

Black Mountain Mining (Pty) Ltd			
	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

1 TITLE PAGE



BLACK MOUNTAIN MINING (PTY)LTD

MANAGEMENT OF SELF-CONTAINED SELF-RESCUERSMANDATORY CODE OF PRACTICE FOR THE MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS IN MINES

**This Code of Practice is Drawn Up in Accordance with The Guideline
DMR Reference Number 16/3/2/4-A8 Issued by the Chief Inspector of
Mines**

DMR Mine Code number: 0195

Operation Reference Number: BMM-HSE-VOH-COP-011

DMR Effective Date: 30 November 2020

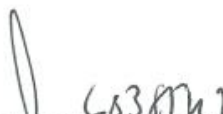
Revision Dates: 01 July 2023

Next Revision Date: 01 July 2026

Black Mountain Mining (Pty) Ltd

 TOGETHER WE MAKE IT HAPPEN	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

Standard Approval

Compiled By:  L Magarman VOH Manager Date: 2023.07.24	Approved By:  NUM Health & Safety Representative Date: 28/08/2023	Approved By:  R Kotze Safety Manager Date: 28/08/2023
Approved By:  AM Cloete Snr. Environmental Supervisor Date: 2023.08.28	Approved By:  J Behr Survey Manager Date: 31-08-2023	Approved By:  M Hanekom Engineering Manager Date: 28/8/2023
Approved By:  K Nel Plant Production Manager Date: 28/08/23	Approved By:  D Mathebula Mining Manager Date: 26/09/2023	Approved By:  R Matodzi General Manager Date: 29/11/2023

Black Mountain Mining (Pty) Ltd

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

2 TABLE OF CONTENTS

1	TITLE PAGE.....	1
2	TABLE OF CONTENTS	3
3	STATUS OF MANDATORY CODE OF PRACTICE	4
4	MEMBERS OF THE DRAFTING COMMITTEE.....	4
5	GENERAL INFORMATION	6
5.1	Brief description of Black Mountain mine and its location.	6
5.2	The commodities produced	6
5.3	The mining methods / mineral excavation processes	6
5.4	The unique features at Black Mountain mine that has a bearing on this Standard	7
5.5	Other relevant COP's.....	7
6	TERMS AND DEFINITIONS	7
7	RISK MANAGEMENT	10
8	KEY ELEMENTS TO BE ADDRESSED IN THE COP	10
	PART D: IMPLEMENTATION	21
1	IMPLEMENTATION PLAN	21
2	COMPLIANCE WITH THE COP.	25
3	ACCESS TO THE COP & RELATED DOCUMENTS.	25
4	Distribution and Access.....	25

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

3 STATUS OF MANDATORY CODE OF PRACTICE

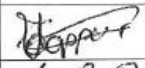
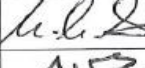
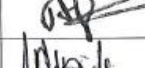
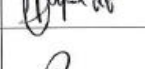
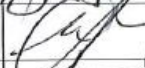
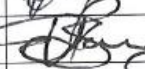
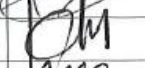
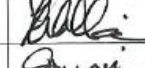
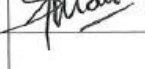
- 3.1 This COP was drawn up in accordance with Guideline Reference Number DME 16/3/2/4-A8 issued by the Chief Inspector of Mines
- 3.2 This is a mandatory COP in terms of section 9(2) and (3) of the MHSA.
- 3.3 The COP may be used in an accident investigation/inquiry to ascertain compliance and also to establish whether the COP is effective and fit for purpose.
- 3.4 The COP supersedes all previous relevant COP's.
- 3.5 All managerial instructions, recommended procedures (voluntary COP's) and standards on the relevant topics must comply with the COP and must be reviewed to ensure compliance.

4 MEMBERS OF THE DRAFTING COMMITTEE

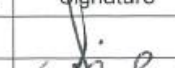
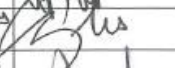
- 4.1 In terms of section 9(4) of the MHSA, the Health and Safety Committee was consulted on the preparation, implementation, or revision of this COP.
- 4.2 I, Rembu Matodzi (4.1 Appointee), hereby appointed the members as listed below on the drafting/reviewing committee for this COP.
- 4.3 **Members of the Drafting/Review Committee:**

Black Mountain Mining (Pty) Ltd

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

NAME	DESIGNATION	QUALIFICATION	AFFILIATION	EXPERIENCE	SIGNATURE
Charles Kloppe	VOH Manager	Cert in Mine Environmental Control	Mine Ventilation Society (MVS)	22 years	
Marius Magerman	Sectional VOH Officer	Cert in Mine Environmental Control	Mine Ventilation Society (MVS)	16 years	
Dr Andre Stoffels	Occupational Medical Practitioner	Diploma in Occupational Health	SASOM HPCSA	27 years	
Davey Cupido	Lampsman: Deeps	LAMPSMAN Certificate		23 years	
Roman Oswald Van Schalkwyk	Lampsman: Swartberg			years	
Llewellyn Barry	Full Time Health & Safety Rep	COMSOC 1 & 2		9 years	
Wendell Freeman	Full Time Health & Safety Rep	COMSOC 1 & 2 SAMTRAC		17 years	
Nkosiyetu Masebeni	NUM	COMSOC 1 & 2 Blasting Certificate		21 years	
KAZABO NKOSANA Jacoobester	Mining Manager: Swartberg			years	
Werner Carsten	Mining Manager: Deeps	Mine Overseer Certificate		23 years	
Edwin Matlapeng	Safety Manager	B-Tech Safety Management		30 years	
Kenric Barbery	Act HR Manager	B-Tech HRM		20 years	
Weston van Wyk	Act Training Manager			14 years	
Shane Links	Shaft Engineer	GCC Engineering		13 years	
Kotishi Mamosebo	Head of Mining	MEC - Mining	SAIMM	32 years	
Lance Williamson	Engineering Manager	GCC	AMRE	30 years	
Gary Ephraim	Commercial Manager	CIPS		29 years	
				years	

