	Q4
(ii)	Number of respirable platinum mine dust sample/s taken				
(iii)	Number of individual respirable platinum mine dust exposure measurements (i.e. samples from item (ii) ) that are $\geq 1.5 \text{ mg/m}^3$				
(iv)	Percentage (%) of individual personal respirable platinum mine dust exposure measurements (i.e. each sample taken) are $\geq 1.5 \text{ mg/m}^3$ <b><i>i.e. value from item (iii) divided by the value from item (ii) and multiply by 100%</i></b>				
(v)	Performance trend towards meeting the milestone target as determined on item (iv) i.e. $\leq 95\%$ <b>Note:</b> Positive - on track to meet the target (improved from previous quarter). Negative – fallen behind plan (worse than previous quarter). Unchanged – no significant progress to meet the target.				
(vi)	Corrective action/s for the non-conformance to the milestones must be reported in line with hierarchy of controls				

**6.2.3 The following template will be implemented by those mines with respirable coal dust:**

(i)	Total number of employees (total number of mine employees including contractors) i.e. Total number of employees will be the same as that used for the HEG classification data (HEG A+B+C=Total number of employees at risk) <b>NOTE: This information should be reported on a quarterly basis</b>	A	B	C	TOTAL
FREQUENCY OF REPORTING		Q1	Q2	Q3	Q4
(ii)	Number of respirable coal dust sample/s taken				
(iii)	Number of individual respirable coal dust exposure measurements (i.e. samples from item (ii) ) that are $\geq 1.5$ mg/m <sup>3</sup>				
(iv)	Percentage (%) of individual personal respirable coal dust exposure measurements (i.e. each sample taken) are $\geq 1.5$ mg/m <sup>3</sup>  <i>i.e. value from item (iii) divided by the value from item (ii) and multiply by 100%</i>				
(v)	Performance trend towards meeting the milestone target as determined on item (iv) <sup>4</sup> i.e. $\leq 95\%$  <b>Note:</b> Positive - on track to meet the target (improved from previous year). Negative – fallen behind plan (worse than previous year).				

	Unchanged – no significant progress to meet the target.				
(vi)	Corrective action/s for the non-conformance to the milestones must be reported in line with hierarchy of controls				

6.2.4 The following template will be implemented by those mines with process or equipment that emits sound pressure level of  $\geq 85$  dB (A) at any workplace:

Item no.	Readings taken as per CloM instruction OH-5 2005. All installed/in use equipment to be included. <b>Note:</b> Total number of machines is calculated as absolute number per quarter.			
1.	Type of Mining (e.g. Open cast, UG conventional, UG mechanized, UG conventional and UG mechanized, Surface Operations,)	Total number of equipment emitting noise	Total Number of individual pieces of machines $\geq 85$ dB (A) < 107 dB (A).	Total number of individual pieces of machines $\geq 107$ dB (A).

2.	Type of Mining (e.g. Open cast, UG conventional, UG mechanized, UG conventional and UG mechanized, Surface Operations)	Activity Area (use SAMOHP Codes)	Type of Equipme nt	Total number pieces of equipment type	Power source(Pneumati c/Electric/electro hydraulic/hydro power)	Total Number of individual pieces of equipment $\geq 85$ dB (A) < 107 dB (A).		Total number of individual pieces of equipment $\geq 107$ dB (A).	
3.	Total number of employees (total number of mine employees including contractors) i.e. Total number of employees will be the same as that used for the HEG classification data (HEG A+B+C=Total number of employees at risk)  <b>Note:</b> Total number of employees is calculated as absolute number per quarter					<b>A</b>	<b>B</b>	<b>C</b>	<b>TOTAL</b>

	The Sound Pressure level data will be determined by using noise dosimeter and dose allocation.				
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4.	<p>Indicate Performance trend towards meeting the milestone target (By December 2024, the total operational or process noise emitted by any equipment must not exceed a milestone sound pressure level of 107 dB (A))</p> <p><b>Note:</b></p> <p>Positive - on track to meet the target (improved from previous quarter).</p> <p>Negative – fallen behind plan (worse than previous quarter).</p> <p>Unchanged – no significant progress to meet the target.</p>	
5.	Corrective action/s for the non-conformance to the milestones must be reported in line with hierarchy of controls	

### 6.2.5 Occupational Medicine milestone reporting templates

<b>GENERAL INFORMATION</b>	
Mine Group	
Mine Name	
DMR Mine Code	
DMR Sub Mine Code	

Main Commodity	
Name of the Section 13 appointee that signed off on these information	
Total number of Mine Employees (including contractors)	
Reporting Year	

Indicator	ANNUAL REPORTING BEGINNING JANUARY OF EVERY YEAR				
	2015	2016	2017	2018	2019
Number of new Silicosis cases diagnosed					
Number of new Coal Worker's Pneumoconiosis diagnosed.					
Number of diagnosed new cases of Pneumoconiosis as a results of platinum dust exposure					
Number of cases reported where <b>STS</b> exceed 25dB from milestone baseline.					
Number of employees Counselling for HIV					

Number of employees that were tested for HIV.					
Number of employees screened for PTB					
Number of employees diagnosed with PTB					
Number of employees diagnosed as MDR					
Number of employees diagnosed as XDR					

**NOTE:**

**This process document must be read in conjunction with the prepared Milestone Reporting document as developed by the Culture Transformation Advisory Committee.**