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A SITUATIONAL ANALYSIS FOR OCCUPATIONAL HEALTH PRACTITIONERS WITH SPECIFIC REFERENCE TO SECTION 12(1) AND SECTION 13(3)(A)(I) OF THE MHSA ON THE APPLICABLE RATIO TO SERVICE THE MINES IN ORDER TO MAKE A MEANINGFUL IMPACT TO THE IMPROVEMENT OF OCCUPATIONAL HEALTH IN SAMI - SIM 160903

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Introduction

MHS Act, Act, Act 29 of 1996 – Other important aspects

Sec 12(1)

- **Employer to conduct occupational hygiene measurements**

The employer must engage the part-time or full-time services of a person qualified in occupational hygiene techniques to measure levels of exposure to hazards at the mine

Sec 13(3)(a)(i)

- **Employer to establish system of medical surveillance**

Every employer who establishes or maintains a system of medical surveillance must –

(a) engage the part-time or full-time services of –

(i) an occupational medical practitioner;

(b) supply the practitioners with the means to perform their functions; and

(c) keep a record of medical surveillance for each employee exposed to a health hazard.



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Objectives

- **Report on the total number of section 12(1) and 13(3)(a)(i) appointees in SAMI, categorising the full-time and part-time employment**
- **Report on the impacts of over-extending the appointees**
- **Report on the recommended acceptable ratios of the engagement or appointees in terms of Section 12(1) and 13(3)(a)(i), taking into account number of employees, number of mines and distances between mines being serviced**



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Methodology

- Questionnaires for Mine Managers, Sec 12(1) and 13(3)(a)(i) was approved by SIMRAC
- Study was approved by the Faculty of Health Sciences Ethical Committee
- Email addresses were obtained from DMR
- Approved online and hard copies of questionnaires were distributed via email to Mine Managers
 - To distribute questionnaires to Sec 12(1) and 13(3)(a)(i) appointees
 - Indicate number of full-time and part-time appointees



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Methodology

For sake of convenience the mining entities were divided into three groups:

- **Small mining entity (maximum 100 employees)**
- **Medium size mining entity (101 to 500 employees)**
- **Large mining entity (more than 500 employees)**



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Methodology

- **Sec 12(1) and 13(3)(a)(i) appointees to indicate**
 - **Full-time or Part-time appointment**
 - **Located at the mine or not**
 - **Who is providing assistance to full-fill legislative roles and responsibilities**
 - **Legislative roles and responsibilities they had to full-fill**
 - **Time spent on legislative roles and responsibilities**



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Methodology

- **Data were captured from online and hard copy questionnaires**
- **Due to low response rate**
 - **Soft copies of the questionnaires were distributed via the Mineral Council and Mine Ventilation Society of South Africa**
 - **Hard copies of the questionnaires were distributed at the MVSSA conference on 31 May 2018**
- **Proportions were calculated in terms of total questionnaires returned from Mine managers, Sec 12(1) and 13(3)(a)(i) appointees**



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12(1) Appointment



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Results

Sec 12(1): Workload classifications

Workload (hrs)	Man-days/ year	Classification
8-hrs	260 – 325 Man-days	Normal working hours
12-hrs	326 – 390 Man-days	Long working hours
16-hrs	391 – 455 Man-days	Extended working hours
> 16-hrs	> 455 Man-days	Abnormal extended working hours



Results

Sec 12(1): OHPs located at mine

Located at mine	<101	101-500	>500
Yes	6	6	36
No	11	9	10



Results

Sec 12(1): Distances to travel

Distance travel	<101	101-500	>500
0 - 10 km	3	0	2
11 - 20 km	1	0	0
21 - 40 km	0	0	0
41 - 60 km	1	4	3
>60 km	4	4	2



Results

Sec 12(1): Number full-time and part-time

Number of respondents	<101	101-500	>500
Full-time	2	5	42
Part-time	15	15	4



Results

Sec 12(1): The number of Man-days to perform the different occupational hygiene functions

