

Discussion on the Whole Process Engineering Cost Control in the Construction Project Management

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Keywords: Engineering Project Management; Project Cost; Decision Making; Design

Abstract: Engineering cost is an important part of the construction project management process, which runs through the entire construction project management. However, in the past, some construction engineering project companies only paid attention to the cost management in the final completion settlement stage, ignoring the cost control in the early stage of construction and the mid-term construction, which brought certain difficulties to the construction project management. This paper starts from the five stages of the construction project project decision-making stage, design stage, bidding stage, construction stage, and final accounting audit stage, and explores the content of the whole process engineering cost control in the construction project management, so as to improve the construction project managements efficiency.

1. Introduction

The project construction cost can be divided into two aspects [1]: In a broad sense, the project cost is the sum of all the expenses incurred by the construction unit in the whole process from the preparation of the project until the completion of the project construction. In the narrow sense, it refers to the construction project unit's construction project cost from the construction unit based on the bid price at the bidding stage of the project and considering the increase of the on-site change visa. In the whole process of engineering construction, effectively controlling the project cost is conducive to improving the economic benefits of the project construction unit and promoting the efficient construction of the project.

2. Cost Management in the Decision-making Stage of Construction Projects

Decision-making investment is the initial stage of the construction of the entire project, and it is also the most critical and most difficult stage to be ignored by the project cost management. Decision-making is a comprehensive grasp of the overall project construction and is the process of determining the entire project construction plan. In this process, project investors need to make scientific and reasonable judgments on the feasibility and comparability of the construction plan, and then make corresponding economic arguments according to the designed investment plan. The correct project investment decision can guide the project action. The correctness of the decision directly relates to the project cost and the project investment effect. Therefore, construction project management must pay attention to the control of project cost in the decision-making stage, paving the way for the entire project construction.

3. Cost Management in the Design Stage of Construction Projects

Design is another important link after project decision-making. The quality of work in the design stage often affects the quality of the entire project construction. At the same time, in the design stage, it is necessary to comprehensively consider all aspects of the project construction, and also to basically determine the overall value of the project construction. Although the entire design cost accounts for one percent of the project construction investment cost, it plays a role of 80% in the whole project construction process. Therefore, designers should constantly improve the design documents, dig deep into the depth and breadth of the entire project, and fully utilize the potential value of the project to design a university and economic construction plan for the entire project

construction. [2]

The main methods of cost management in the design phase of a construction project: First, the project construction unit should select the best design plan by designing the tender, and then urge the design company to use the most advanced design technology to integrate the entire project and reduce project costs. Secondly, the project construction unit should strictly evaluate and review the general plan and individual plan at the initial stage of design, and use the technical and economic indicators to calculate and compare the most scientific and reasonable design plans. In addition, the project construction unit should also let the design unit implement the use limit design; that is, the designer needs to follow the feasibility investment plan and control the initial design. At the same time the design personnel must strictly follow the project cost limit to do the general budget control technology design and the construction drawing design ensures that the investment amount is within the design range.

4. Cost Management of Bidding and Tendering Stages of Construction Projects

The cost management of bidding and tendering needs to start from the following aspects: First, we must do the corresponding preparation work to ensure that the design drawings and geological materials and other materials related to the project construction are readily available. Then send all these materials and bidding materials to the bidding unit. When reviewing the content of the bidding quotation, more attention should be paid to the following links [3]:

First of all, check whether the project characteristics and work contents on the bill of quantities on the bidding documents are clear and clear; whether the contents of the bidding unit's bill of quantities are consistent with the bidding documents to prevent the occurrence of wrangling in the process of construction.

Second, we must strictly abide by the evaluation system and the evaluation process. It is necessary to carefully review the amount of work to avoid multiple calculations or miscalculations; when reviewing the sub-items, recalculations or calculations should be avoided; the review of the collection rate should avoid situations where the calculation is high. In addition, during the review, it should be noted that the materials selected by the construction unit and whether the equipment meets the requirements in the bidding documents, whether the reported price is in line with the actual situation of the market, and prevent the selection of cheap low-quality materials for individual companies to bid for success.

5. Cost management in the Construction Phase of Construction Projects

The construction phase is the main stage of project cost management. The construction phase is basically carried out according to the drawings and design schemes. However, the capital investment in the construction phase is the largest, and the design part and the number of personnel are numerous. Therefore, the cost management should pay more attention to the relevant detail.

First of all, project investors and project construction management should carry out comprehensive and multi-domain planning and management of the quality requirements, construction period and related expenses of the entire project in the early stage of construction. Project management is a complex process. The main contents of management include project schedule, investment control, project quality, contract management, engineering information, and personnel organization and coordination. Therefore, managers should have advanced management concepts on systematic engineering cost, management, global, systematic and comprehensive management.

Secondly, in the construction process of the project, the project investment unit should promptly urge the construction unit to use advanced technology as much as possible, and formulate a scientific and reasonable construction plan, so as to achieve the goal of reducing the project cost, quality and quantity. In addition, the project investment unit should strengthen the control of the procurement of materials and equipment in the construction unit. The material cost will generally account for 60%~70% of the total project cost. It can be seen that the construction materials are

controlled during the construction phase. importance. Project managers should participate in the procurement of materials and supervise the standardization of procurement. Purchasing personnel should inquire and price in detail, clarify the market price trend of materials, and organize tenders for bulk materials to select inexpensive building materials.

6. Cost Management of the Final Stage of the Construction Project Completion Audit [4]

The completion audit of the project is the last step of the project cost management link, which reflects the result of the entire project investment cost and project quality. It is very important to invest in the audit project and the actual use of funds. Therefore, the project manager should organize the owners, contractors, construction parties and supervisors to conduct symposiums during the project completion audit. From the whole process of project decision-making, design, bidding and construction, detailed integration, including the design changes, contract claims and other costs incurred in the project construction process, and compiled into a complete completion settlement report. In addition, the role of supervision should also be effectively exercised. Supervisors should actively assume responsibility for monitoring project cost during the construction of the entire project. In the process of construction, the cost of each link should be controlled within a reasonable range, and the construction process and the use of construction costs should be strictly examined. Once a violation has been found, it should be stopped in a timely manner and ordered to make corrections. At the same time, the supervisor should take care of the overall situation and think about the overall interests of the entire project. It should not be caused by small losses, and prevent any construction details from affecting the construction progress and construction quality of the entire project.

7. Conclusion

The whole process engineering cost control in the construction project management is to control the project cost from the decision-making link of the project, from the design of the project, bidding and bidding, project construction and final audit of the project, using the scientific pricing system. At the same time, the project investment unit should clarify that the earlier the project cost management should be carried out, the better the effect will be, and the project cost management should be carried out throughout the construction of the project. In addition, the project cost management should proceed from the system and the overall situation, grasp the key links of control, strictly monitor, ensure the progress and quality of the project construction, control the project cost within a reasonable range, and improve the economic benefits and society of the project construction. Benefits and promote the steady development of the construction industry.

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