Review Committee

Name	Designation	Qualification	Affiliation	Experience	Signature
L Magerman	VOH Manager	Cert in MEC	MVSSA	26 Years	
M Magerman	Sect VOH Officer	Cert in MEC	MVSSA	20 Years	
D Cupido	Lampsman	Lampsman Certificate	-	26 Years	
S Links	Shaft Engineer	GCC	-	16 Years	
W van Wyk	Training Manager	BTech HRM	-	17 Years	
B v/d Heever	Shaft M/O	Mine Overseer Cert	-	28 Years	
M Carsten	Chief Safety Off	Samtrac, Blasting Cert, Comsoc, Legal Liability	-	18 Years	
L Barry	FTH&SR	Samtrac, Comsoc, Nehbosh	-	13 Years	

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

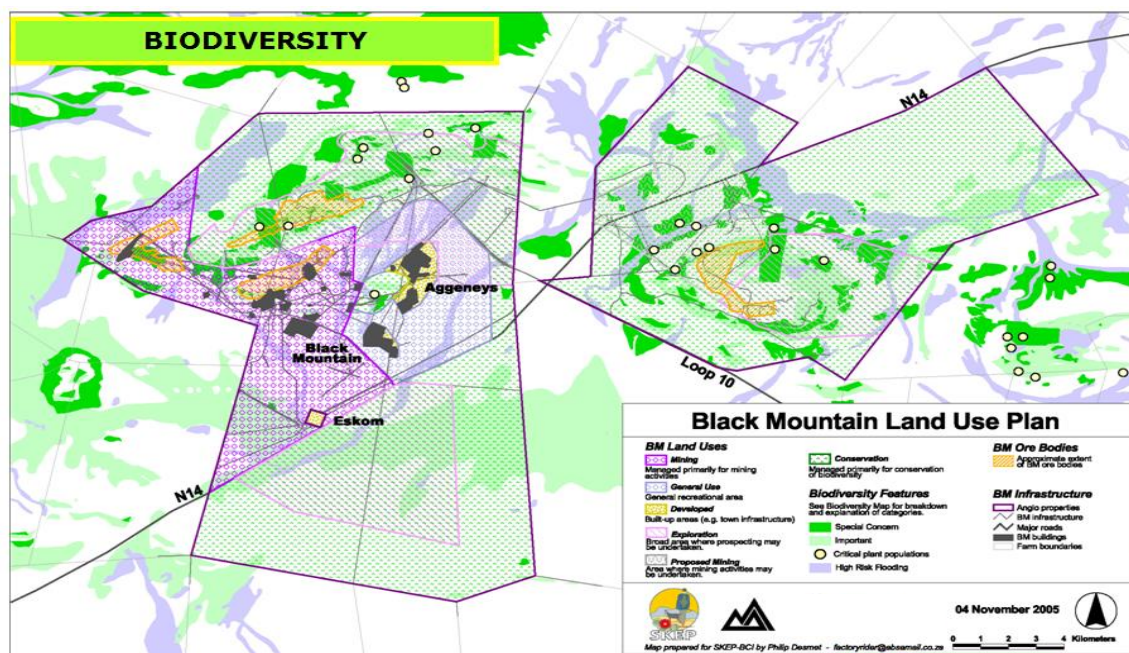
5 GENERAL INFORMATION

5.1 Brief description of Black Mountain mine and its location.

Black Mountain Mine is a base metal mine within the Vedanta Group and is located at Aggeneys in the Magisterial District of Pofadder. GPS co-ordinates: 29 15 12 27 S – 18 49 03 40 E.

Name of Mine: Black Mountain Mining
 Owner: Vedanta
 Location: Aggeneys
 Magisterial District: Pofadder
 Contact Details: Penge Road
 Private Bag X01
 Aggeneys
 8893
 Tel: 053-9839208

Figure 1 Depict the location Black Mountain Mine



5.2 The commodities produced.

Black Mountain produces lead, zinc, and silver from the underground sources at Deeps and Swartberg orebodies. Monthly ore production is set at 130 000 tons, of which between 12 and 20 % originates from Swartberg, depending on stope availability.

5.3 The mining methods / mineral excavation processes

Current mining and tramming activities are carried out at the Deeps orebody, at depths between 1300m and 1750m below surface and the Swartberg orebody between surface and 350m below surface. The orebodies vary in width along strike and can be extremely wide at deeper areas. The

Black Mountain Mining (Pty) Ltd

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

mining, hazard identification and support strategies have evolved to suit wider stopes and increased stresses. The mining activities used are Cut-&-Fill stoping and Blasthole open stoping as well as Crown pillar mining.

The mining operations at Black Mountain consist of the following:

- Initial and continuous development, by means of scaling, drilling, loading & tramming using trackless mobile machinery to establish systems to support current and future mining operations.
- The use of trackless mobile machinery, by means of scaling supporting, drilling, loading & tramming to extract the ore from the various ore bodies.
- The use of Swartberg road system for tramming of ore between swartberg and the surface crushing plant.

5.4 The unique features at Black Mountain mine that has a bearing on this Standard.

Currently, there are no unique features identified during risk assessment and the mine operation that have a bearing to this Code of Practice. However, should there be any unique feature(s) identified in future, shall be included in the Code of Practice during review.

5.5 Other relevant COP's

- 5.5.1 Occupational Health Programme Thermal Stress
- 5.5.2 Prevention of Flammable Gas Explosions in Mines other than Coal Mines
- 5.5.3 Occupational Health Programme for Personal Exposure to Airborne Pollutants
- 5.5.4 Prevention of Fires at Mines
- 5.5.5 Minimum Standards of Fitness to Perform Work
- 5.5.6 Emergency Preparedness and Response
- 5.5.7 Woman in Mining
- 5.5.8 Risk Based Fatigue Management
- 5.5.9 Medical incapacity due to ill health and illness
- 5.5.10 Right to Refuse Dangerous work

6 TERMS AND DEFINITIONS

ATA	an Accredited Testing Authority, an organization accredited to test SCSRs in terms of the South African National Accreditation System, for the assessment of the structural integrity and functional performance of SCSRs
As & when required	This COP will be reviewed and updated after every serious incident relating to the topic covered in the COP or if significant changes are introduced to procedures, mining and ventilation layouts, mining methods, plant or equipment and material
Body-worn self-contained self-rescuer (BW-SCSR)	a SCSR designed to be worn by workers on their body for the duration of a complete underground working shift that will allow workers to reach a place of safety in an emergency

