Research on Tailings Reservoir Safety Based on Online Monitoring Technology

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Abstract: With the development of society and economic progress, the development of coal mine industry is getting better. But in recent years, there have been many accidents in tailings ponds in China. These accidents not only caused economic losses, but also caused many casualties. In this regard, it is necessary to carry out technical discussion on the safety monitoring of tailings reservoir.

1. Introduction

Mine safety is a major bottleneck restricting the development of mines [1]. Tailings reservoir is also a major hazard source of mines. In order to effectively manage the tailings reservoir and avoid safety accidents, it is necessary to accurately monitor and timely provide the safety status data of the tailing's reservoir. With the continuous renewal and development of various safety monitoring technologies and equipment and the increasing attention to the safety of tailings reservoir, the safety monitoring technology of tailings reservoir is also developing rapidly.

Tailings reservoir is composed of damming and intercepting valley mouth or enclosure, which is used to store a large number of tailings produced by mineral processing and other processes. It is an indispensable auxiliary facility for the production of mining enterprises. At the same time, because of the characteristics of tailings reservoir, it is also a man-made hazard source. Its safety and stability will affect the normal production of mining enterprises and regional ecological security. Crucial. Most importantly, once the tailings dam break accident occurs, it will cause great harm to people's lives and property safety in the downstream areas, cause serious pollution to the ecological environment, affect regional harmony and stability, and the consequences are often shocking. Therefore, statistical analysis of tailings reservoir accidents is carried out and an on-line monitoring system adapted to modern safety management is established. On this basis, safety early-warning research on safety factors which can comprehensively reflect the safety status of tailings reservoir is carried out, and its safety status is warned. It can effectively monitor the operation status of tailings reservoir and its possible risks. It is of great practical significance for the safe operation of tailings reservoir to conduct early warning and forecast [2].

2. Defects of Online Monitoring Technology of Tailings Reservoir Safety

Throughout the research status of tailings dams at home and abroad, scholars have done a lot of work and achieved fruitful results, but there are still many problems and shortcomings. Although the online monitoring technology of tailings dam safety has developed rapidly in recent years, there are still many problems. Although these problems will not lead to great impact, resulting in. Very bad situation, but we still need to conduct a lot of investigation and research, in order to make the safety online monitoring technology of tailings reservoir better and faster. The safety online monitoring technicians of tailings reservoir also need to study the safety online monitoring technology of tailings reservoir, find more problems, and solve these problems in time. Let's talk about these problems in detail.

2.1 Research Shortcomings of Tailings Reservoir and Tailings Reservoir Area.

There are many studies on tailings dam in China, but there are relatively few studies on tailings reservoir and tailings reservoir area, and there is a lack of systematic summary and Analysis on the

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influencing factors of regional safety of tailings reservoir. This is the most important point, we must make adequate analysis, in order to find a more appropriate online monitoring technology of tailings reservoir safety, in order to make up for the problems of online monitoring technology of tailings reservoir safety, in order to better serve the society [3].

2.2 Technology of Tailings Reservoir Monitoring Is Not Mature.

Compared with the monitoring of earth-rock dams and dams, the monitoring technology of tailings dams in China is still immature, and there is a certain gap with foreign countries. The main manifestations are insufficient awareness of the importance of tailings reservoir safety monitoring, imperfect monitoring projects, unreasonable monitoring system, lack of systematic analysis of monitoring data, backward monitoring means and low level of automation of safety monitoring. Technology is the development of blood to solve the safety of tailings reservoir. Only qualified and perfect technology can we make a better discussion on the safety online monitoring technology of tailings reservoir. Therefore, the on-line monitoring technology of tailings reservoir safety must be developed and improved, so that the on-line monitoring of tailings reservoir safety can be improved.

