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# Analysis of Water Conservancy Engineering Construction Technology Existing Problems and Solutions

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**Abstract:** With the continuous development of China's economy, strengthening the construction of water conservancy projects has become a trend. But because the construction of the water conservancy project is more complicated, its construction technology will directly affect the quality of the project, we only continue to innovate and reform, and improve the construction technology, to ensure the quality of the water conservancy project. The article mainly analyzes the characteristics of the water conservancy project itself and sums up the experience by analyzing the current situation.

**Keywords:** Water conservancy engineering; Technology; Features; Problems; Measures

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## 1. Characteristics of water conservancy project construction

Compared with ordinary building construction, there are similarities between them. The construction objects of water conservancy engineering are mainly installation engineering, concrete engineering, stone engineering, and earthmoving engineering, and the equipment and technology used are also common. In particular, the management and technical experience used in the construction of ordinary buildings can be used as a good reference for the construction of water conservancy projects.

However, water conservancy projects also have their characteristics that are different from ordinary building construction. In the anti-interference, anti-external force ability, and anti-corrosion abilities, as well as the quality and stability of the project, the water conservancy project has more stringent requirements. The construction methods and technical measures adopted by water conservancy projects are unique and have special technical specifications. At the same time, to ensure that the water conservancy project does not leak, the foundation also has more stringent requirements than the ordinary construction project.

Natural conditions will have a certain impact on water conservancy projects, so it must be taken into account, but also according to the specific requirements of the construction to formulate the construction plan, and the construction site is generally coastal areas, or runoff, water network, and so on. If the foundation is more complex, or there is fragmentation, it is easy to cause construction hazards. The construction intensity of the water conservancy project is very high, because the water conservancy project is very affected by the climate and temperature, and the seasonality is very strong, so the construction must be carried out in the period suitable for construction. The construction of water conservancy projects is bound to be limited by the surrounding environment, and at the same time, it can also change the environment and has a very close relationship with the environment. In addition, the construction conditions of some water conservancy projects are more difficult, and underwater construction is required, which increases the difficulty of the construction of the project and increases the safety hazards of the construction.

## 2. Several problems remained in the current construction technology of water conservancy projects

Because water conservancy engineering construction projects are often in water, runoff, coastal, and other areas, it is necessary to have a certain hydraulic stability, external pressure resistance, anti-interference ability, anti-erosion, and other characteristics, but as far as the current status is concerned, some water conservancy engineering construction projects in the implementation process there are still several problems:

(1) In the early stage of water conservancy project installation and construction, earthwork construction, concrete construction, and other operations, it is necessary to apply exploration technology to survey the geology and environment of the construction area, and then, use data collection to formulate construction plans. However, during the investigation of water conservancy projects, due to the shortage of funds or unreasonable allocation of funds by some construction units, surveyors present incomplete and incomplete investigation problems during the geological survey, which affects the perfection of the feasibility construction report and limits the overall construction progress.

(2) Due to the lack of awareness of "pre-job training" in some construction units, the quality of computer operation technology, mechanical equipment operation technology, and equipment installation technology of some construction personnel is low, and they cannot maintain and operate the hydraulic engineering equipment according to its running status, and the construction quality of hydraulic engineering is seriously decreased.

(3) Some construction units lack management consciousness in the process of carrying out engineering projects, thus promoting a series of systems such as a management system, supervision system, reward, and punishment system, management and management system are relatively lacking, which limits the effective application of water conservancy engineering construction technology. Therefore, during the implementation of water conservancy projects, the problem of weak construction technology should be dealt with, and a reasonable construction plan should be formulated. Improve the advanced nature and standard of construction technology.

### **3. Methods of strengthening the construction technology of water conservancy projects**

#### **3.1 Make clear the connection between technical workers and construction technology of water conservancy projects**

To strengthen the improvement of the relationship between the construction technology and the technical personnel of the water conservancy construction project, we must first let the technical personnel understand the concept of distribution according to work, and determine the remuneration they deserve according to the labor value created by the water conservancy construction technical personnel, to mobilize the enthusiasm of the water conservancy construction technical personnel in labor to the greatest extent. At the same time, it can also promote the research and development of various advanced construction technologies. In addition to these, we must pay attention to the effective strengthening of the relationship between responsibility and interest, and establish and improve the specific responsibility system. Water conservancy project construction enterprises should not only establish their advantages in local development, but also actively establish a development plan beyond the field, and open up their markets in the field.