Black Mountain Mining (Pty) Ltd

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

CIOM	Chief Inspector of Mines
COP	Code of Practice
Cold start	SCSR activation for units not equipped with oxygen starters
CSIR	Council for Scientific and Industrial Research.
Deployment (of SCSR)	process by which SCSRs are issued individually to employees , contractors or visitors to a mine or section of a mine where, through the application of Regulation 16.2 of the MHSA , employees must be equipped with SCSRs when proceeding underground.
DMRE	Department of Mineral Resources & Energy
Donning (of SCSR)	the procedure followed by a person to activate their SCSR as required by mine emergency procedures
Emergency	A situation, event or set of circumstances at a mine that could threaten the health or safety of persons at or off the mine, and which requires immediate remedial action, such as the evacuation, rescue, or recovery of persons, to prevent serious injury or harm, or further serious injury or harm, to persons.
Employees	for the purpose of this guideline, employees as defined in the MHSA and any other person who is required to wear a SCSR while at a mine
Irrespirable atmosphere	an atmosphere in a mine, requiring employees to wear breathing apparatus or SCSRs due to the presence of poisonous gas or insufficient oxygen caused by an incident at the mine e.g., as a result of but not limited to combustible gas explosions, or mine fires
Long duration self-contained self-rescuer (LD-SCSR)	A SCSR that will supply oxygen for a minimum of 50 minutes at a ventilation rate of 35 liters per minute. The unit must provide oxygen instantly when activated, e.g., by chemical reaction or compressed oxygen starters, that may be used to escape from a place of safety to surface
MHSA	Mine Health & Safety Act, 1996 (Act No. 29 of 1996), as amended
MHSC	Mine Health and Safety Council
MHSI	Mine Health and Safety Inspectorate
MRS	Mines Rescue Services
OEM	Original Equipment Manufacturer
Place of Safety	Any place, which, during an emergency, can sustain life for the duration of the emergency and is adequate in size and capacity to accommodate the maximum number of affected persons likely to be present in the area served by it. Such place could include, provided it remains safe despite an emergency, the following: • an intake airway commencing from the surface of the mine, which contains no combustible material or in which all combustible material has been rendered fire-resistant and in which no combustible material in quantities sufficient to endanger or likely to endanger the safety of somebody is conveyed during the working shift; or • a development end, not through ventilated, equipped with a sustainable supply of compressed air (with all auxiliary fans in the development end switched off); or a refuge bay as contemplated in SS 0017.
SANS 1737	South African National Standard for body-worn escape type breathing apparatus

Black Mountain Mining (Pty) Ltd

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

Self-contained self-rescuer (SCSR)	a portable oxygen source (chemical or stored) that, when activated, will provide breathable air in a closed circuit
SIMRAC	Safety in Mines Research Advisory Committee
Visitor	a person, other than an employee, who is expected to spend one shift or less in an area of the mine that requires the deployment of SCSRs
VOH	Ventilation & Occupational Hygiene

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

7 RISK MANAGEMENT

7.1 RISK ASSESSMENT.

To assist Black Mountain Mine to manage risks associated with the deployment of SCSRs, relevant information is considered as part of the COP and related documentation, including:

- a) Results from the annual SCSR functional performance tests conducted by an approved authority.
- b) The manufacturers' specifications, approvals, design criteria and modifications related to the SCSR types in use at Black Mountain and for all relevant ancillary equipment:
 - Afrox Pac 35i Self-Contained Self-Rescuers: OEM Portfolio of Information for Compliance to The Guideline for the Compilation of a Mandatory Code of Practice for Management of Self-Contained Self-Rescuers & Supplier's MHSA Section 21 Obligations
- c) Research reports, including:
 - Chamber of Mines Research Organization: ResQpacs – How to Calculate Safe Travelling Distances
- d) Lessons learned from incidents involving SCSRs:

In addition to the above, the follow documentation also has reference:

- VOH-RA 002 Emergency Preparedness & Response
- VOH-BMF 002A Refuge Bay Distance Calculations

7.2 PERIODIC REVIEW.

In addition to the periodic review required by section 11(4) of the MHSA, the COP should be reviewed and updated after incidents involving SCSRs; or after every emergency related to SCSRs, altered circumstances, or if significant changes are introduced to procedures, mining and ventilation layouts, mining methods, plant or equipment and material. The periodic review will not exceed a period of three (3) years.

8 KEY ELEMENTS TO BE ADDRESSED IN THE COP

8.1 SCSR SELECTION CRITERIA.

8.1.1 SANS 1737 Approval

Only types and makes of BW-SCSRs approved in terms of SANS 1737, are considered for selection, and used by Black Mountain. In this regard, a team will review the specifications of current or future selected SCSRs under the direction of the 12.1 Appointee.

8.1.2 Criteria for Selection

The criteria for the selection of the SCSRs in use at Black Mountain is outlined in the COP to demonstrate alignment with the emergency procedures that govern the orderly

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

and safe evacuation of working places affected by a number of hazardous situations as stipulated in the mine's COP for emergency preparedness and response and related Risk Assessment:

- a) Body Worn SCSRs – Only SANS approved BW-SCSRs are selected for use.
- b) Long Duration SCSRs – To be used during emergency rescue operations by the Proto team.

8.1.3 Criteria for Selection based on Emergency Response Strategy

The SCSR selection criteria shall be based primarily on the anticipated duration of selected units, be these BWSRSCs or LD-SCSRs, as required by the emergency response strategy.

The SCSRs anticipated duration is based on:

- a) The layout of escape routes, taking into account horizontal, decline and incline escape routes as well as distances from workings to refuge bays and other places of safety along these.
- b) To demonstrated if the distances from the various working places to the respective places of safety and between places of safety along escape routes are within the recorded duration and demonstrated life-saving potential of the selected units the "Chamber of Mines Research Organization: ResQpacs – How to Calculate Safe Travelling Distances" are consulted. Refer to VOH-BMF 002A Refuge Bay Distance Calculations for the calculations conducted, as well as where improvement need to be made.
- c) In addition to the above, the SANS batch testing and related results from the annual functional performance testing (refer to MHSA Regulation 16.4) are also considered.
- d) Predicted levels of visibility: visibility could be impaired during fires generating smoke.
- e) All refuge bays are equipped on the outside of the refuge bay with a system that incorporate a flashing green light and audible alarm to indicate the refuge bay position during impaired visibility situations.
- f) Reflective escape route signs are also installed to indicate direction of escape.

