

Measures to strengthen engineering quality supervision in construction management

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Abstract: With the continuous advancement of China's urbanization process, the demand for construction projects is increasing, which is both an opportunity and a challenge for construction companies. If the enterprises themselves can grasp the background and policy conditions to maintain a high level of construction engineering, then its enterprise benefits and future development prospects will be excellent. However, there are also many companies whose own reputation and actual benefits have been affected for poor engineering quality caused by poor construction management. This is exactly what we must pay attention to. This article will analyse and explore the relevant work to improve the engineering quality of different phases of engineering construction and to guide the management of the construction unit in the future from the perspective of the construction unit to strengthen the project quality supervision.

Keywords: Construction management of the construction unit; Construction quality; Stage management; Supervision measures

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The construction project features large engineering volume and long engineering period. In the actual construction process, there are many management tasks to be carried out from the relevant construction plan to the completion of the actual completion. As the actual owner, the construction unit naturally has extremely high requirements for project quality, which is of great significance to its expected economic benefits and long-term planning and development.

Also, the management of the construction unit during the project has played a great role in the overall quality of the construction project. The role of the technical management personnel and consultants is obvious for the quality control in the construction of the whole process. Only the construction unit has paid all relevant project funds by the representative, the construction can be started. As the investor, the construction unit must participate in the project quality supervision at different stages of the project construction to ensure the quality. As the project continues to advance, the content of the project management of the construction unit has gradually changed, from engineering design and macro management in the bidding stage to the micro management and specific management during the actual construction and completion. The difference in the project management involved by the construction unit varies in different stages, so a detailed analysis will be conducted on the management measures for the construction unit to improve the construction engineering quality.

1 Management measures at the engineering design stage

1.1 Design unit selection

Engineering design work can directly affect the overall quality of construction projects. With the feasibility of the project passed and the selection of the site after the declaration in accordance with the relevant policy requirements, the construction work of the project starts. In the construction process, engineering design is undoubtedly the key of the entire project in the initial stage. Whether the design meets the requirements of the investor, whether the actual environmental and geographical conditions of the construction area are

fully considered, and whether the design meets the current actual technical capabilities have a direct impact on the actual quality of the subsequent construction of the project, so we must do a good job in design management. The first step is naturally the choice of the design unit. Generally, if there is no corresponding optimal selection plan, then a bid should be made so that a suitable unit with various capabilities required by the design. In the selection process of the design unit, we should pay attention not only to its technical level, but to those influencing factors, such as its corporate credibility and construction cost^[1].

1.2 Implementation of resource sharing and actual construction needs

The actual content of engineering design depends on the construction requirements of the construction unit and the limitations of various factors in the actual construction site. To obtain architectural design content that better meets our requirements, we should naturally hand over all relevant materials to the design units and they can better judge the engineering design direction after getting these resources and can avoid many defects. After fully understanding the applicable content, the design unit can naturally make a more targeted design. In many cases, due to the lack of relevant engineering data, the design unit fails to understand some details. Then, some issues cannot be fully considered in the design work, so the design is not perfect. The reason lies in that what held by the construction unit has not been accessed by the design unit to a large extent, which, however, incurs the later design problems. The construction unit should naturally explain the design requirements in advance, in which the design unit can better meet the design requirements^[2].

1.3 Careful drawing review

During the design period, to thoroughly understand the relevant content given by the design unit, the construction unit needs to rely on the design drawings and related materials. A good job in design drawings review can not only provide the construction unit a deeper understanding of the actual details of the project during the management, and can clearly confirm whether the relevant design meets the needs of engineering construction. The most important thing lies in the prompt discovery of the unreasonable content in the design. Once found, we can start from the design stage to adjust and improve the specific

design content. Compared with the modification of unreasonable content in the engineering design after the actual construction of the project, a good job in drawing review and proper modification of the unreasonable content from the design stage can greatly reduce the cost of the project and enhance the construction efficiency and quality^[3-4].

