

Preliminary Study on the Safety Management Strategy of Mining Technology

Qiang Cheng, Haiping Lu

Xinghua Coal Mine Ventilation Area, Heilongjiang Longmei Jixi Mining Co., Ltd., 158173, Heilongjiang

Abstract: The safety management of mining technology is the key to mine mining. Because the safety management of mine mining technology can not only ensure the scale of mining, but also ensure the life safety of construction personnel. This paper mainly analyzes the main reasons for the safety problems of mining technology, and proposes corresponding measures to strengthen the safety management of mining technology.

Keywords: Mining technology; Safety management; Analysis

1. Causes of accidents in mining technology

1.1 Formalization of safety rules and regulations

In view of the safety problems in mining, China has successively promulgated the “Mine Safety Law”, “Mine Mining Law”, “Safety Production Law” and “Mine Mining Safety Regulations” and other rules and regulations, which clearly stipulate the safety behavior of mine mining technology. However, in the process of mine mining, the implementation of the mine safety system is far from enough, or even only superficial. In the actual mining process, many details are not fully implemented in accordance with the rules and regulations, so that safety accidents occur from time to time, and the life safety of mining personnel is greatly threatened. The profitability of mining enterprises has also been declining due to the occurrence of accidents in mining technology, which has also affected the improvement of the overall level of mining production in China.

1.2 Backward safety equipment and technology

Compared with other developing countries, China’s mining technology, equipment and technology are relatively backward. Due to the shortage of funds, the obsolete mining equipment and technology of the mine are not replaced in time. Moreover, some companies are carried away by the benefits, and do not hesitate to mine at the cost of the safety hazards of mining technology. Short-term benefits will only lead to eventual disaster. Therefore, in the long run, backward safety equipment and technology are also one of the important reasons for the existence of hidden dangers in mining.

1.3 Inadequate implementation of safety responsibilities

In the mining process, many mining enterprises in China’s safety responsibility system management is not strict, the corresponding safety responsibility is not in place. To some extent, when the mining safety event occurs, the responsible person does not know where, the irresponsible phenomenon of the follow-up treatment also laid a hidden danger for the mining disaster. When the relevant personnel conduct underground mining supervision, they do not pay attention to the safety problems existing in mining technology, and the supervision work is like going through the motions, eventually leading to the occurrence of mining safety accidents. Therefore, the implementation of the safety responsibility system can also play a very large role in reducing the frequency of mining accidents.

1.4 Low level of skills of mining operators

It was found that the low comprehensive skill level of mining operators is an important reason for frequent mining accidents. The comprehensive skill level of some mining operators is low, mainly reflected in the following three points: First, the quality of leadership of mining units is low, not fully aware of the importance of safety in production, not from a safety point of view to coordinate mining operations, not conscientiously implement the target of safety in production set by mining units. Second, some grassroots leaders are mostly promoted and produced by mining workers. Although they have rich operation experience, they lack knowledge in safety management, which affects the implementation quality of safety management to a certain extent. Third, the comprehensive quality of mine operators is low, they lack the necessary knowledge of safe operation, and they are overwhelmed when they encounter accidents.

1.5 Lack of reasonable order of safe production

A large part of China's mining enterprises lack a reasonable order of safety in production, thus causing the production management disorder, can not be swept over for a while, so the reasonable and scientific management system is impossible to talk about. Some mine mining enterprises personnel work attitude is not correct, commuting time only stipulated the number of days should be worked each month, but not reasonably set, which leads to the staff on the safety production order of the regulations do not attach enough importance.

2. Measures for strengthening the safety administration of mining

2.1 Clarifying the safety management tasks of mining

At this stage, the main task of mining safety management is to fully implement the relevant government regulations, policies, guidelines, through the formulation and implementation of safety regulations, reduce the probability of unsafe behavior, reduce the property loss caused by safety accidents, and thus improve the economic efficiency of enterprises. In addition, it also needs to study the objective law of mining operations, develop scientific and efficient safety measures, eliminate security risks, create a good mining environment. In order to achieve the above objectives, the safety management measures are formulated as follows: A safety production system and a safety production responsibility system shall be established and implemented in an all-round manner. Organize the study of legal orders and procedures for safe production in mining. Establish and improve safety management institutions and assign professional staff to carry out regular inspections. Customization and implementation of safety plans to enhance the mechanization of mining equipment, improve the mining operating environment, improve enterprise economic benefits. Establish archives related to work safety and safety management. Investigate, study, count and handle employee casualty accidents. Regular safety education meetings will be held to implement incentives and punishments.

2.2 Strengthening the awareness of safety responsibility

The mine mining safety responsibility consciousness strengthens is guarantees the mine safety production first step, in the mining, should establish the quality safety responsibility consciousness, carries on the safety responsibility to each department, even each person. Both the top leaders and the miners on the production line are responsible for the safety of the mining operation. In addition, it is necessary to establish a sound responsibility management system, clearing the goal of responsibility, focusing on improving the awareness of safety responsibility, and clear the importance of safety responsibility. This not only can strengthen the safety precautions, but also can reduce the probability of safety accidents caused by unsafe human behavior.

2.3 Workflow operations according to the specification

Procedures for safe operation of various types of work. The operation flow and precautions followed by the equipment and instruments, correct and safe use of mechanical and electrical machinery and so on. For different types of work, there should be a corresponding operational process specification, and operators need to strictly implement this procedure. Mining operation rules mainly include the geological conditions of the operation site, labor organization, production system, production process and safety technology initiatives, etc. Mining operation rules are the management documents to organize and guide mining operations, and the regulation is conducive to the normal operation of mining. If that relevant condition change during the mining operation, the operation procedure need to be perfect in time and the safety measures need to be properly supplement.

2.4 Regular training of relevant personnel in technical and safety management

After careful analysis of mine accidents, we can see that most of the staff at all levels in mining enterprises lack certain technical and safety management training, which will improve some due to violations of labor rules, regulations and command of the incidence of accidents. Therefore, the regular training of relevant personnel on technology and safety management is particularly important, is to reduce accidents and ensure the important work of safety. The main contents are as follows: First, the safety awareness of technology and security departments in mining enterprises is trained. This type of training is usually carried out by the business authorities together with the labor organization departments. After the training, the technical personnel and the person in charge of the safety department of the mine will enhance the understanding of the safe operation process in the mining process, the guidelines, regulations and policies of the state safety production, master the basic knowledge and safety technology related to the safety management and mining of the mine, thus greatly improving the overall level of safety technology management.

2.5 Effectively conducting the work related to safety inspection

- (1) To seriously inspect the implementation of the rules and regulations on safety technology administration.
- (2) They shall inspect the implementation of the work safety policies, guidelines and decisions of their higher authorities.
- (3) We should check the safety of the mining environment, such as the supporting conditions of the underground roadway, the situation of the overhead and so on.

(4) Checking whether mining tools, equipment and relevant protective devices and safety facilities conform to the relevant standards for safety technical management, and checking whether the safety technical measures have been effectively implemented according to the original plan.

(5) To examine the implementation of measures to prevent natural disasters.

Only in the process of mining safety inspection, do the above five work well, can guarantee the mining safety technical management work effective.

3. Conclusion

In order to ensure the life safety of mining operators and create good conditions for the long-term development of mining units, mining units should strengthen technical safety management, and rational analysis of technical safety management problems, so as to actively find effective solutions. In particular, the leadership of the unit should raise awareness and attach importance to technical safety management to effectively avoid the occurrence of safety accidents.

References

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