8.2 SCSR LOGISTIC MANAGEMENT.

Please refer to "Part D: Implementation Plan" for roles and responsibilities of individuals tasked with executing procedures and overseeing all related functions.

8.2.1 Procedures for Personal SCSR Allocation

Procedure for personal SCSR allocation to all employees intended to be issued with SCSRs when signing-on or when transferred:

Black Mountain Mining (Pty) Ltd

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

- a) Every person required to go underground is issued with a personal SCSR (Self-Contained Self-Rescuer) that they must carry on their person at all times while underground.
- b) All full-time employees are assigned their own SCSR by the Lamp Room personnel after the requisite SCSR training have been completed (proof of such training must be provided).
- c) SCSR Training is conducted by the Training department for permanent employees during Induction and Annual Refresher training.
- d) SCSR Training for visitors is conducted by either the Training department or Lamp Room personnel.
- e) Once the employee is assigned with his/her own SCSR, the Lamp Room Personnel issue the employee with his/her own key for the locking / unlocking of the SCSR stored on the lamp room rack.
- f) The employee will sign in the form(s) provided for acceptance and responsibility of the sole allocated SCSR & lock and key.
- g) Visitors and irregular underground workers shall be allocated a "Visitor" SCSR and properly briefed on the use thereof prior to going underground. The visitor's "host" (accompanying official) shall ensure that such visitor has been suitably briefed and that this has been recorded.

8.2.2 Procedures for SCSR Lamp-room Issuing.

The following are the procedure for SCSR issuing and collection at the beginning and at the end of each shift respectively. Each designated user shall:

- a) Personally remove his/her SCSR (& cap lamp) from the rack at the beginning of shift and return ("dock") and lock the units in their allocated charging rack space at the end of the shift.
- b) Prior to going underground, conduct the requisite checks to ensure that the SCSR is in good working order:
 - The SCSR unit is clean, visually in good condition, the seal is intact, the moisture indicator colored blue, and the belt loops are in order.
 - Should the user's pre-use checks identify a defective unit, he/she will report the incident immediately to the Lamp Room Personnel for temporary replacement with a "spare" unit.
- c) Visitors: After receiving the required training, the lamp room personnel will issue each visitor with his/her own SCSR. The visitor will conduct the required pre-use check and sign for the unit in the Equipment Register before proceeding underground and on returning the unit back to the lamp room.
- d) Should a unit be damaged/accidentally opened during the shift, it will be reported to the control room and be handed in to the Lamp Room Personnel for investigation and removal.

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

8.2.3 Procedures for SCSR Storage

Procedures for SCSR storage during the off-shift periods is as follows:

- Each person permanently issued with sole allocated SCSR, and cap lamp is issued with a key to the respective padlock.
- Each sole allocated SCSR and correspondingly numbered cap lamp is secured by fastening the battery cable and SCSR with a padlock to the charging rack.
- Lamp room personnel are responsible to ensure spare SCSRs are secured by fastening the battery cable and SCSR with a padlock to the charging rack, with key locks locked in the key storage cabinet provided in the lamp room.

8.2.4 Lamp-room Staff Inspections & Condition-Monitoring

Inspections and condition-monitoring of SCSRs by lamp-room staff is as follows:

- Visual inspection of the units, including visually in good condition, the seals are intact, the moisture indicator colored blue, and the belt loops are in order on the daily report.
- Should the lamp room staff inspections identify a defective unit, he/she will report the incident to the Lampsman, immediately remove the defective unit and replace it with a "spare" unit.
- Should the end user's pre-use checks identify a defective unit, he/she will report the incident immediately to the Lamp Room Personnel for temporary replacement with a "spare" unit.
- The lamp room staff is responsible for the sole allocation of BW-SCSRs to each full-time employee as well as temporary allocation of spare units for visitors.
- Conduct leak testing on all BW-SCSRs on a quarterly bases, with removal of any unit(s) that fail the leak test. These units are returned to the OEM for further review.
- Ensure the Leak test unit is calibrated annually by the OEM.
- Lamp room staff will store defective units in a cool dry place with ventilation. Units that were opened for whatever reason will be stored in an impervious plastic bag. These units will be returned to the OEM for further appropriate action.

8.2.5 Training of Employees

- Training of employees in the donning and use of SCSRs are conducted during Induction and Annual Refresher training at the BMM Training Centre. Training includes:
 - A video supplied by the OEM is displayed as part of the SCSR training.
 - A demonstration on a training unit by the Training official is done, with the employees also demonstrating to the Training official the donning procedure on the training unit.

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

- b) Visitor training conducted are conducted by competent Lamp Room personnel at the lamp room prior to allocating a spare unit to the visitor. The visitor signs off on the training as well as in the equipment book for receiving his/her SCSR.
- c) Annual training for Training and Lamp Room personnel are conducted by the Respective OEM, with proof of training (Certificates) issued to each to each person who successfully passed the training.

8.2.6 Training of Lamp Room Staff

Lamp room and relevant staff will be trained in the routine inspection of SCSRs, and in handling SCSRs involved in incidents.

- a) The Lamp Room Line Management shall compile, in conjunction with the Training Department & OEMs, the requisite SCSR Training and Assessment of Competency Programs for Lamp Room Personnel. The Lamp Room Line Management must notify the Training Department to arrange for the required training.
- b) All Lamp Room personnel shall make themselves conversant with the complete record keeping system for SCSR as is used in the lamp room.
- c) The OEM for the SCSRs in use will be used to conduct annual training for the Lamp Room Personnel. Proof of such training will be kept in the Lamp Room.

8.2.7 SCSR Selection & Purchasing

Only SCSRs approved in terms of SANS 1737 will be purchased and used at Black Mountain, based on the mines risk assessment and escape strategy.