2 Management measures of the construction unit during the bidding process

In the process of construction project bidding, an essential stage in the construction process, the choice of constructor chosen by the construction unit during the project bidding process has a direct impact on the overall construction quality of the project. Reasonable bidding is required according to the regulations. Nowadays, most construction units select bidding agencies for their bidding during the process, in which they must sign corresponding authorization contracts with the bidding agency. The contract should specify that the intermediary unit is responsible for the bidding process and further confirm the responsibilities and obligations as well as compensations for the failure to choose a reasonable construction unit according to relevant regulations. During the bidding process, bidders should submit bids in accordance with the relevant regulations. Whether the intermediary agency or the construction unit carries out bid evaluation, it is necessary to take brand reputation and performance as important indicators, and to avoid a series of loopholes, as well as to avoid artificial control of winning the bid^[5]. After the bidding is completed, the winning construction unit should have full contact with the constructor, and the latter shall organize technical discussions and training, especially for the construction unit's supervisors and technicians. According to the technical conditions and personnel structure of the construction unit, the relevant construction specifications of each engineering part should be fully implemented and clarified to ensure that the constructor can properly complete the construction tasks in accordance with the relevant specifications during the construction process. In the process of technical exchange and implementation between the two parties, it is necessary to sum up the relevant experience in the previous construction process, and to summarize the difficulties and other quality problems that may arise during the construction process in conjunction with the single-sign project design and engineering

requirements. In addition, the technical personnel of both parties should analyse the problems that may affect the construction of the project and finally come up with appropriate prevention measures and solutions. Finally, the project contract must be checked with the construction unit to ensure that the contract content is detailed and accurate, and can clearly describe the responsibilities and obligations of both parties, to guarantee the rights and interests of both parties in the construction of the project.

3 Construction organization design before construction

The relevant content of the construction organization has a direct guiding effect on the actual construction process, and greatly influences the project construction rate, quality, and rationality. Therefore, the construction unit must be organized to provide a proper construction organization design before the actual construction, which, however, should be carried out as soon as possible after the technical discussion between the winning bidder and the construction unit. Since both parties have corresponding requirements on the quality of the project and involve their own vital interests, the construction unit should fully participate in the construction organization design, and the actual participation includes the confirmation of the actual order of construction projects and material requirements at the initial stage of construction, as well as the project progress control of various construction projects in the subsequent construction process. In addition, the construction unit should contact the constructor in time and propose its design ideas after winning the bid. After carefully listening to the actual financial situation and the opinions of the upper-level leaders, the technicians of the construction unit should further adjust and clarify the corresponding construction organization design, and confirm its implementation with the approval of both parties, and prepare the materials and construction environment in accordance with the preliminary preparations.

4 Management measures of the construction unit during the construction

4.1 Quality management

As a core task of the construction unit in the engineering management, the quality management of the construction unit is to guarantee the overall

construction quality of the project. On-site management is the focus of the quality management measures of the construction unit and many corresponding contents that jeopardizes the quality of the project cannot be seen in the drawings and technical discussions. Therefore, the technical management personnel of the construction unit must enter the construction site from time to time to supervise the construction quality, check the actual construction situation, and compare the construction design and standard, analyse the construction of various parts, and material quality problems during the construction process. When the technical management personnel of the construction unit enter the front line of the construction site, they should first inspect and manage the key and difficult parts of the engineering design stage. If any problem is found, the construction shall be immediately notified to stop and the supervisor and the responsible person such as the project manager shall be informed of the problem and shall be required to solve the problem immediately to eliminate the potential quality problems. For the construction quality management, relevant technical personnel from different departments should enter the site together to find various construction quality problems and to conduct a joint management^[6].

4.2 Schedule management

As an important part of construction management of the construction units during the construction phase, construction schedule management is also the significant evaluation standard for their construction quality. The construction unit has the right to inspect and supervise the current construction in progress during the construction phase. Once there are some delays due to improper construction methods or other reasons, the causes should be identified and communicated promptly with the management personnel of the construction unit. The project must be completed in accordance with the time limit, and the cause of the time delay should be properly resolved, and its influence on the completion time should be minimized. Once the project is delayed for a long time, the loss caused by the failure to complete the project on time should be considered and compensation should be properly discussed in accordance with the relevant provision of the contract.

4.3 Construction environmental management

The construction quality of the project is not only evaluated by a series of hard indicators such as project

strength, but also by other factors in the construction process, such as the environmental maintenance and the safety management of the construction site. In the process of engineering construction management, the construction unit should properly protect the construction site environment, and must civilly construct, pay attention to reducing construction pollution and eliminate a series of hidden safety hazards. Good and safe construction environment can not only deepen the brand image, but also have a positive significance for the quality of the project construction completed on schedule. Therefore, the management of the construction environment must be emphasized.

Conclusion

As an economic benefit project of the construction unit, construction engineering construction work should naturally pay attention to its economic value. During the construction process, the impact of project quality in its economic value is very important, and it also has a great impact on the corporate social reputation. Therefore, the construction party must do a good

job in quality control in different stages of project construction, and strive for a suitable development environment to allow enterprises to obtain continuous development momentum.

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