Description	Man-days/year		
	Small mines	Medium mines	Large mines
Compilation and review of COPs	10.00	9.09	16.00
Observations and enforcement of instructions, etc.	10.60	26.14	36.07
Data capturing	21.08	19.25	77.99
Mandatory reports	119.99	176.53	325.53
Performing functions	258.43	468.06	681.61
Surface audits	29.13	44.48	57.82
Underground audits	54.16	91.73	89.22
Development-end surveys	72.00	168.30	113.31
Stoping environmental surveys	0.00	153.00	73.50
Underground performance analysis	29.68	57.89	68.45
Management-related meetings	61.66	99.67	167.75
DMR inspection-related functions	18.38	20.35	38.71
Health-related incident investigations	5.47	8.20	24.46
Involvement in control measures	26.40	52.38	84.37
Involvement in training and other meetings	18.77	31.77	64.16
Involvement in quality control	21.00	57.57	84.33
Total	756.75	1484.41	2003.27
Average number of OHPs per entity	4.06	3.07	7.96
Average Man-hours per person per entity	186.44	484.05	251.78



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Results

Sec 12(1):

Except where services are rendered on a full-time basis, 12(1) appointees have **completed the questionnaires for ONE facility only**, whereas they may **render services to as many as 90 facilities**



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Impact of over extending – Sec 12(1)

- An underutilisation of OHPs at small- and large mines. This means that the standard of work at small and large mines is probably not at the same standard as for medium mines.
- Occupational hygiene sampling is done over shorter periods than what is legally required which may have possible litigation consequences.
- Administrative functions and legal requirements are performed to the detriment of the monitoring function and the quality control. The latter functions could lead to an underestimation of exposure, more severe litigation and even that the 12(1) appointees could be held accountable in their personal capacity.
- Commit fraud as the results of previous surveys are used for reporting purposes.



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Conclusions

Sec 12(1) appointees

- 35.2% of OHPs are located at the small mines
40% of OHPs are located at the medium
78.3% of OHPs are located at large mines
- Most OHPs travel more than 40 km to render occupational hygiene services
- The sampling is done over shorter periods than what is legally required
- The Section 12(1) ratios were:

Ventilation Officer	1
Occupational Hygiene Technologist	1.6
Observer/ Occupational Hygiene Assistant	1.3



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Conclusions

Sec 12(1) appointees

- Based on the information supplied it could be concluded that there are, in relation to the 12(1) appointees.:

233 too few Ventilation Officers/ Occupational Hygiene Technologists

1613 too few Observers/ Occupational Hygiene Assistants



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Conclusions

Sec 12(1) appointees

If the current workload, expressed as Man-days per year is compared with the criteria it is evident that the workload could be described as:

- **An under utilisation of OHPs at small mines**
- **Abnormal extended working hours for the medium**
- **Long working hours and large entities**



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Recommendations

Sec 12(1) appointees

- The ratio of 1:5:25 for Ventilation Officers/Occupational Hygiene Technologists to Observers/Occupational Hygiene Assistants is proposed as a ratio for Sec 12(1) appointees independent of the number of employees at a mine.
- One full-time Sec 12(1) be appointment for a mine of a size of 250 employees and more and that this number is increased with one additional professional full-time appointment i.e., Ventilation Officers/Occupational Hygiene Technologists considering the volume, size and physical location of the mine; the health and safety record of the mine; the number of designated working places and distances between mines to be serviced.
- The MHSC develops prescribed maximum criteria for the number of mines Section 12(1) appointees may provide services to.
- SAIOH and MVS need to generate a database of all Section 12(1) appointees.



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13(3)(a)(i) Appointment



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Results

Sec 13(3)(a)(i): Located at mine

Located at mine	<101	101-500	>500
Yes	3	7	12
No	13	13	10



Results

Sec 13(3)(a)(i): Distances to travel

Distance travel	<101	101-500	>500
0 - 10 km	2	1	1
11 - 20 km	2	2	3
21 - 40 km	3	4	1
41 - 60 km	2	1	1
>60 km	5	0	0



Results

Sec 13(3)(a)(i): Number full-time and part-time

Number of respondents	<101	101-500	>500
Full-time	3	2	8
Part-time	13	13	4



Results

Sec 13(3)(a)(i): The number of Man-days to perform the different occupational OMP functions

