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Civil Engineering Construction Control under the Guidance of Modern Concepts

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ABSTRACT. *Under the new situation of social development, civil engineering has become the leading industry in China's socialist development, and construction management is extremely systematic. This paper analyzes modern civil engineering management through a simple discussion, points out the existing problems of civil engineering construction control under the modern concept, and proposes targeted management and control countermeasures based on the existing problems, which can provide reference for similar research.*

KEYWORDS: *Modern concepts, Civil engineering, Construction control*

1. Overview of Civil Engineering Construction Management

Civil engineering management mainly refers to the use of scientific management methods to carry out management planning for the entire process of civil engineering construction. Under the modern concept, we will implement all-round control and supervision measures for civil engineering construction. In the process of civil engineering management [1], it should be ensured that every link must be in place, construction management should be implemented, and project quality should be improved. In the early stage of construction, the relevant personnel should make a general plan to make the civil engineering construction normative and scientific. During the construction process, the management personnel should reasonably allocate the engineering resources, optimize the construction structure, ensure the smooth progress of the project, reduce cost input, and make progress 2. The quality meets the contract requirements; after the construction is completed, the management personnel shall strengthen the quality inspection, timely discover hidden dangers in the project, and improve the quality of the project.

2. Existing problems in civil engineering construction control under modern concepts

2.1 Construction Progress Control Issues

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The three major goals of the project construction are construction, construction progress, and construction quality. The three are not only united by opposition but also independent of each other. The construction schedule generally refers to the arrangement and construction time sequence of each process in the entire construction process, and also includes the time spent in the construction of each process, which is the key object of project construction management [2]. At present, the domestic civil engineering construction management work has not yet established a sound and complete management system, the professional abilities of the construction unit are good or bad, and often the problem of non-standardized engineering subcontracting has brought serious adverse effects on the construction progress of the project. Not only that, because civil engineering is extremely susceptible to external atmosphere, geology, or construction irregularities during the actual construction process, it is relatively difficult to control the progress of the construction in strict accordance with the predetermined time.

2.2 Lack of a Perfect Quality Supervision System

In the actual construction process of the project, it is particularly important to check the quality of completion. The main goal of civil engineering construction is to meet the requirements of relevant national regulations. However, in the current construction management process, there are obvious loopholes in the quality inspection system of civil engineering, which adversely affects the quality of civil engineering construction [3]. In recent years, under the control of economic interests, China's “bean curd dregs” project appears more frequently, and the outbreak of contradictions has adversely affected social stability. Due to the lack of a complete quality inspection system for civil engineering, a large number of construction materials that do not meet the construction requirements entered the construction site and were put into use, which caused serious safety risks for the quality of civil engineering completion and failed to meet national safety standards. This not only brings extremely negative and negative impacts to the building design unit, but also causes huge economic losses to the construction unit and hinders the healthy development of the construction enterprise.

2.3 Low Professional Level of Construction Management Personnel

As far as the current situation is concerned, there is an extreme shortage of professional and technical personnel in civil engineering construction management in China. Through the collection of information, it is found that during the actual construction of civil engineering, construction management personnel are often composed of foreign workers [4]. Some management personnel have not undergone systematic and professional learning and training, and have a relatively low level of education and are not able to master it. There is a serious lack of experience in the use of new equipment in inspection, research and design. At the same time, during the actual construction process, some construction personnel's understanding of the design scheme has a large deviation, resulting in various problems in the actual

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construction. For example: the site construction electricity is not standardized. The width of the door and window is not enough. The location of the water and electrical lines of the building is not reserved. The files are not established in compliance with the relevant specifications. The construction safety data is fraudulent. Causes a safety accident.