8.3 ISSUING & DEPLOYMENT OF SCSRS.

8.3.1 Issuing of Personally Assigned SCSR

All employees are assigned with their own SCSR by the Lamp Room personnel after the requisite training have been completed (proof of such training must be provided):

- a) Every person required to go underground shall be issued with a personal SCSR (Self-Contained Self-Rescuer) that they must carry on their person at all times while underground.
- b) Once the employee is assigned with his/her own SCSR, the Lamp Room Personnel issue the employee with his/her own key for the locking / unlocking of the SCSR stored on the lamp room rack.
- c) The employee will sign in the form(s) provided for acceptance and responsibility of the sole allocated SCSR & lock and key.
- d) Visitors and irregular underground workers shall be allocated a "Visitor" SCSR and properly briefed on the use thereof prior to going underground. The visitor's "host" (accompanying official) shall ensure that such visitor has been suitably briefed and that this has been recorded.

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

8.3.2 Sole Allocation

The following are in place to ensure that every SCSR is allocated solely to the designated employee:

- All persons who regularly work underground shall be allocated a personal SCSR (Regulation 16.2(2) and 16.2(3) of MHSA Act No. 29 of 1996 refers). Once allocated, the lamp room personnel will indicate the allocation on the SCSR history record, and the employee will be issued with his/her own key to unlock/lock the SCSR at the start and end of the shift. Refer to VOH-BMF-001A for more information.
- In cases where defects have been encountered during routine checks or where the assigned unit has been withdrawn for functional performance testing, repairs or maintenance, the employee will be issued with a spare or replacement unit.

8.3.3 “Spare” SCSRs

Black Mountain will endeavor to maintain 10% spare units of the total number of SCSRs in use at each shaft (with a minimum of at least 5%), readily available for use, for the above occurrences and for day-visitors to the mine or to sections of the mine where SCSRs are to be deployed.

8.3.4 Deployment of LD-SCSRs

Long Duration SCSRs (LD-SCSRs) are stored in the mine’s Proto Room. It will primarily be used by the Mine Rescue Team in circumstances where the need for the use of SCSRs remain to safely extract employees from risk areas. Monthly checks are recorded in the Proto Teams Monthly Register and MRS staff over inspect the LD-SCSRs during quarterly training.

TRAINING IN THE USE OF BW-SCSRs.

8.3.5 Employees

The COP shall detail procedures that will ensure that all employees are given adequate and annual (not exceeding 18 months) training in all aspects of the donning and use of SCSRs where this is required. The following aspects should be addressed also in terms of:

- Providing a clear understanding of the role of SCSRs in the mine’s escape and rescue strategy and particularly of when the units need to be donned (e.g., emergency alarm conditions, supervisor’s instructions, control room communication from surface, triggering of early warning systems, etc.).
- Ensuring that employees are familiar with the donning and activation procedures even in poor visibility. Training procedures should be based primarily on the SCSR OEM’s operational and training manual.
- Where needed, providing training material that includes experiential training methodology including sufficient physical, cognitive, psychological, and behavioral

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

information beyond the necessary technical information supplied by the OEM and hands-on experience. This will allow employees an adequate understanding of any potential physical and psychological symptoms which they might experience when donning and using SCSRs.

- d) Exposure to conditions likely to be encountered when SCSRs are being donned, inclusive of elevated breathing resistance levels and of increases in inhaled air temperature.
- e) Simulation awareness training shall include:
 - i) Donning procedure.
 - ii) “Cold start” procedures, where required (refer to Guidance Note 1 - mandatory).
 - iii) Changeover procedures (where required at underground change-over stations).

8.3.6 Visitors

Visitors shall be issued with a SCSR only after completion of the requisite training in the safe use thereof.

- a) All visitors to areas where SCSRs are required to be worn will be trained in the pre-use checks and donning procedures of the SCSR but will exclude experiential training.
- b) Depending on circumstances, either the Lamp Room or Training Personnel shall conduct such training.
- c) The responsible person (Mine Host / Official) accompanying visitors underground shall personally ensure that the incumbents have been properly briefed on the use of SCSR's prior to going underground and that they (responsible “host” and visitor) have acknowledged to this effect in the training record provided.

Visitors to the underground shall be under direct supervision of a mine official at all times in areas where SCSRs are required.

8.4 FUNCTIONAL PERFORMANCE TESTING.

Annual functional testing of a representative sample of the SCSRs deployed at the mine are carried out in accordance with MHSA Regulation 16.4, by an Accredited Testing Authority (ATA). Samples are selected by the ATA official, covering different occupations, shifts and age of the SCSRs.

- a) The representative sample for performance testing shall be at least 1% of each make and type of SCSR in this category (e.g., the mine has a total of 2 500 SCSRs, say 800 Make A and 1 700 Make B. The 1% sample will comprise at least 8 Type A and 17 Type B).
- b) Should the ATA, at their discretion, and in consultation with the mine, recommend increasing temporarily the test sample size for the make / type / batch of SCSRs which have shown untoward behavior during the monitoring programme or ongoing

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

conformity assessment testing for that batch, BMM will assist and reasonably comply with this requirement.

The mine shall ensure that the ATA is duly accredited to carry out these tests. Proof of such accreditation are kept by the mine.

8.5 REPORTING & RECORDKEEPING.

8.5.1 Record Keeping in Terms of Regulation 16.4

Monthly records are kept for the recording of information in terms of MHSA Regulation 16.4, covering a minimum period of 24 months – refer to the BMM SCSR Annual report. This includes:

- Total number and make of SCSRs in service at the mine.
- Total number and make of SCSRs purchased by the mine during the period.
- Number and make of SCSRs withdrawn from use by the mine in the period.
- Number of shifts worked per day.
- Number of SCSR in daily use (average for each month)
- Number of employees underground (average per shift)
- Number of spare SCSRs available (average per month)
- A tabulation of the type of defects found.
- Number of SCSRs repaired/refurbished.
- Number of SCSRs tested in terms of Regulation 16.4(1)

Monthly Lamp Room inspections are also conducted by the VOH Department.

8.5.2 Record Keeping of Approved Testing Authority Testing Reports

Electronic copies (backed up to the mines server) are kept of reports and records issued by the testing authorities appointed in terms of MHSA Regulation 16.4.1 and 16.4.2.

These reports and records are utilized to provide the guidance necessary for reviewing and updating the mine's rescue and escape strategy and location of places of safety associated therewith.

8.5.3 Batch Test Compliance

Proof of batch test compliance are kept on record by the mine for all batches of SCSRs for the lifespan of the units, until all units in a specific batch are withdrawn from service permanently.