Description	Man-days per year					
	Small	%	Medium	%	Large	%
Time spend on OHREPs	0.01	0.01	0.04	0.03	0.06	0.02
Compilation and review of COPs	4.48	3.04	4.68	3.07	6.68	1.99
Compilation and review of SOPs/ guidelines in support of COPs	3.71	2.52	3.00	1.97	6.69	1.99
Review of MHSs	3.75	2.54	4.50	2.95	7.95	2.37
Work-related diagnosed cases	2.31	1.57	2.31	1.51	3.08	0.92
Nonwork-related diagnosed cases	0.01	0.01	0.01	0.01	0.01	0.00
Health-related incidents	0.55	0.38	1.38	0.91	1.75	0.52
HRAs	3.53	2.39	6.33	4.15	11.53	3.44
Fitness assessments	69.49	47.14	56.25	36.88	126.56	37.72
Eliminate, minimising and control risks	6.00	4.07	10.00	6.56	50.10	14.93
Medical incapacity	23.14	15.70	24.55	16.09	53.13	15.83
Statutory DMR reporting	14.33	9.72	8.70	5.70	20.25	6.04
Annual reports	0.75	0.51	0.68	0.45	1.33	0.40
Medical appeals	2.33	1.58	1.50	0.98	1.25	0.37
Training	3.00	2.04	8.00	5.24	11.45	3.41
Management committee meetings	3.00	2.04	6.33	4.15	11.60	3.46
Other committee meetings	3.00	2.04	8.00	5.24	13.09	3.90
Quality control (audits, system evaluations, etc)	4.00	2.71	6.27	4.11	9.00	2.68
Total	147.41	100	152.54	100	335.52	100



Impact of over extending – Sec 13(3)(a)(i)

- Increased probability of miss diagnosis and underreporting of occupational diseases, misrepresentation of information and capturing of unreliable data
- Substandard medical care due to limited time available to engage with employees during screening
- Employees' not being compensated or a delay in the compensation and or incapacity process because quality control is not being done or sub-standard
- Health risks of employees and other employees may increase due to miss diagnosis of certain chronic medical conditions.



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Conclusions

Sec 13(3)(a)(i) appointees

- The results of this limited analysis showed a potential lack of participation of OMP's in actions / forums crucial to effective and efficient risk assessment and management of employee health and occupational health in especially small and medium mines e.g.
- 25% of small mines not involving OMPs in compiling or reviewing COPs;
- 35% of small to medium mines do not involve OMPs in Health and Safety Committees;
- Only 30-40% of small to medium mines involve OMPs in health related investigations;
- Only 33% of small to medium mines involve OMPs in hazard identification and risk assessment.



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Conclusions

Sec 13(3)(a)(i) appointees

- 92% of **small mines** contracted services of OMPs and OHNs for only 1 man-day per month. This number should rather be **2 days per month for an OMP** and **3 days for an OHN for mines of 100 employees**
- 60% and 50% of **medium mines** contracted services of OMPs and OHNs for only 1 man-day per month. This number should rather be **4-5 days per month for an OMP** and **6-8 days for an OHN for mines of 300 employees**
- 33% and 20% of **large mines** contracted services of OMPs and OHNs for 1 man-day per month. This number should rather be **10-11 days per month for an OMP** and **30-37 days for an OHN for mines of 1000 employees**



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Recommendations

Sec 13(3)(a)(i) appointees

- Proposed ratios of OMP, OHN and Practitioners (Other than OMP and OHN)
 - Small mines: 1:2.1:0.4
 - Medium mines: 1:2.0:0.7
 - Large mines: 1:2.0:0.9
- It is recommended that one part-time Sec 13(3)(a)(i) be appointment for a mine of a size of 100 employees or more and that this number is increased with one additional part-time appointment considering the volume, size and physical location of the mine; the health and safety record of the mine; the number of designated working places and distances between mines to be serviced.
- It will be critical for the MHSC to develop guidelines for mines on the responsibilities of Section 13(3)(a)(i) appointees as well as the ratio of OMP/OHN man-days required (availability of OMPs and OHNs on the mine premises) to ensure good performance of mines with such responsibilities.
- SASOM and MMPA need to generate a database of all Section 13(3)(a)(i) appointees.



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