Optimization Analysis of Automatic Debugging Technology for High Voltage Mechanical Electrical Equipment

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Keywords: High Voltage Mechanical and Electrical Equipment, Automation, Debugging Technology

Abstract: With the continuous improvement of modern people's living standards and people's increasing pursuit of material wealth, people's demand for energy is also increasing, electricity is the most commonly used energy, which is already a part of people's daily life and work can not leave. But at the same time the huge annual consumption of electricity, people also gradually realize the importance of high-voltage mechanical and electrical equipment to start automatic debugging technology, not only can achieve energy saving but also can achieve more accurate automatic control. Automatic debugging technology is the inevitable prospect of the development of high voltage mechanical and electrical equipment in the future. This paper analyzes the optimization of automatic debugging technology of high voltage mechanical and electrical equipment.

1. Significance and Control Mode of Automatic Debugging Technology for High Voltage Mechanical and Electrical Equipment

Economic development is the process of urbanization, and the energy needed for urban operation, electricity accounted for a large proportion of the satellite map, night city lights are used to measure the process of urbanization in a city[1]Automation of mechanical and electrical equipment is a major trend in the future development of the electric power industry, automation technology can improve the efficiency of the factory to save labor costs, at the same time with mechanical production, can greatly improve quality, quality assurance. In the electrical equipment automation at the same time, the use of mechanical and electrical equipment increased, part of the equipment failure is inevitable, in such a context, automatic debugging technology was born, corresponding to automatic equipment production, automatic debugging can help solve the mechanical failure faster, improve the safety of enterprise production.

1.1. Significance of Automatic Debugging Technology for High Voltage Mechanical and Electrical Equipment

The application of automatic debugging technology has been all aspects in daily life, but there are many kinds of automatic debugging technology and different application methods, and the control means of different kinds of automatic debugging technology are not used. Compared with the traditional technology, the automatic debugging technology applied to high voltage mechanical and electrical equipment has the biggest characteristic that the computer under the automatic debugging technology can analyze quickly when it gets a new data, and then get the result or an estimate, and the result of the calculation is very fast, thus affecting the drive of the driver.[2]The traditional electrical engineering controller has a fixed algorithm, the operation time is long, the processing time is longer, and the automatic debugging technology, because the algorithm used is more efficient, so it will be more efficient when dealing with problems such as faults. At the same time, because of the use of automatic debugging technology, the ability of high-voltage mechanical and electrical equipment in the face of some interference factors will be stronger than the traditional debugging technology, so its stability, safety and efficiency are higher than the traditional high-

  DOI: 10.25236/cseem.2020.094

voltage mechanical and electrical equipment.

1.2. Control Mode of High Voltage Mechanical and Electrical Equipment

The control mode of high voltage mechanical and electrical equipment mainly has the following points to be considered, which are divided into quality, efficiency and safety. First of all, quality, high-voltage mechanical and electrical equipment quality is a point that must be grasped, because with the continuous improvement of modern people's living standards and people's increasing pursuit of material wealth, people's demand for their own home life and office equipment technology and stability is increasing, and the installation technology of mechanical and electrical equipment largely determines the quality of people's use of mechanical and electrical equipment in living and office life.At the same time not only to ensure the installation of technology, but also to ensure the quality of materials[3]At the same time, in order to ensure the installation of high-voltage mechanical and electrical equipment, it is necessary to improve the efficiency and shorten the time as much as possible. Finally, safety is the most important part.

Figure 1 High voltage mechanical and electrical equipment

2. Application of Automatic Debugging Technology in High Voltage Mechanical and Electrical Equipment

China's mechanical and electrical equipment use automation debugging technology history is very short, not as long as the use of developed countries, so the use of automation debugging technology is not high proficiency, efficiency is relatively low. At the same time, the products of automation debugging technology have not been developed independently in China.

3. Optimization Direction of Automation Debugging Technology in High Voltage Mechanical and Electrical Equipment

3.1. Work of the Monitoring and Control System

Automatic debugging technology, as an intelligent control monitoring system, can directly input the technical personnel's working methods, including the experience of equipment repair, maintenance and control, into the computer's control system, so that in the control of the system, real-time monitoring of the equipment running in the system, at the same time in the system operation, can continuously analyze the data information, once found abnormal data that data and standard data discrepancies, then can automatically carry out in-depth analysis, so as to facilitate the identification of problems. Therefore, the monitoring and control system mainly does information acquisition and information transmission and early warning analysis, through the work of these four modules can make the debugging of high-voltage mechanical and electrical equipment more secure, data collection and analysis can also be given to technicians in the first time[4].