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

8.6 MAINTENANCE, INCIDENT MANAGEMENT & DISPOSAL OF SCSRS.

8.6.1 Visual Inspections & Maintenance Procedures

Measures to ensure that visual inspection and maintenance procedures for SCSRs are in place:

- a) End User Inspections:
 - Visual inspection of the units, including visually in good condition, the seals are intact, the moisture indicator colored blue, and the belt loops are in order as per the training provided.
 - Should the end user's pre-use checks identify a defective unit, he/she will report the incident immediately to the Lamp Room Personnel for temporary replacement with a "spare" unit.
- b) Lamp Room Personnel
 - Visual inspection of the units, including visually in good condition, the seals are intact, the moisture indicator colored blue, and the belt loops are in order.
 - Should the lamp room staff inspections identify a defective unit, he/she will report the incident to the Lampsman, immediately remove the defective unit and replace it with a "spare" unit.
 - Conduct leak testing on all BW-SCSRs on a quarterly bases, with removal of any unit(s) that fail the leak test. These units are returned to the OEM for further review.
 - Ensure the Leak test unit is calibrated annually by the OEM.

8.6.2 Maintenance by OEM &/or Mine Personnel

Maintenance of SCSRs deployed at the mine shall be done as follows:

- a) Basic maintenance: replacement of the secondary seal - by duly competent mine employees, lamp room personnel, formally accredited by the OEM and operating within technical procedures endorsed or generated by the OEM.
- b) Any other maintenance will be conducted by the OEM or their duly competent and accredited service provider, formally accredited by the OEM and operating within technical procedures endorsed or generated by the OEM.

8.6.3 Incident Investigation

The precautionary measures and procedures to be followed should a SCSRs be.

- a) Accidentally opened or activated.
 - An investigation will be done for each SCSR that was accidentally opened or activated with relevant stakeholders, including the employee(s) involved, Health & safety Representatives, unions, and line management, with an internal report on the findings and actions.

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

- The template as supplied by the DMRE will be utilized to report these type of incident as and when occurred to the DMRE.
- b) Malfunction or following an incident where SCSRs were activated during an emergency, taking into account different levels of incident investigations to be held by the employer jointly with the OEM and testing authority.
- In the event that a SCSR malfunction during use in an emergency, the DMRE and OEM will be informed. After appropriate authorization was given, the unit be sealed in an impervious plastic bag. Black Mountain will inform the OEM and consult with the Authorized Testing Authority and OEM on the appropriate way forward for further examination and testing of the unit.
 - Incidents will be investigated as required by section 11.5 and report to the DMRE.
- c) Procedure to report these incidents to the DMRE.
- Any emergency situation during which SCSRs were activated for use will immediately be reported to the DMRE by telephone, WhatsApp and/or email, including the type of emergency that led to the activation, the amount of people involved/number of SCSRs activated.
 - The 11.5 investigation report will be submitted to the DMRE for the investigation conducted.
 - In the case of damaged or accidentally opened units, the template as supplied by the DMRE will be utilized to report these type of incident as and when occurred.

8.6.4 Safe Disposal

Considering the highly reactive nature of the oxygen-producing chemicals used in SCSRs, safe disposal of SCSRs that are withdrawn permanently from deployment will be as follows:

- a) Due to the nature of the reactive chemicals contained in SCSR's, any units that have been activated, vandalized, damaged, failed their routine inspection and / or found to be redundant, shall be immediately withdrawn from service.
- b) Such units shall be sealed in an impervious plastic container (plastic bag), kept in a designated secure area apart from other equipment prior to being returned to the OEM, without undue delay, for safe disposal.
- c) The OEM shall supply the Mine with "Equipment Safe Disposal Certificates" for the SCSRs (hazardous equipment).
- d) Shaft / Lamp Room Supervisors shall ensure that all documentation pertaining to the storage and safe disposal of SCSRs is kept on file and readily available at the lamp room.

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

8.6.5 Transfer of Ownership of SCSRs

Where SCSRs that are still within their ten-year operating life, are sold to a third party, the mine shall transfer the records relating to the units and respective batches sold to the new owner. Detailed records of such sales or transfers shall be kept by the original owner.

8.6.6 Withdrawal from Service of Obsolete SCSRs

SCSRs that have become obsolete, that is units that are older than ten years from their date of manufacture, shall be withdrawn from service and if need be, replaced with SANS 1737 approved units.

8.7 INSTRUCTION MANUALS ON THE USE OF SCSRs.

Relevant provisions of OEM's instruction and operating manuals for the type of SCSRs purchased are included in relevant standard operating procedures – Refer to Section 5.5 of this COP for the OEM Supplied List of Documentation. These contain, but shall not be limited to the following:

- a) General information.
- b) Rated duration in accordance with SANS 1737 certification.
- c) Technical information
- d) Principles of operation
- e) Description of apparatus.
- f) Conditions of use.
- g) Estimated service life as stated by the OEM.
- h) Risk assessment.
- i) Training requirements and training materials.
- j) Any basic inspection and maintenance procedures.
- k) Recommended disposal procedures.

