

Guideline for the compilation of a mandatory code of practice for the selection and provision of personal protective equipment for women in the South African mining industry

Dipalesa Mokoboto: Medical Inspector, Department of Mineral Resources and Energy; Past MMPA President
e-mail: Dipalesa.Mokoboto@dmre.gov.za

BACKGROUND

The mining industry has been male dominated for years, but there has been an increase in the number of women employed. Women are now occupying jobs underground, which were, in the past, exclusively performed by men. This comes with unforeseen challenges. One is the use of personal protective equipment (PPE), which was designed for men and did not take female anthropometric measurements into consideration. Women in mining (WIM) have unique anatomical and physiological makeups, and special health and safety needs. This has led to an improvement in the provision of more suitable PPE for women.

According to the project report, SIM 100904, there is a possible association between the types of PPE used by women and increased exposure to skin conditions such as contact dermatitis, chaffing, rashes, and bacterial and fungal infections.¹ The situation is reported to be further exacerbated by the unique coping mechanisms that WIM have been compelled to use, to adjust or correct ill-fitting PPE, e.g. the use of nylon tights and thick woollen socks. These unorthodox adjustments led to increased risks for skin conditions.

Thus, it became necessary to draft a guideline on the provision of PPE for WIM in the South African mining industry. The first Guideline was promulgated in 2015. The current Guideline follows a five-year implementation period, addressing concerns that were raised after the first promulgation. The reviewed Guideline was promulgated on 28 July 2023.²

PPE selection, provision, and use in the workplace should not be based only on hazard identification and risk assessment processes, but should also incorporate ergonomic and comfort aspects to guarantee PPE efficiency for all workers. This approach will ensure that female anthropometric measurements are taken into consideration and accommodated. The hazards identified will determine the body part that is to be protected and the PPE that is required. The relevant PPE includes, but is not limited to, head, eye and face protection, hand and arm, body (torso), foot, and respiratory protection.

LEGAL STATUS OF THE GUIDELINE AND CODE OF PRACTICE (COP)

According to Section 9(2) of the Mine Health and Safety Act (MHSA), an employer must prepare and implement a COP on any matter affecting the health and safety of employees at mines, other persons who may be directly affected by activities of these mines, or when the Chief Inspector of Mines (CIoM) requires it.³ The COP must comply with any relevant guideline issued by the CIoM in accordance with Section 9(3) of the MHSA.³ Failure by the employer to do this is a breach of the MHSA. All employers are, thus, required to prepare and implement the mandatory COP of the selection and provision of PPE for women in the South African mining industry, in accordance with the 2023 Guideline.

OBJECTIVES OF THE GUIDELINE

The main objective of the Guideline is to provide guidance to the employer at every mine when compiling a mandatory COP. The COP will assist employers in providing suitable PPE for WIM where required, and to train all employees on issues relating to PPE for WIM.

ASPECTS TO BE ADDRESSED IN THE COP

The COP must cover, as a minimum requirement, the aspects set out below, unless there are no significant risks identified at the mine that affect the aspects mentioned. The COP covers the roles and responsibilities of different persons involved in the processes to ensure that suitable PPE is provided to WIM.

The roles and responsibilities include the following:

1. The employer

The employer must ensure that:

- structures are established and maintained at the mine to address occupational health and safety, and gender issues related to PPE. These structures must be representative of the technical, professional, and managerial demographics. Consideration should be given to women working in different mining environments (underground and surface), and plants;
- enough of the required and appropriate PPE for each activity performed by WIM is available. Suitable PPE provided should be considered in the risk assessments that are conducted;
- there is awareness, education, and health promotion provided to WIM on mining issues and the use of PPE;
- training is provided on the types and the correct use of suitable PPE;
- before procurement, there are engagements with manufacturers, female employees, and suppliers to meet the PPE needs of the employees;
- procedures are established and implemented, and facilities provided to ensure the proper maintenance of PPE;
- suitable facilities are provided for the storage, transportation, and cleaning of PPE;
- a documented monitoring system is established and maintained, regarding the appropriateness and effectiveness of PPE used by WIM; and
- any medical information required for the implementation of the COP remains confidential.

