

Discussion on Civil Engineering Management and Effective Control of Engineering Cost

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Abstract: The effective control of civil engineering management and engineering cost must be carried out in all aspects of civil engineering management. The two should be combined to bring the best economic benefits to the engineering construction. Only by setting up correct ideas, increasing investment in civil engineering management and paying attention to the importance of engineering cost can enterprises better realize the maximization of economic benefits and occupy a place in the current fierce market environment. Therefore, strengthening civil engineering management and realizing effective control of project cost is of great significance to Chinese construction industry. It is conducive to the orderly construction of the tunnel construction and further cost savings. In view of this, this paper mainly analyzes the effective control of civil engineering management and engineering cost.

1. Introduction

As one of the most basic projects, civil engineering management and engineering cost widely exist in construction projects. In order to further improve the overall quality of engineering projects, enterprises can better realize the maximization of economic benefits only by establishing correct ideas and paying attention to the importance of engineering cost [1]. Construction projects cover a wide range, including not only design and construction, but also project cost, which has a decisive influence on the whole project construction. With the continuous development of Chinese social economy, civil engineering has become an important industry in the development of national economy. If the cost control accuracy does not meet the relevant regulations and requirements, the actual cost will seriously exceed the standard [2]. Once this happens, directly increase construction unit construction costs and corporate profits [3]. It can be seen that the cost control of civil engineering and engineering projects is of great significance. Therefore, it is necessary for us to further clarify the management elements of civil engineering and realize the scientific and effective management of the cost of civil engineering, so as to further improve the quality of civil engineering.

2. Connotation of Civil Engineering Management and Cost Control

2.1 The connotation of civil engineering management is summarized

For the management project of the basic project, the project is optimized through centralized management and control measures, and the corresponding management methods and management functions are used to promote the integrity of the overall project. The successful completion of the basic project is also inseparable from the basic management measures. Quality management is the implementation of the project quality in the process of project quality requirements through the signing of the building and the same to ensure the quality of construction projects [4]. As a basic subject, civil engineering management has a strong comprehensive nature, and it is necessary to implement the theory into practice, so as to achieve comprehensive management of engineering facilities construction. In the process of establishing the overall project, relevant personnel should optimize the operation measures of the foundation and use effective management methods to carry out centralized process optimization. They should not only optimize the management of the

foundation quality and progress of the foundation project, but also centrally control the foundation cost and overall construction safety in the overall project [5]. Therefore, with the progress and development of the times, the theoretical research and practical summary of civil engineering project management in China have achieved certain results and laid a solid foundation for the development of civil engineering construction. At this stage, civil engineering can only meet the requirements of supporting economy, make full use of scientific and reasonable management technology and innovate management mode, so as to carry out comprehensive management of engineering construction projects and complete the task of civil engineering construction.

2.2 Summary of connotation of civil engineering cost control

During the operation of the materialization project, relevant management personnel shall centrally control the cost of the foundation project. The corresponding cost control includes the cost control in the foundation decision-making and design stages, as well as the cost control in the foundation construction stage and the completion acceptance stage. The project cost can not only comprehensively control the construction project, but also improve the business efficiency of the enterprise and save the cost for the enterprise [6]. However, at this stage, the process control system of construction projects is not perfect enough, so the project cost cannot be effectively controlled. No matter which enterprise has more knowledge, it can survive in the fierce market competition and gain an advantageous position, further improve its economic benefits and practice its sustainable development. In the process of project construction, new technologies and new methods can be used to improve the quality of construction projects. To ensure good quality control from the source, a strict quality responsibility system should be established, construction techniques should be continuously improved, and a perfect design plan should be made in advance [7]. In the overall civil engineering cost control process, the relevant management personnel should conduct centralized monitoring of the objectives and tasks in the project, and use the basic accounting mechanism to control the cost, and accept the project according to the corresponding construction drawings [8]. In the process of construction, the traditional measurement, evaluation and separation methods are used for construction management. In the actual process, the human and material resources and financial resources of the enterprise cannot be fully utilized and resource waste occurs.

3. Civil Engineering Management Measures

3.1 Optimize basic quality and safety management

For basic civil engineering projects, only by ensuring the optimization of foundation quality can the overall project be successfully completed. In the process of civil engineering management, relevant staff should conduct in-depth research on the feasibility of the project, further strengthen the responsibility consciousness of the project decision makers, and enable the project decision makers to treat the project construction with rigorous working attitude [9]. The quality management of foundation should not only carry out centralized monitoring on the construction quality in the construction phase, but also carry out corresponding management on the safe operation of the overall construction project. The feasibility of the project should be thoroughly studied to further strengthen the responsibility consciousness of the project decision makers, so that the project decision makers can treat the project construction with rigorous working attitude. It is necessary to strengthen the work literacy of relevant management personnel, improve the contract management system, and ensure the contract application cycle. The safety supervision of construction engineering needs to be extended from the supervision of the construction site entity to the engineering supervision work of the project construction. The establishment of the safety supervision system on the site of safety supervision should be emphasized. The civil engineering project should be based on economic and social benefits. Only in this way can the active role of civil engineering be realized and the scientific management of the project can be realized.

3.2 Optimize the management of the progress of the basic project

For the basic civil engineering project, only the optimized operation of the overall project schedule can complete the corresponding work in the specified time and quality, which requires the relevant personnel to establish the corresponding project schedule for the project. If you want to do a good job in civil engineering and improve the management level of civil engineering, you must establish a sound management mechanism, clearly define powers and responsibilities, unify powers and responsibilities, and establish a standardized and orderly reconnection operation mechanism [10]. As far as possible, the ecological environment around the building is not damaged. The best effect is to coordinate or integrate with the surrounding environment to realize the construction of civil engineering projects. Ensure that the whole project is operated in an orderly manner according to the corresponding construction drawings and schedule. If there are unavoidable problems in the process of actual project promotion, relevant project managers and supervisors should reconstruct the schedule. Relevant units must strengthen the supervision of supervision units, issue supervision certificates according to the actual situation. Only by ensuring the standardization and strictness of supervision work, can the quality of supervision work be improved. Establish a coordinated and unified command system, and in accordance with certain rules and regulations to achieve staff skills training, to further enhance the level of construction team operation.