Figure 2 Commissioning of high voltage mechanical and electrical equipment

3.2. Specification for Commissioning and Handover of High Voltage Mechanical and Electrical Equipment

Before the formal commissioning of high-voltage mechanical and electrical equipment, it is necessary to sign the corresponding contract and pay a certain margin, the content of the specification in the contract and the specification of the commissioning, and the commissioning of the equipment must be carried out in accordance with the contract and the company's rules and regulations. The margin is the guarantee that the commissioning of mechanical equipment can be completed[5]The debugging equipment must have qualified qualification, otherwise the safety is difficult to ensure, when the debugging starts, according to the design plan starts the debugging, the preliminary static debugging if there is no problem, then carries on the dynamic debugging, lets the high voltage mechanical electrical equipment run some observation whether has the need to debug again. If problems are found in mechanical and electrical equipment during commissioning, it is necessary to repair the equipment with problems as early as possible, so as to avoid the mechanical and electrical equipment with problems being put into use without maintenance.

3.3. Intelligent Control of High Voltage Mechanical and Electrical Equipment

The most direct and simple application of automatic debugging technology in high voltage mechanical and electrical equipment is to realize the intelligent control of high voltage mechanical and electrical equipment. This control method can completely change the traditional control method, realize the remote control and intelligent control of electrical engineering automation control, intelligent control can simulate the human brain to solve some problems, so it can not only save resources, but also reduce the workload of the staff[3]At the same time, intelligent control can realize independent inspection and monitoring, no longer need special personnel to be in charge of standby next to the controller, with the continuous development of intelligent technology, not only can replace the traditional controller, in the future will also achieve the leading role in electrical engineering automation control.

Figure 3 High voltage mechanical and electrical equipment with automatic debugging technology

3.4. Automatic Fault Diagnosis of High Voltage Mechanical and Electrical Equipment

Automatic debugging technology can realize automatic fault diagnosis after it is applied to high voltage mechanical and electrical equipment. Although traditional debugging technology can also realize fault self-diagnosis, its diagnosis mainly depends on technical personnel to analyze and judge, in order to get the corresponding diagnosis results, know the location of the fault and the details of the fault. Therefore, such a fault diagnosis method is not only time-consuming and laborious, but also needs the participation of corresponding technicians, which is not conducive to the rapid detection and troubleshooting of faults. And automatic debugging technology, not only can use the way of monitoring to know the corresponding information in real time, but also can independently judge the location of the fault and collect information to analyze the details of the fault, finally give the troubleshooting methods and suggestions, no longer need technicians to survey the fault, just need to modify according to the advice given by artificial intelligence. The troubleshooting rate and recovery speed of electrical equipment are faster and more efficient than the traditional method.

3.5. Optimization of the Design of High Voltage Mechanical and Electrical Equipment

Although the automatic debugging technology is mainly used in the daily operation and troubleshooting of high voltage mechanical and electrical equipment, the automatic debugging technology can not only be applied to the above aspects, but also has application value in the automatic control and design of high voltage mechanical and electrical equipment.[4]. In the contemporary era, due to the vigorous development of the electrical industry, the demand for electrical equipment is becoming more and more diversified and the quantity and quality of the technical personnel in the management of such complex technology and equipment have a higher demand for the quality and quality of the technical personnel. In order to ensure the safety of the operation and operation of electrical engineering, technicians must have a considerable understanding of the detailed parameters and operating instructions of the equipment, as well as the established system and so on, and also need to have the corresponding processing knowledge to ensure that the operation of electrical engineering is guaranteed in the work, but in fact there are the above requirements, Few employees are able to meet these requirements[6]. As a result, the demand for technical personnel has been reduced after the application of automated debugging technology. Generally speaking, designers can use computer software and design software normally to design and design electrical engineering design and complete the connection between electrical engineering, so it can greatly simplify the working steps and optimize the design of electrical engineering.

4. Conclusion

The development of automatic debugging technology is an inevitable trend in the development of high voltage mechanical and electrical equipment, and the degree of automation greatly determines the quality and efficiency of the operation of electrical systems. Therefore, the more automatic electrical engineering, the less it needs people to operate, but to realize the automation of electrical engineering, the application of automatic debugging technology is necessary.

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