2. Managers and supervisors

Managers and supervisors are responsible for ensuring effective day-to-day use of PPE by the WIM falling under their supervision. This could include the management and operationalisation of the PPE standard operating procedure (SOP) for the different mine sites. They are also responsible for:

- familiarising themselves with the contents of the COP relevant to the WIM falling under their supervision, and ensuring implementation; and
- ensuring that specific risk assessments are carried out for the protection

of WIM, and providing PPE that can mitigate risks faced by WIM. These assessments are conducted to:

- a. ensure that WIM receive suitable and sufficient information, instruction, and training regarding PPE supplied to them; and
- b. ensure the proper use, storage, maintenance, cleaning, examination, repair, and replacement of PPE.

3. Women in Mining

Female employees also have the responsibility to comply with the requirements of any safe measures put in place, and must:

- ensure that the PPE provided is used and cared for as required in the MHSA, and in accordance with the training, instruction, and information received;
- return the PPE after use to the storage facilities provided. If this is not possible, they must take reasonable steps to safeguard the condition of the PPE when temporarily stored elsewhere. Employees must avoid taking the PPE home unless otherwise agreed upon by the employer based on the risk assessment;
- regularly examine the PPE and report any defect, damage, or loss to the manager or the supervisor;
- inform managers or supervisors of any medical and/or other condition(s) that may affect the ability to wear or use PPE; and
- report to the manager or supervisor any concerns regarding the equipment, and suggested improvements to SOPs, which may reduce the risks for PPE or enable improvements in the design or application thereof.

The COP should set out measures to ensure that suitable PPE for WIM is selected and provided, and that such PPE is properly maintained. These measures should include:

- Identifying all areas in which PPE for WIM may be required
- Identifying the types of PPE for WIM that would provide suitable protection against the identified hazards, including undergarments
- Ensuring that the correct PPE for WIM is issued to each female employee in terms of:
 - a. The size and fit, including smaller sizes, considering their ergonomics, anatomical and physiological needs
 - b. The workplace hazards
 - c. The purpose of the PPE
 - d. The nature of the work to be undertaken
 - e. Adequacy of PPE in terms of quality and quantity



Fig 1. The jacket

A ladies' cut, longer and extending below the waist with slits on the sides. The bust is darted to fit perfectly over the chest area. The zipper is metal for durability. In this case, the mine opted for a pink reflective strip for a special touch *Photograph: courtesy of MMPA*

- Ensuring PPE for WIM is regularly maintained to remain fully functional for its intended purpose
- Ensuring PPE for WIM is timeously replaced when no longer fully functional for its intended use
- Ensuring that the use and effectiveness of the PPE is monitored, including fit, comfort, and maximum protection from the identified hazards for WIM
- Ensuring pregnant and breast-feeding women are duly accommodated in line with the risk assessment

Training

The COP must set out measures to ensure that WIM are properly trained in the use of PPE provided to them, which should include:

- Identifying appropriate persons to provide training to WIM on the use of PPE, with the appropriate qualifications and experience
- Giving employees access to the MHSC's *Illustrative Handbook on PPE for WIM*, and including PPE training in the induction programme for employees
- Conducting training in two phases for all WIM who are required to wear PPE

CONCLUSION

Most mines have started to implement the requirements outlined in the Guideline in terms of PPE, based on the research findings reported in SIM 100904.¹ For example, women no longer prefer to wear one-piece overalls, choosing to wear two-piece PPE clothes, as depicted in Figures 1 and 2.

REFERENCES


1. Zungu LI. Personal protective equipment for women in the South African mining industry. SIM 100904. Johannesburg: Mine Health and Safety Council; 2012.
2. South Africa. Mine Health and Safety Act, 1996 (Act No. 29 of 1996). Guideline for a mandatory code of practice for the selection and provision of personal protective equipment for women in the South African mining industry. Government Gazette No. 49046; 2023 July 28 (published under Government Notice 3734). Available from: https://www.gov.za/sites/default/files/gcis_document/202307/49046gon3734.pdf (accessed 15 August 2023).
3. South Africa. Mine Health and Safety Act, 1996 (Act No. 29 of 1996) and Regulations. Available from: <https://www.gov.za/documents/mine-health-and-safety-act> (accessed 27 August 2023). 



Figure 2. The pants

A high cut to prevent slipping and unwanted exposure when bending. There is a wider cut around the hips to ensure maximum comfort. A double layer material is inserted in the crotch area to prevent fraying *Photograph: courtesy of MMPA*