#### **3.2 Reasonable distribution of workers and staff**

Reasonable allocation of construction personnel is conducive to bringing the ability and quality of construction personnel into play and optimizing the allocation of human resources. The post assignment should be based on the ability and quality of the construction personnel, and the responsibility of each post should be transparent and clear. The construction personnel should be pre-job training before taking the post, requiring them to understand the key points of construction technology and be able to correctly master the construction technology. At the same time, it is also necessary to assess the personnel of special technical posts and require them to hold certificates to work. Construction enterprises should be equipped with construction progress inspectors and technical supervisors, carry out strict technical supervision and progress supervision, and make relevant records. The technical supervision personnel should have excellent technical level and a high sense of responsibility, and be able to discover the safety hazards in the construction in time.

#### **3.3 Improve the enterprise management system to ensure construction safety in production**

In the technical management of water conservancy project construction, the management system must be improved according to the actual construction situation, and the final management objectives must be determined. Project management personnel must strictly according to the provisions of the system, enhance the standardization of construction site management, restrict their own behavior, clear the work responsibilities of each post, and maintain an orderly construction site. In addition, constantly improve the construction safety production system, implement the construction concept of "safety first" on the construction site, and require construction personnel to strictly follow the technical specifications and safety production system. In order to prevent the occurrence of various safety accidents, it is necessary to set up a safety leading group, develop a sound safety production responsibility system, and clarify the safety production objectives. In the safety management work to optimize the safety production responsibility system, strengthen the safety training and education of employees, so that they form a good safety awareness, improve the ability to prevent safety accidents. In order to reduce the occurrence of various accidents, widely carry out safety publicity activities, and do a full range of safety management work.

### **4. Strengthen the scientific and standardized construction**

Before the construction of the water conservancy project, the construction unit should hold a review meeting of the drawings, timely find the unreasonable place of the drawings, timely solve, strengthen the communication between the construction personnel and the designer, so that the design of the drawings is more scientific and more standardized, so that the construction personnel understand the construction direction in advance and make the construction procedure clear. In the specific construction, the construction should be carried out in strict accordance with the drawings. If the construction plan needs to be changed for some reason, the construction party and the designer need to communicate with each other, and then determine the scientific and reasonable change plan, and the change of the construction plan also needs to

communicate with the owner. If the unqualified building materials are found in the project, they should be replaced in time, and they must not be used. Once there is a problem, the consequences are unimaginable.

## 5. Comprehensively improve the construction technology of the construction personnel

In the construction of water conservancy projects, each construction personnel have specific work, and the cooperation between each construction personnel can ensure the smooth progress of water conservancy construction. Therefore, it is very important to record the daily construction progress in the construction process. In this way, if the quality problems are found in the construction process, the construction unit can communicate with professionals in time and discuss scientific solutions. In addition, the construction unit should carefully review the drawings and invite professional and technical personnel to evaluate the drawings if necessary. The reasonable allocation of construction personnel has an important impact on the construction quality, and the work allocation of construction personnel needs to be combined with the ability and quality of the construction personnel, so as to carry out the reasonable arrangement and distribution of posts, and ensure that the work allocation can make the greatest advantage of each construction personnel to play. The responsibilities of each construction personnel should be clear and transparent. Before the construction, the construction personnel need to be strictly trained, and the construction process is strictly carried out in accordance with the regulations. If the technology used in some posts is more special, a very strict assessment should be carried out, and the construction personnel who have passed the assessment can participate in the construction. Technical supervision and inspection personnel and construction progress supervision personnel need to carry out reasonable arrangements, supervisors should also do a good job in the construction process supervision and record work, to ensure that the quality assessment and project acceptance has a basis. Supervisors need to have rich construction experience, able to guide the site, if there is a safety hazard found on the site to report in time, so that the problem can be solved in time.

## 6. Conclusion

In the environment of continuous innovation of technology and equipment, we must study and develop water conservancy projects, and constantly sum up experience in operation, in order to be able to get better construction technology, really strengthen the management of construction personnel, carefully prepare, do a good job in geological exploration, and constantly strengthen the professional and technical level of construction personnel, so as to reflect the construction essentials according to the characteristics of construction, In order to improve the quality of water conservancy projects.

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