

On the Safety Management and Preventive Measures of Mechanical and Electrical Equipment in Coal Mines

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Abstract:

With the development of science and technology, the coal mining industry has gradually increased its attention to information construction in the process of development. Coal mine mechanical and electrical equipment is the most important production equipment in the coal mining industry, such equipment has a variety of functions, has strong effectiveness, and plays an important role in promoting the further development of coal mining. However, at present, the domestic management of coal mine mechanical and electrical equipment is not mature, and there is still a certain room for improvement. The safety management content of some coal mine mechanical and electrical equipment has not been improved in time, and there are many problems in the actual operation of coal mine mechanical and electrical equipment. Based on this, this paper deeply analyzes the problems existing in the safety management of mine mechanical and electrical equipment, and proposes corresponding optimization measures.

Keywords:

Coal Mine; Mechanical and Electrical Equipment; Safety Management

Previous: Compared with the mechanical and electrical management of coal mines carried out in other countries, China needs to be further enhanced in this respect. In addition, the mechanical and electrical equipment used in coal mines in China is relatively poor in terms of automation, and it is very easy to have faults when operating the mechanical and electrical equipment in coal mines, which will lead to safety accidents, which will not only affect the safety of staff, but also adversely affect the further development of coal mining enterprises [1]. In recent years, all sectors of society have paid more attention to the safety accidents in coal mine production, and coal mine accidents have also affected the development of society to a certain extent. Therefore, it is of great significance to carry out safety management of coal mine mechanical and electrical equipment, and relevant departments should actively enhance the importance of safety management to reduce the incidence of equipment failure.

1 Problems in the safety management of coal mine mechanical and electrical equipment by coal mine enterprises

1.1 Poor comprehensive quality and management ability

Coal mining enterprises need to use a lot of mechanical and electrical equipment when carrying out production operations, and if such equipment is not managed scientifically and reasonably, it will have a great impact on the quality of the entire production operation. When some coal mining enterprises carry out this management work, due to the lack of a professional management team, and some management personnel believe that the actual role of equipment maintenance work is relatively small, so when arranging management work, only a few staff will be selected to carry out supervision work on the equipment, and the maintenance required by the equipment is not fully considered, which leads to the management ability of the team in the work construction stage can not be improved, and the work efficiency in all aspects is low. Even if the relevant staff find the problems existing in the mechanical and electrical equipment, it will not be solved immediately, which leads to the frequent failure of the equipment in the coal mining work.

1.2 Lack of safety awareness among coal mine workers

In the actual coal mining operation, most of the mechanical and electrical equipment used by the staff is large-scale equipment, and the operation is very complex, so it is necessary to use professional and technical personnel to complete the operation of the equipment, which also has a higher standard for the professionalism of relevant technical personnel. It is not only necessary to understand the operation method of electromechanical equipment, but also to make reasonable judgments about the cause of the failure of the equipment based on the current working situation [2]. However, at this stage, when some enterprises are recruiting miners, only a few of the actual recruiters have certain professional qualities, and most of the staff have relatively poor professional qualities, and the enterprises do not carry out pre-job training for the staff, and generally carry out the work in the way of old employees bringing new employees. Although the new staff can understand the operation method of mechanical and electrical equipment under the leadership of the old staff, they have not carried out a more in-depth research and analysis of the mechanical and electrical equipment, which has buried safety risks for the occurrence of accidents.