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

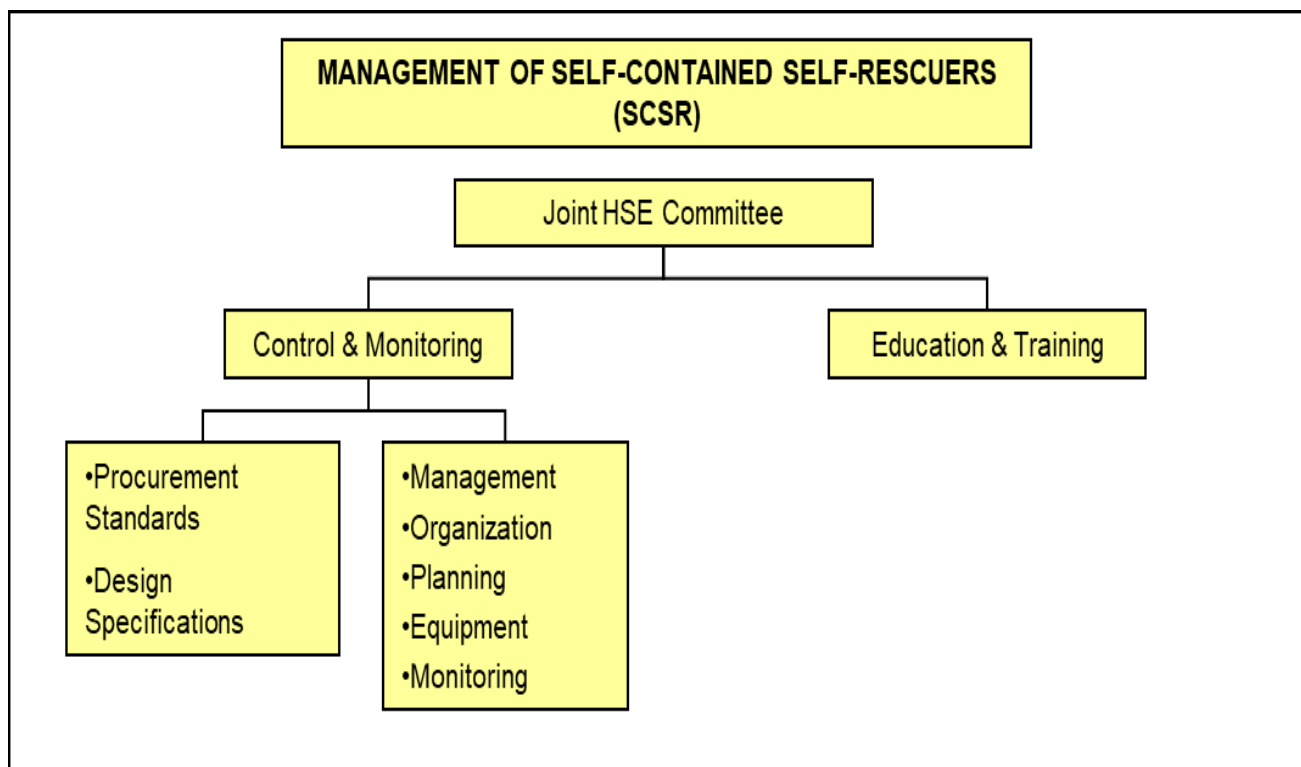
PART D: IMPLEMENTATION

1 IMPLEMENTATION PLAN

The employer must prepare an implementation plan for its COP that makes provision for issues such as organizational structures, responsibilities of functionaries and programs and schedules for the COP that will enable proper implementation of the COP. (A summary of/and a reference to, a comprehensive implementation plan may be included).

1.1.1 Management of the SCSR Programme

The overall Management of SCSR programme is depicted schematically below. This is an integrated approach that requires planning, co-ordination and co-operation between various departments and structures:

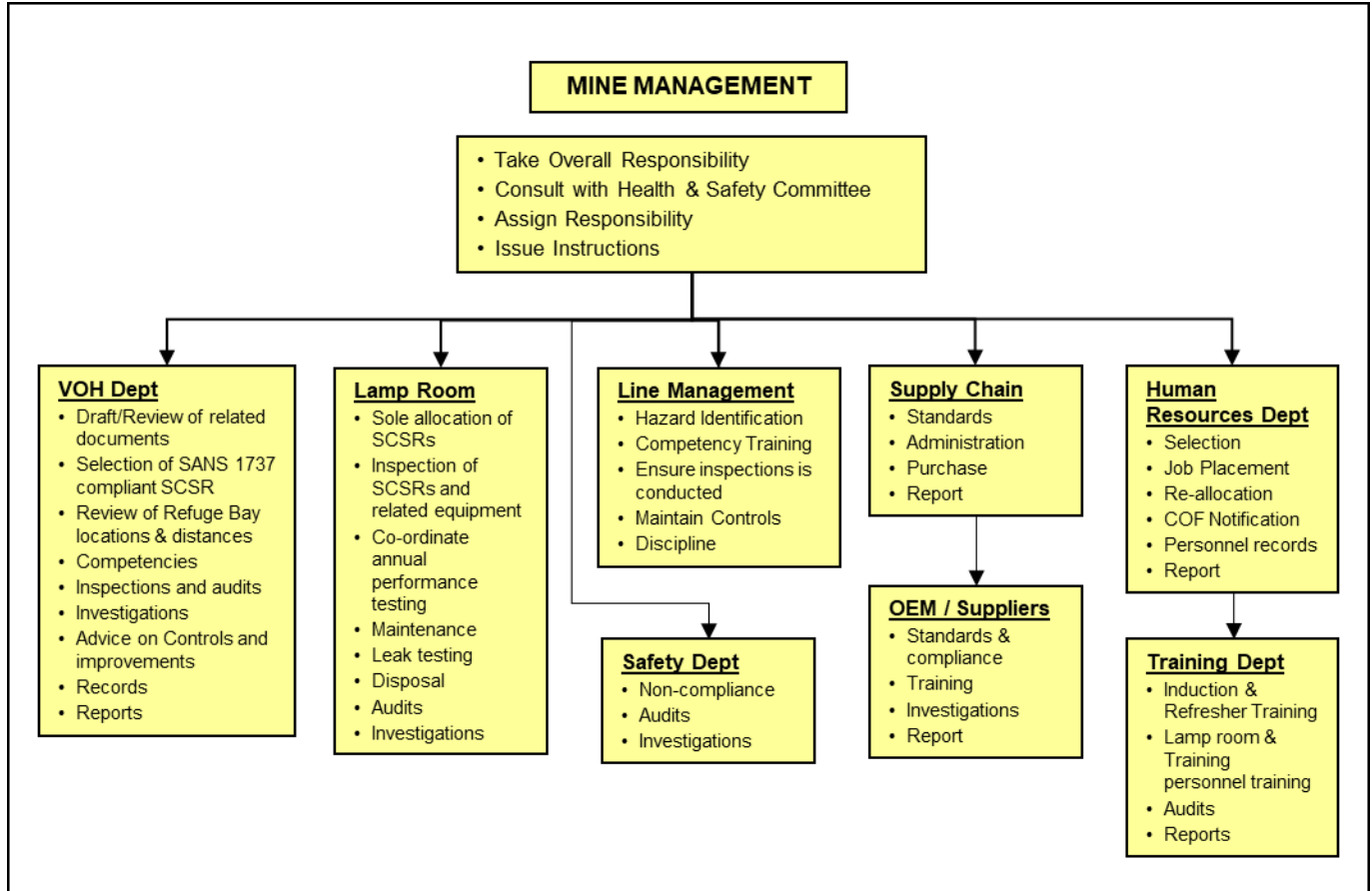


1.1.2 Functions & Responsibilities

The functions and responsibilities of departments, committees and disciplines are depicted schematically below (see text for details):

Black Mountain Mining (Pty) Ltd

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			



1.1.2.1 Mine Management

The owners of the mine must take responsibility for health and safety in terms of the Act. The management of this responsibility is delegated to Mine Management. The Act also requires that a health and safety committee be established for consultation on health and safety issues. This role is fulfilled by the “Joint Health and Safety Committee,” which is represented by management and employees.

