# Research on Cost Audit Of Public Works

ISSN: 1813-4890

### Bo Guan

Merchant Marine College, Shanghai Maritime University, Shanghai 201306, China

#### **Abstract**

In this article, from the practical point of view, the problem of a public project cost and the focus of the audit process is studied. In the course of the study, this paper discusses the current through the public project construction, put forward the necessity of audit, then combs a lot of the previous research cost audit papers to learn nutrition, found what is the lack. On base of that, then analysis the fraud problems existing in the process of public cost and tendering and concrete forms, put forward the countermeasure of audit, finally draws the conclusion: Public project cost audit based on the cost of activities of the authenticity and legality of the compliance audit, to further standardize the construction activities,, ultimately achieve festival capital efficiency, and reduce corruption purpose

## **Keywords**

Public works, cost audit, construction cost, cost control.

### 1. Introduction

Public works are involved in almost all fields, such as construction, transportation, energy, communication, etc., which are highly integrated, can serve the public, and are closely related to the daily life of the masses. It is of great significance for the vigorous development of the social economy. Public works can expand domestic demand, provide more jobs, stimulate the economy and consumption, and improve people's livelihood, so it is necessary to study public works. However, due to the unique nature of public works, it will lead to waste of funds, and relevant officials will use their powers to make a series of problems. Therefore, this paper analyzes the cost audit of public works, analyzes the problems existing in the cost of public works and its specific forms of expression, and proposes the audit countermeasures to achieve the purpose of regulating the investment of public works and curbing corruption.

## 2. Content of the cost audit

Engineering cost auditing is the detection and evaluation of the authenticity, rationality and legitimacy of construction project investment, and it is a way to effectively supervise the economic behavior of infrastructure projects. This requires our auditors to be more alert, use our expertise to identify problems and report them in a timely manner to curb corruption and illegal behavior. In order to do a good job in cost auditing, the auditors should continue to improve their professional quality, and the government must strengthen the construction of relevant systems. A project has gone through the decision-making phase, the preparation phase, the implementation phase, and the completion settlement phase. In theory, the process of cost auditing should be consistent with the progress of the project. Therefore, the cost audit can be divided into the following four aspects.

## 2.1 The Stage Of Project Determination

At this stage, the core of cost management is to actively prepare for the early stage, as well as feasibility analysis, and choose the right scale according to social needs and future trends. Investing in the corresponding human, financial, material and time, comprehensive research and unambiguous evaluation of the technical origin of engineering products, market demand, market future development trend and performance evaluation. It is important to be careful when writing investment estimates. It is necessary to consider the role of various factors (such as market volatility) that may

change during the duration of the project in the project cost, so that the investment estimate can play its due role.

The investment decision-making stage is the process of selecting and determining the investment activity plan. At this stage, the feasibility and necessity of the planning project, the technical aspects of the demonstration and the financial aspect assessment, and the selection of various projects for each project are required. The initial phase of the project. Reasonable investment decisions can guarantee the effectiveness of investment behavior. Therefore, we must pay attention to the stage of investment in the early stage and make preparations.

## 2.1.1 Do a good job of collecting basic materials

Collecting relevant materials is critical and has a significant impact on the ability to make the right investment decisions. These data include feasibility study reports, project site selection, and main material prices. Cost-related personnel should carefully and carefully analyze whether the data is accurate and reliable, so as to ensure the project evaluation. Doing a good job in pre-market research is the basis for optimizing the efficiency of investment operations. The proposed project must first analyze whether it is economical and practical. Otherwise, it will not be passed, and the economy will not be approved. It is necessary to strictly control the preparatory work.

## 2.1.2 Implement the depth and realism of the preliminary work of the project feasibility study.

According to the actual situation of the project, analyze its economic value and process level, implement the idea into the concrete, and do a good job in the preparation of investment estimate. Pay attention to the following aspects: First, the information of the project reflected in the feasibility study report should be It has authenticity. Secondly, when carrying out the feasibility analysis, the data and parameters involved should be reliable. The accuracy of each index based on this calculation should be guaranteed. Third, comprehensively comprehensively make economic benefits for construction projects. Research.

## 2.1.3 Adopt a multi-program comparison method

According to the actual situation, different construction levels, building scales, and different equipment materials are used to reasonably propose various alternatives. When they can be implemented to a certain extent, use value engineering to determine the best. Combining technology and economy, comparing and analyzing various programs can effectively control project costs.

## 2.1.4 Do a good job in preparing the investment estimate

In the whole process of the previous project decision-making, the investment estimate has a pivotal position, and to a certain extent, whether the project can pass the examination and approval. It not only determines whether the project can continue, but also plays an important role in the future development of the project. Therefore, accurate and thorough investment estimates determine whether the project is operational. When preparing an investment estimate, its content needs to be consistent with the project proposal and the feasibility study report. In the project proposal stage, it is mainly to carry out multi-program comparison and optimization design. In the feasibility study stage, the total project estimate and the investment estimate for each individual project should be prepared.