3.3 Optimize basic cost management

In the process of civil engineering project operation, the basic cost management is the basis to realize the smooth operation of the whole project. Only on the premise of guaranteeing reasonable progress, can the smooth operation of the whole project be realized. On the premise of guaranteeing the management vacuum and responsibility without dead angle, the mechanism can be simplified and compressed. Establish a coordinated and unified command system, and implement staff skills training in accordance with certain rules and regulations. Construction engineering units should optimize the construction structure, reduce the level of safety supervision and management, at the same time implement the responsibility system and performance appraisal mechanism of safety supervision and management of construction projects, and distribute the responsibility of safety supervision and management of construction projects to every safety supervision and management post. In the process of cost management, relevant management personnel shall ensure the optimal selection of construction materials to ensure that they conform to the actual engineering standards, and shall compare the market prices to realize the optimization of the overall price. During the construction process, the construction machinery and equipment shall be inspected and maintained regularly to ensure normal operation and stable performance of the equipment. After the construction is completed, the quality inspection personnel shall strictly inspect the construction quality. In case of unqualified quality, they shall timely report to relevant departments and take effective measures to repair it. Improve the efficiency of safety supervision and management to ensure the safety of construction projects.

4. Effective Measures to Control Cost of Civil Engineering

4.1 Cost control in decision-making and design stages

In the decision-making stage, cost control management mainly includes project category, project scale, construction site, technical scheme, etc. Among them, the project scale is the decisive factor in the project cost. For a project, the investment decision is of great significance, which directly determines whether the project can realize normal production. Compared with other stages, this stage has overall and basic characteristics. To strengthen the supervision of the work during the bidding period; Continuously improve the business level, ensure the quality of bid evaluation personnel, prohibit artificially low quotation; Strictly prohibit construction enterprises and tenderers from colluding with each other in illegal operations. The investment estimation of the project investment plan is an important reference for selecting the best plan. In the project feasibility study, the real and reliable data and model should be fully utilized to ensure the rationality and accuracy of

the investment estimate and ensure the investment decision stage of the project. The cost is effectively controlled, but people usually think that the construction process is more important and the cost control is more passive. Therefore, in the design stage, it is necessary to actively understand the characteristics of nearby buildings and produce corresponding geological survey reports to help builders better control costs.

4.2 Cost control in construction stage

In the construction stage, the project cost is mainly controlled from three aspects: strengthening cost control in tendering and bidding, controlling audit changes and improving construction cost management. Design changes have a greater impact on cost settlement. Because the design changes correspondingly lead to changes in construction projects and construction progress, construction costs and construction quality will change to varying degrees, thus affecting the whole project. Construction enterprises need to adjust the design plan in time and accurately. Combing and optimizing some schemes that have been formed in the stage of investment decision-making, and adjusting the whole scheme scientifically on this basis, relevant staff can attach great importance to the positive role of new technology and new technology in the management and control of project cost. Construction enterprises need to adhere to the “three principles”, that is, fairness, openness and fairness, and strengthen the supervision of the work during the bidding period; Continuously improve the business level, ensure the quality of bid evaluation personnel, prohibit artificially low quotation; Strictly prohibit construction enterprises and tenderers from colluding with each other in illegal operations. The construction party can compare and analyze various design schemes, fully consider the factors of economy, feasibility, quality and rationality, etc., so as to select the best scheme and ensure that the design scheme meets the requirements of various aspects of project construction. In addition, all aspects of the construction project should be carefully monitored to prevent economic disputes caused by settlement costs. Personnel purchasing construction engineering materials need to have a clear understanding of the market situation of materials so as to minimize the project cost and make the cost appropriate on the basis of ensuring the quality.

4.3 Cost control in final accounts stage

Final accounts for completion are used to measure the actual cost of the whole process of civil engineering. When calculating the project cost, auditing should be carried out based on the current pricing method in combination with factors such as tender documents, construction contracts, project changes, etc. The settlement book of the project will be checked and accepted by a satisfactory intermediary agency entrusted by the owner and then made by the project construction unit. The project settlement book must be produced in accordance with Chinese relevant policies and laws and regulations. The project auditor needs to go deep into the site to check whether the project is constructed according to the design change, and use the calculation method and principle of the engineering quantity to carry out the calculation of the project cost to ensure that the accounting result is in line with the reality.

5. Conclusion

In short, as one of the most basic projects, civil engineering management and engineering cost are widely existed in construction projects. In order to further improve the overall quality of the project, enterprises can only establish correct ideas and attach importance to the importance of project cost. Better achieve maximum economic benefits. It is necessary to establish scientific and reasonable engineering cost control and management awareness for relevant personnel, and propose corresponding solutions according to various links and requirements of construction engineering and management to prevent waste of funds and save project construction costs. Therefore, the smooth progress of the construction management of the entire project requires project personnel to use the principles of system science to predict, plan, control and accounting the project, and to coordinate with various functional departments to make the project flow smoothly. Only in the current fierce market environment can we occupy a place. It can be seen that the cost control of

civil engineering and engineering projects is of great significance. Using the corresponding optimization measures to achieve the improvement of the overall structure, centralized management and project control should be carried out for all stages of the project operation to achieve the optimal operation of the project and truly help the sustainable development of the overall civil engineering project.

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