Other responsibilities relating to the Management of SCSR programme include:

- The compilation and implementation of the mine's health and safety policy
- Approval of specific Management of SCSR practices and procedures and the issuing of instructions relating to the implementation of the practices and procedures
- The delegation of responsibilities to designated persons.
- Provision of resources in fulfilling the Management of SCSR practices and procedures

1.1.2.2 Training Department: Education & Training

Black Mountain Mining (Pty) Ltd

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

Education & Training is a fundamental prerequisite to the success of the Management of SCSR programme. The purpose is to improve employees' awareness of Emergency Preparedness & Response, with specific focus on the use of SCSRs and escape strategies, related hazards, and its consequences, and to motivate them towards active participation on controlling the risks according to their position and function within Black Mountain.

- a) The objectives of employee induction and education with regards to Management of SCSR practices and procedures are to:
 - Promote a comprehensive understanding of the nature, the cause, and the consequences of emergency situation, its prevention and the use of SCSR during emergency situation.
 - Ensure that employees are capable of recognizing potential emergency situations and are encouraged to contribute to risk assessments and the implementation of appropriate control measures.
- b) Target groups for training with regards to SCSRs and Emergency Preparedness & Response practices and procedures:
 - Every person in the workplace (i.e. employers, senior managers, line managers, supervisors, health and safety representatives/committee members and all employees) will be given an overview of the Emergency Strategy and SCSRs, including pre-use inspections, reporting of defective units, donning procedure, escape procedure and the hazard identification and risk assessment, as well as how risk management systems and procedures will be implemented in the workplace
 - Lamp room personnel training and competence will include training by the OEM on inspection and maintenance of SCSRs and leak testing as well as "Train the Trainer" training in the donning procedure for SCSRs.
 - Training officials will also receive the "Train the Trainer" training in the donning procedure for SCSRs from the OEM
- c) Main topic areas for an overview or general training course:
 - Legislation relating to SCSRs and Emergency Preparedness & Response practices and procedures and means of compliance, including codes of practice and risk management systems.
 - Hazard identification, risk assessment and risk management procedures
 - Self-Contain Self-Rescuers, including pre-use inspections, use, sole allocation, etc.
 - The need for communication and consultation with all concerned in formulating and implementing measures aimed at managing risk and complying with legislation.
 - Workplace strategies for the management of risks associated with emergency management practices and procedures.

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

1.1.2.3 VOH Department

Main functions include:

- Preparation of the Management of SCSR documentation, including Code of Practice, risk assessments, standards, etc.
- Advise and sign-off on new SCSR purchases to ensure only SANS 1737 approved units are purchased and used.
- Audits/Inspections and reporting

1.1.2.4 Safety Department

From a safety perspective the responsibilities include:

- Audits and reporting of non-conformances.
- The administration of compensation for exposure related illnesses

1.1.2.5 Line Management

The main function of Line Management is to create a culture of limiting exposures by:

- Continuous hazard identification
- Competency training
- Maintenance of controls

1.1.2.6 Supply Chain

The contribution of the Supply Chain to the programme is to:

- Purchase and supply of only SANS 1737 approved SCSRs, as directed by 12.1 Appointee.
- In addition to the above, the Supply Chain plays a major part in the acquisition of new equipment with regards to Manufacturers / Suppliers as is shown below.

1.1.2.7 Original Equipment Manufacturers (OEM's) / Suppliers

The contribution of the OEM's / Suppliers to the programme is as follows:

- The principal approach to be taken is to control the exposure levels of the equipment supplied to the mine. Section 21 of the MH&S Act is applicable in this regard.
- It should be noted that, if an exposure hazard is associated with equipment supplied to mines, the supplier can only relinquish its responsibility with regard to risks if the exposure characteristics of the equipment are specified, the necessary precautions against exposure control are stipulated and the mine management has accepted, in writing, the responsibility of implementing those precautionary measures
- Therefore, equipment can only be accepted after the relevant documentation of acceptance has been duly completed.

	Safety & Sustainable Development	Doc #	BMM-HSE-VOH-COP-011
		Version #	3.0
		Implementation Date:	2020/11/30
Approval / Owner:	General Manager	Last Reviewed/Update Date:	2023/06/22
Author:	VOH Manager	Sanction:	4.1 Appointee(s)
MANAGEMENT OF SELF-CONTAINED SELF-RESCUERS			

1.2 Graphical representations are / will be utilized to facilitate easy interpretation of data and to highlight trends.

1.3 Enforcement and monitoring of the Guideline's implementation will be done in line with the audit program/s carried out by the MHSI.

2 COMPLIANCE WITH THE COP.

Measures to ensure compliance is instituted through auditing from first, second- and third-party auditors.

3 ACCESS TO THE COP & RELATED DOCUMENTS.

- 3.1. A complete electronic COP, with related documents, is kept readily available at the mine for examination by any affected person. Hard copies, when printed, are treated as uncontrolled copies. Line supervisors and management have direct access to these electronic copies and can distribute it to affected employees when required. On written request to the Manager, any other affected person will be supplied with copies. A register will be kept of such persons or institutions to facilitate updating.
- 3.2. The registered Trade Unions and Full Time Health and Safety Representative will be supplied with copies of this COP on written request to the Manager. A register will be kept of such persons or institutions to facilitate updating.
- 3.3. The employer will ensure that all employees are fully conversant with those sections of this COP relevant to their respective areas of responsibility.

4 Distribution and Access

- 4.1. The latest revision of this document is available as a read only on the document on the Intranet. The Compliance Officer shall maintain an authorised hard copy of this policy/procedure in the relevant location.
- 4.2. Line Managers, who have staff reporting to them that do not have access to the Intranet, shall ensure that these personnel are adequately guided and informed.