## 2.2 Audit in project preparation stage

## 2.2.1 Design-phase Audit

The design phase is an important period for effective cost management, and whether the design science directly affects the scale of its investment. Based on this, the focus of the design phase audit is: first, the level of the design unit does not match the scale of the project; second, the basis for the design task book is true or not; third, it is necessary to carefully check whether the conclusion of the design budget is true. Trustworthy and so on.

## 2.2.2 Audit in bidding stage

The bidding audit is to examine and supervise whether the project bidding ring is objective and legal. Key review: First, it is necessary to check whether the tender notice is comprehensive and true, and whether the bid invitation is complete and reliable; secondly, whether the majority of the bidding documents are in conformity with the standards; and third, whether the bid evaluation has been carried out in accordance with the established procedures. The evaluation method is unreasonable; fourth, whether the construction quantity list is true and complete, and whether its preparation is carried out according to regulations.

## 2.2.3 Audit in Contract Signing Stage

The contract audit is mainly carried out from the level of relevant laws and regulations, focusing on the review: first, whether the contract body is legal; second, whether the scope and content of the project in the contract are made clear; whether the contract terms are comprehensive and corresponding to the bidding documents I don't want to back.

## 2.3 Audit in Project Implementation Phase

## 2.3.1 Covert engineering audit

What is a covert project? It is the item that will be covered by the latter process during construction and seen on the surface. For the audit of concealed projects, the project of water supply and drainage engineering, electrical pipeline engineering, floor base, embedded parts engineering, waterproofing engineering, etc., can be reviewed by means of tracking and auditing. After the concealed project is completed, the contractor must pass the standard procedures for acceptance and must notify the auditors to carry out the audit work before closing the concealed project to ensure the quality of the project.

### 2.3.2 Change, visa audit

Engineering changes and on-site visa audits must be conducted in three ways. First, audit the authenticity and check whether the change has actually occurred and the visa has been issued. Secondly, audit the authenticity, check whether the change and visa are carried out in accordance with the prescribed procedures, and whether the formalities are complete. Finally, auditing the necessity, the current auditors in this area of the audit mainly stay in the first two aspects, the need for consideration is not enough, and this is precisely the control of project cost is of great significance. Most of the criminals seek profits through uneconomically unnecessary engineering changes. Therefore, auditors should pay attention to the necessity of engineering changes.

#### 2.3.3 Audit of major materials and large equipment

Since the main material and large equipment occupy a high proportion in the total cost, which directly affects the construction cost, it is relatively important to audit the price of the main material and equipment. At present, China's building materials market is not stable, and the construction period of public works is long, which will lead to large fluctuations in material prices, which will cause great resistance in the review of material costs. Therefore, the audit should pay attention to whether the materials are purchased according to the design drawings and relevant technical standards, and check whether the price of the materials in the cost documents is too large compared with the price information published by the local cost management station.

## 2.3.4 Project progress payment audit

Whether the project payment is timely or not paid according to the contract can effectively control the construction progress. Note that the audit staff must conduct a second review of the project price statement and give an opinion, and submit it to the contractor for confirmation.

### 2.4 Completion settlement stage audit

In the completion settlement stage, it mainly reviews whether the completion settlement meets the standard; whether the calculation of the quantity of the project is accurate, the package does not contain the wrong items, missing items, and multiple items; whether the quota or rate is used

ISSN: 1813-4890

indiscriminately; whether the material price difference is adjusted according to the regulations; The actual change does not match the change visa; whether there are unfinished parts, etc.

## 3. Problems in public engineering cost audit

## 3.1 The role of auditing is not correctly understood

At present, in most people's minds, cost auditing is just a multiple guarantee. People don't correctly recognize its role in cost control, and they don't pay too much attention. This will make it difficult for the auditors to carry out the work of performing the supervision function of the audit work, which will result in the cost audit not achieving the expected results. At the same time, the project personnel lack the concept of conducting the whole process cost auditing, and often only pay attention to the audit of the budget and final accounts, but pay insufficient attention to the preliminary investment stage and the completion settlement settlement, which makes it impossible to effectively control the project cost.

## 3.2 Defective engineering materials

Engineering data is a true record throughout the entire construction process. Timely and compliant data records can effectively control the various nodes of the project. When problems or disputes arise, they can be used as solid evidence to solve problems or disputes. In actual operation, there will always be irregularities such as inaccurate data, incompleteness, failure to follow procedures, or contracting, contracting, and fraud.

#### 3.3 The final accounts are unreasonable

In the process of auditing the final accounts of the project, it was found that the phenomenon of false quotation often appeared in the settlement book, or the name of the falsification was changed, or the high price quota was set, or the pricing range was expanded to achieve the improper purpose.

## 3.4 The risk of construction project cost audit is high

The cost audit risk refers to the possibility that the personnel engaged in the project cost audit will issue inappropriate audit opinions after conducting cost audits on specific engineering projects. On the one hand, the economic component of the auditing entity of the cost audit is very complicated. A construction project involves the contractor, multiple contractors and intermediaries. On the other hand, the contents of the engineering audit are cumbersome and complex, involving a wide range of professions. And these result in higher audit risk.