2 Optimization measures for safety problems of mechanical and electrical equipment in coal mines

2.1 Establish reasonable rules and regulations to enhance professional quality

According to the current safety problems in coal mine mechanical and electrical equipment, the relevant departments of the enterprise should formulate corresponding improvement measures for various problems, and carry out comprehensive implementation of the improvement measures. First of all, the enterprise should actively build the safety management department of coal mining work, the department needs to carry out mutual supervision with the maintenance department, the daily maintenance of mechanical and electrical equipment supervision, each technician should be responsible for some parts of the mechanical and electrical equipment, and each maintenance data is recorded in detail, in order to provide sufficient data support for the later work. For such departments, enterprises should regularly plan a period of professional training for all technical personnel, so as to improve the professional level of staff [3]. In addition, the company also should carries out technical assessment of such technical personnel regularly, so as to ensure that all technical personnel can firmly control the professional knowledge. The safety management department should regularly organize all front-line staff to carry out safety education according to the current work situation, so as to enhance the safety awareness of all staff in coal mining work. For areas that are very prone to safety accidents or safety hazards in current construction operations, signs should be used to enhance the safety of staff. In addition, the safety management department should also teach self-rescue measures for first-line coal mine work in the event of an accident, to ensure that all staff can achieve the effect of mutual rescue in the event of an accident, thereby greatly increasing the survival rate of staff in coal mine accidents.

2.2 Increase capital investment and reduce the incidence of safety accidents

Enterprises should carry out scientific planning when using each fund, and should not excessively reduce the cost of investment to increase the economic benefits of the enterprise, and should be responsible for the lives of all front-line workers. In the management of enterprises, the relevant management personnel should have an in-depth understanding of the actual development of the industry, innovate their own management concepts, pay attention to the rational use of advanced coal mine mechanical and electrical equipment management concepts, fully consider their actual development level, use such management concepts, and use the way to increase capital investment to promote the growth of enterprise economic benefits. When there is a problem with the equipment parts, the relevant management personnel should pay more attention to this aspect, not perfunctory in order to reduce the cost, and replace the equipment parts with higher quality or the same parts as the prototype to ensure that the mechanical and electrical equipment can run stably in the current mining work.

2.3 Establish a sound management system

At this stage, when coal mining enterprises carry out the safety management of mechanical and electrical equipment, they should build a sound management system to ensure that all kinds of advanced information technology can be used rationally according to the development of the enterprise and the production process. The use of various information operation technology to carry out the maintenance of coal mine mechanical and electrical equipment, so as to improve the management ability of

enterprises in this respect, to ensure that the coal mine mechanical and electrical equipment in the production work has some comprehensiveness. When carrying out safety maintenance work on mechanical and electrical equipment, relevant staff should inspect all parts of mechanical and electrical equipment, carry out spot checks on all infrastructure equipment, and analyze the safety of equipment during operation, so as to enhance the efficiency of equipment management. Leaders should give full play to the leadership role, and actively communicate with the staff when inspecting the equipment on a regular basis, so as to ensure that the enterprise can fully mobilize the initiative of the staff when starting production operations, so that the staff can take the initiative to carry out the management of mechanical and electrical equipment, timely find the defects in the current maintenance work, and promote the further development of the enterprise economy in the case of further improving personal operating experience.

Conclusion:

To sum up, the safety management of coal mine mechanical and electrical equipment plays an important role in the development of coal mine enterprises and the safety of staff. If coal mining enterprises want to achieve stable development in the industry, it is necessary to enhance the importance of the safety management of coal mine mechanical and electrical equipment, and actively build safety management departments to regularly organize relevant staff to participate in safety education, in order to enhance the safety awareness of front-line staff. The maintenance department should also conduct regular maintenance for all coal mine mechanical and electrical equipment, in order to promote the further development of coal mining enterprises.

References:

- [1] Hua Kuang. *Research on Safety Management and Maintenance Measures of Mechanical and Electrical Equipment in Coal Mine* [J]. *China Petroleum and Chemical Standards and Quality*, 2020, 40(23): 75-77.
- [2] Chuanjing Tang. *Problems and Countermeasures in Safety Management of Mechanical and Electrical Equipment in Coal mine* [J]. *Equipment Maintenance Technology*, 2020(02): 210.
- [3] Zhijun Yang. *Research on Safety Management and Maintenance Measures of Mechanical and Electrical Equipment in Coal Mine* [J]. *Inner Mongolia Coal Economy*, 2020(07): 121+123.