

RISK ASSESSMENT & MANAGEMENT FOR BELPAHAR OCP

1 RISK ASSESSMENT & MANAGEMENT

1.1 INTRODUCTION

Keeping in view the three basic principles i.e. prevention, preparedness (both pro-active and reactive) and mitigation of effect through rescue, recovery, relief and rehabilitation; a comprehensive blue print for risk assessment and management has been drawn-up for the project incorporating the following:

- Identification and assessment of risks.
- Recommendation of measures to prevent damage to life and property against such risks.

1.2 SLOPE FAILURE IN MINE PIT

The exposed ends of the coal seams and OB will be left with a safe slope to avoid slope failure and collapse of benches. Similarly, at the end of mining operation, safe terminal slope will be provided to avoid pit failure.

1.3 BLASTING

For proper blasting and minimizing the adverse side effects due to blasting, viz. noise, ground vibration, back-breaks, air blast, fly rocks, etc., the following precautions have been suggested to avoid dangerous situations:

- A safety zone for blasting has been provided around the quarry.
- Before blasting is done, warning sound will be given so that people can move to safe places.

- Controlled blasting with site mixed slurry. Use of millisecond delay detonators that are initiated by shock tube initiation system, between rows and between holes in same row.
- Optimization of quantity of explosive in a blast hole.
- Blasting shall be carried out in conformity of extant laws with closer control of blasting parameters including blasting results like desire fragmentation, permitted vibration, etc.

1.4 EXPLOSIVE HANDLING

The present day technology of blasting with site mixed slurry (SMS) explosive shall be used with milli second delay detonators that are initiated by shock tube initiation system. SMS is stored by the supplier as per GOI Notification. Further, transport and charging are also done by the supplier on the spot. Only priming will be done by the project authority. For storage of explosives meant for priming, detonating fuse and detonators, one service magazine have been provided.

1.5 SAFETY RULES

Mining operations follow statutory mine safety rules administered by the Directorate General of Mine Safety (DGMS), Chief Controller of Explosives and others. Planning and design of electrical installations will take into account the existing electricity rules to obviate the hazards due to use of electricity.

For creating safety awareness and imparting education on safe practices, the following steps shall be taken:

- Holding annual safety weeks.
- Imparting basic and refresher training to new and old employees respectively as per Vocational Training Rules.

1.6 MINE INUNDATION

Provisions in Coal Mine Regulations shall be followed. The mine pit would receive water from three sources namely, direct precipitation over excavated area, surface run-off from the surrounding area and seepage from the strata. During heavy rainstorms, there may be a situation when mine may get flooded. This may cause loss of human life and equipment, etc. All the necessary precautions will be taken against such eventuality through out the life of the project.

1.7 FIRE

Adequate firefighting arrangement has been provided. Adequate number of fire extinguishers will be provided for stores and other service buildings. While calculating total water demand for the project, provision for firefighting has also been made.

1.8 ROAD ACCIDENTS

Sufficient arrangements for illumination of roads including haul roads will be made. Road crossings has been properly planned and designed to prevent vehicular accidents.

1.9 ILLUMINATION AND COMMUNICATION

Sufficient lighting as per standards will be provided at all the required places, i.e. working faces, OB dump area, haul road, coal transfer points, loading points, CHP, workshop, etc., to avoid accidents and to create efficient working conditions. Provisions for efficient communication systems (both internal and external) to allow communication link amongst various work centers to help avoid accidents and handle emergencies will be made.

1.10 OTHER MISCELLANEOUS MEASURES

Following facilities will be there in the project:

- Provision of well-equipped workshops for maintaining HEMMs and other equipment properly for avoiding their failures as well as the risk of accidents.
- Provision of stores for spare parts for quick maintenance.

1.11 TRAINING

Coal industry has set up a number of training institutes for imparting training to its employees. These trainings are meant to raise awareness amongst workers for performing their duties properly with safety.

Further, the personnel directly responsible for handling emergencies are given training for making them better equipped for discharging the responsibilities. Mock drills for checking the risk management preparedness are carried out regularly.

1.12 MEDICAL AID

For guarding against occupational and community health hazards, the following measures are being taken:

- Steps to control respirable dust, improve workplace environment and reduce noise nuisance.
- Periodic medical examination (PME) of workers.
- Rehabilitation and treatment of workers affected and suffering from early stages of occupational diseases associated with coal mining.
- Availability of improved medical facilities.

Healthcare facilities (dispensaries/hospitals) have been provided in this project. A specialized "**referral**" hospital has been established in Ib Valley coalfield area to offer

proper treatment to employees of Mahanadi Coalfields Limited (MCL). The doctors and medical professionals are given sufficient training for handling emergencies.

1.13 CONCLUSION

With adoption of above preventive measures, the operation of this opencast mine will be safe as well as environment friendly.