

## 1. Scope

This standard applies to all underground mining operations managed by Vedanta businesses and specifies mandatory requirements for all existing operations, new acquisitions, shafts and adits including those developed for exploration, ore extraction or mine construction. This standard applies to all employees and business partners.

The objective of the standard is to ensure effective response to emergencies and underground fires which can otherwise lead to fatalities or serious incidents.

## 2. People

- 2.1. The Mine manager shall appoint an Authorized Person who shall establish and implement an Emergency and Fire Prevention Plan (EFPP) as described in the guidance note and also ensure that fire and emergency response capabilities are available on site at all times when people are underground.
- 2.2. All persons who work underground shall be instructed at regular intervals in emergency plan including the escape and evacuation plan as well as training in the content of the EFPP. Records of this must be kept for a period of 24 months.
- 2.3. Visitors shall receive instruction in the use of safety equipment and emergency procedures and shall always remain with the operations representative while underground.
- 2.4. Mutual aid agreements shall be established with suitable mines where possible.
- 2.5. Each operation shall make available suitable and sufficient resources to ensure effective implementation of the emergency response control plan, the EFPP as well as the mutual aid plan.
- 2.6. A mine rescue team is to be established and provided with training on mine emergency scenarios at intervals as required by legislation and Vedanta procedures

## 3. Process

The processes below shall be put into place:

- 3.1. A Business Continuity Plan, Crisis Management Plan and Emergency Response Plan that incorporates at least the requirements of this standard shall be established for each mine.
- 3.2. A Hazard Identification and Risk Assessment (HIRA) shall be undertaken following the detail contained in the guidance note to identify the possible types of emergency response situations that may occur within the mine. This shall be recorded on a risk register and the Mine Manager shall review and approve the risk register annually.
- 3.3. Plans to recover and restore the mining activities to "normal" after a major incident.
- 3.4. Selection of emergency response equipment to be provided, and the workforce trained in what to do in case of an emergency or underground emergency.
- 3.5. The site shall establish an emergency command centre, where all equipment as well as the individual emergency response plans is kept and from where the emergency rescue or response to any foreseeable emergency is managed.
- 3.6. Procedures and responsibility shall be in place to advise all persons working underground of a change in the emergency egress or in ventilation flow taking place.
- 3.7. An effective system, together with at least one back up system, to warn all personnel underground within a determined minimum time that an emergency requiring evacuation exists.
- 3.8. Establish criteria for the installation, inspection, and maintenance of fire detection, warning, and suppression systems.
- 3.9. Establish and maintain real-time carbon monoxide and Lower Explosive Limit monitoring in major ventilation circuits of the mine and evacuation routes as close as practicable to existing and planned working areas. This shall be communicated to all workers.

- 3.10. A target maximum period from the moment the emergency warning is activated to the time the last personnel evacuate the mine or can reach the safety of an underground refuge chamber shall be set on each level and easily accessible by all underground workers. In setting this period the non-availability of man hoisting, and vehicular access must be considered.
- 3.11. The Emergency Response plan shall describe appropriate emergency response command and control actions and structures as well as a comprehensive emergency communication strategy.
- 3.12. The incident command centre should have written directives about how to organize assets to respond to different incidents and processes to manage the response through its successive stages.
- 3.13. Clear and highly visible signs shall be used to demarcate all evacuation routes and locations of refuge chambers.
- 3.14. Each operation shall have a fast, accurate and effective system to identify who is underground at any given time and when the underground is completely evacuated. The system must be fully effective in all circumstances, including the total failure of power or communications.
- 3.15. Each operation shall establish the need, location and capacity for self-contained self-rescuers as well as number and location of refuge chambers.
- 3.16. SOP for single entry systems shall be established. The SOP shall state at least every item listed in the guidance note.
- 3.17. Prior to issuing any person a self-contained self-rescuer, each such individual shall be trained in the use and inspection of the specific type of self-rescuer issued.
- 3.18. The EFPP plan shall contain procedures for workers to safely re-enter the mine, or parts of it, after an emergency has occurred or is contained

## 4. Review

- 4.1. The requirements of this Standard shall be reviewed at least annually by businesses through their Mining, Engineering and Safety departments.
- 4.2. The plan shall be tested annually through an exercise (like a drill or simulation of an emergency) to ensure it is effective and maintained ready for any emergency. Test evacuations shall take place such that, as far as reasonably practical, all personnel participate in a mock drill at least once a year. This test shall include, where relevant, the use of refuge chambers.
- 4.3. Businesses shall comply with all relevant in country laws and regulations.



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