2.3 Technologies of Analysis and Processing of Monitoring Data and Early Warning are Backward.

Domestic monitoring means still collect data manually on the spot, and cannot obtain the operation data of tailings reservoir in real time. Moreover, there are large errors in the measurement data, and the collation and analysis of the data cannot be synchronized, so that the potential safety hazards of tailings reservoir cannot be detected and predicted in time. Because any data is manually made, a little error may cause the There are many studies on tailings dam in China, but there are relatively few studies on tailings reservoir and tailings reservoir area, and there is a lack of systematic summary and Analysis on the influencing factors of regional safety of tailings reservoir. This is the most important point, we must make adequate analysis, in order to find a more appropriate online monitoring technology of tailings reservoir safety, in order to make up for the problems of online monitoring technology of tailings reservoir safety, in order to better serve the society.

3. Future Prospects of Online Monitoring Technology of Tailings Reservoir Safety

Coal mining is of far-reaching significance to society. Without coal mines, we would not be able to live normally. Our lives would be without electricity, hot water and all household appliances. However, in recent years, many accidents have occurred in coal mining, and these accidents have caused great or small problems. Estimated losses lead to serious losses in our country. Most importantly, it will directly affect our lives and make our lives chaotic. Therefore, it is urgent for our country to discuss the online monitoring technology of tailings reservoir safety. In addition, only more analysis on the on-line monitoring technology of tailings reservoir safety can we better develop the on-line monitoring technology of tailings reservoir safety and create more better and more effective on-line monitoring technology of tailings reservoir safety. In addition, we cannot avoid the emergence of on-line monitoring technology of tailings reservoir safety. Because these problems will make the tailings reservoir safety online monitoring technology better development, the tailings reservoir safety online monitoring technology has developed well, in order to better serve our users, and ultimately achieve a win-win situation. In addition, only when the on-line monitoring technology of tailings reservoir safety is discussed and analyzed more, can the society be satisfied with the on-line monitoring technology of tailings reservoir safety and make the on-line monitoring technology of tailings reservoir safety better developed. Let the technical staff of tailings reservoir safety online monitoring work better and enjoy their work more, thus creating more on-line monitoring technology of tailings reservoir safety, making the development of on-line monitoring technology of tailings reservoir safety broader, wider scope and more profitable for the society.

The on-line safety monitoring technology of tailings reservoir is the product of social development [4]. In order to solve the safety problem of tailings reservoir, the on-line safety monitoring technology

of tailings reservoir must be discussed as soon as possible. It is known that the on-line monitoring technology of tailings reservoir safety has developed rapidly in recent years, and its future development prospects are bright. Although there are few discussions on the on-line monitoring technology of tailings reservoir safety in our country in recent years, this does not mean that the on-line monitoring technology of tailings reservoir safety in our country is not good enough. Not comprehensive enough, but we lack a long-term vision of the problem. We always pay attention to the good side of online monitoring technology for tailings reservoir safety and ignore the shortcomings of online monitoring technology for tailings reservoir safety in China. This is a very serious problem. In order to solve the safety problem of coal mining, we must discuss more tailings. The technical problems of online monitoring of mine safety and more researchers in this field will be developed. Only in this way can the safety problems of tailings reservoir be solved, and we can better develop the online monitoring technology of tailings reservoir safety. In a word, I think the development of online monitoring technology for tailings reservoir safety will be bright in the future.

4. Conclusion

As we all know, once the safety of tailings pond is in trouble, it may cause immeasurable losses to the economy and personnel, even casualties of staff. Therefore, we need to increase the safety monitoring technology of tailings reservoir. Only by discussing and analyzing more on-line monitoring technology of tailings reservoir safety, can we better develop on-line monitoring technology of tailings reservoir safety and create more, better and more suitable business for users. We cannot evade the problems in the development of online monitoring technology for tailings reservoir safety, because these problems will lead to better development of online monitoring technology for tailings reservoir safety. Only when the on-line safety monitoring technology of tailings reservoir is well developed, can we better serve the work of tailing reservoir.

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