2.4 Weak Awareness of Safety in Civil Engineering Construction Management

With the continuous development of society and economy, China's construction industry has also developed rapidly, and a large number of small commercial housing buildings have emerged. However, civil engineering construction personnel's understanding of safety accidents and civilized construction is not comprehensive enough, so that the safety of personnel during the construction process cannot be effectively guaranteed [5]. The signs of fire protection facilities on construction sites in some areas are too old and cannot be used normally. At the same time, clear safety exit signs have not been set up. The construction site planning does not meet the construction requirements. For example, in actual construction projects, the scaffolding protective measures are not standardized, the construction staff did not wear safety helmets during the construction process according to relevant regulations, and overloads often occurred when getting on and off the elevator. As far as the current construction status is concerned, civil engineering still has a large number of hidden safety hazards during the actual construction process, which will cause different degrees of impact on the construction staff and the construction unit. Based on this, strengthening the safety management awareness of construction personnel and management personnel is an urgent problem for civil engineering construction units.

3. Control measures for civil construction under modern concepts

3.1 Improve the Controllability of Construction Progress

In order to ensure that the construction progress can be carried out in accordance with the preset schedule as much as possible, first of all, the construction order of each time and process must be rationally controlled, the process and time should be reasonably arranged, and the construction should be completed as early as possible on the basis of ensuring quality. Secondly, the project management department must formulate a sound construction planning plan. On the premise of summarizing past construction experience and ensuring scientificity, the construction planning plan is continuously improved and innovated based on the same degree of geographical location and engineering volume in the past. Finally, after the different processes in different periods are determined, the quality requirements of each construction process and the detailed construction links are recognized and analyzed, including possible logistics problems, material problems, quality problems, or some uncontrollable factors. In order to ensure that construction managers can effectively control and manage every link in the construction process of civil engineering.

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3.2 Improve Construction Quality Supervision Mechanism

In the process of civil engineering construction management, the quality inspection system must be further improved in accordance with the actual situation. First, increase the comprehensive quality of construction management personnel to avoid collusion between construction management personnel and material suppliers. The disadvantage of purchasing inferior construction materials for personal benefit, and improving the quality inspection system can significantly reduce these problems. Secondly, during the inspection of each sub-item of civil engineering, it is necessary to improve the work of checking materials in advance, and at the same time rationally plan and arrange the construction site, strengthen technical supervision and progress during the construction process, and check whether the construction quality meets requirements after completion To ensure that each construction process is carried out in strict accordance with relevant regulations, and no quality problems will occur. Finally, the content of quality inspection and each requirement shall be recorded in the inspection system, and shall be inspected and supervised through laws and regulations to ensure that civil engineering has laws and rules to follow in the implementation process, thereby greatly improving civil engineering Construction quality.

3.3 Improve the Professional Level of Construction Management Personnel

Construction management personnel must not only have a professional management level and rich management experience, but also have a certain understanding of the relevant technical processes of civil engineering construction to ensure the effectiveness of management. In addition, construction managers should also have a strong sense of responsibility and solidarity. In the construction of a project, if a safety accident or quality problem occurs, do not shirk responsibility, promptly remedy, reduce adverse effects, and actively coordinate with various departments and types Cooperation to improve the overall construction efficiency of the project. However, in actual construction, most of the project managers are not professional enough to achieve good management results. Therefore, construction enterprises should take advantage of high salaries to actively attract outstanding management talents in the society; strengthen the education of construction management personnel of enterprises, not only to provide professional education, but also to improve the sense of responsibility and teamwork of management personnel; Level, improve the ability of civil engineering construction management.

3.4 Strengthening Safety Awareness in Civil Construction Management

As civil engineering construction is a job with a high risk factor, it is necessary to ensure that the relevant staff members are certified to work. All staff at the construction site must go through the triple safety training of the construction team, management department, and construction unit before they can enter the construction site. Only by constantly strengthening the safety awareness of

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construction workers can safety accidents be avoided as much as possible, reducing national losses and ensuring the safety of construction workers, thereby ensuring that construction is carried out as scheduled. Based on this, in the actual construction process, the principle of "safety first, prevention first" must always be adhered to, and safety management at the construction site needs to be strengthened.

4. Conclusion

In short, under the guidance of modern concepts, civil engineering construction management requires scientific management methods, management techniques, and efficient management capabilities are an indispensable task in civil engineering construction. Strengthening the management of civil engineering construction can effectively improve the efficiency of the project and drive the efficiency of the construction enterprise forward.

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