## 4. Suggestion

Public works cost auditing is critical to controlling project cost. In the face of loopholes in cost auditing, we must take effective measures to prevent it.

#### 4.1 The audit work should be in-depth in the early stage of the project

The audit work should be intervened from the beginning of the project, so that the project cost can be supervised and controlled from the source. Fundamentally, the audit risk can be moved forward. This can effectively guarantee the reliability of the project feasibility analysis, the rigor of the design, the legality of the bidding and contract signing phase. The reason for this is because: First, the preliminary investment decision-making stage of the project has a very important impact on improving the investment efficiency of the entire project, and the impact on the total project cost is even 70% to 90%, and its components are The choice can directly affect the level of the cost. Second, after the project design documents are completed, the cost can be determined roughly. The quality of the design not only has an important impact on the function of the project, but also has a non-negligible effect on its economy. Third, the project's bidding documents and contracts stipulate the scope of the project and the pricing method. Doing their audit can effectively avoid corruption.

### ISSN: 1813-4890

## 4.2 Strictly checking the materials for review

The construction unit should strengthen the management of the project files, establish a special data management system and provide a special file manager to ensure that the information is complete, complete, accurate and systematic, so as to avoid problems or disputes, and also facilitate the audit work. When reviewing engineering materials, auditors must strictly follow the standards to determine whether they are produced, filed, and submitted for review in accordance with established procedures to check whether they are timely, truthful, and conformable. This can effectively prevent the contracting parties from colluding, falsifying, and at the same time, can also supervise and control the project cost.

## 4.3 Do a good job in four aspects of cost auditing

First, carefully review the amount of work. The amount of engineering is the basic work for the cost, so the cost of the audit should be carefully reviewed first. At the time of the audit, it is necessary to pay attention to whether the quantity of the project is calculated according to the calculation rules, whether there are multiple, wrong or missing items, and the special items must be listed separately, with emphasis on auditing. There are many methods for auditing, which can be calculated manually or by using intelligent software.

Second, carefully review the fee collection standards. In the construction field of China, both the construction unit and the construction unit need to stipulate a clear fee collection standard within the scope stipulated by the cost management agency when signing the contract. Therefore, when reviewing the fee collection standard, it is necessary to pay attention to whether it meets the above requirements. If it is higher or lower than the regulations, it will be reported in time. Because the standards set by various regions in China are different and change from time to time, auditors should pay attention to its effectiveness when reviewing the fees.

Third, carefully review the price of materials. Due to the current unstable market in China and the long construction period of public works, material price fluctuations will be relatively large, especially for main materials such as steel bars, which will lead to great resistance in the review of material costs. It is precisely the material cost that has a relatively large impact on the cost, especially the main material. Therefore, to do a good job in cost auditing, we must carefully review the cost of construction materials. During the audit, it is necessary to pay attention to whether the materials are purchased according to the design drawings and relevant technical standards. At the same time, check whether the price of the materials in the cost documents is too large compared with the price information published by the local cost management station.

Fourth, carefully review the quota. One way for criminals to change their prices and profit from them is to arbitrarily set quotas. Therefore, when auditing the cost audit, it is necessary to carefully check the quota, check whether the quota selection is appropriate, whether the application is wrong, and whether the conversion is correct.

## 4.4 Establishing and improving various rules and regulations

First, improve the relevant laws of engineering cost auditing. At present, China's relative laws and regulations do not give sufficient support and guarantee to the cost audit. The auditors did not perform well in the audit function and lacked independence. Perfecting the relevant laws and clarifying the nature of the cost auditing function will enable the audit to have legal effect and enable it to fully play its due role.

Second, strengthen the construction of the audit team management mechanism. Based on this, the auditing agency needs to do these parts: First, improve the professional quality of the audit team. When selecting talents, it is necessary to broaden the thinking and select engineering personnel with different professional knowledge backgrounds to join the audit family. Secondly, the qualification examination system will be implemented to set a level for the relevant personnel to engage in audit work to ensure the professionalism of the audit team. Thirdly, every few years, the auditors are systematically and continuously educated to cope with the ever-changing forms of engineering and

keep up with the pace of technological innovation. Finally, we must pay attention to and use social audit resources such as cost consulting companies or firms. At present, China is affected by various factors, the internal staff of the auditing organization is insufficient, and the number of projects to be audited is huge. It is very necessary to use social audit resources.

#### 5. Conclusion

The audit of public works cost should be based on the audit of corruption and economic responsibility, and the audit of the authenticity and legitimacy of the cost activity should be carried out. This paper starts with the contribution of public works to society, and analyzes the problems in the cost-making process to illustrate the necessity of conducting cost audits. The content of the cost audit at each stage of the project was introduced in detail, and the countermeasures and suggestions for the audit were proposed based on the problems in the engineering audit.

In reality, due to the lack of support from relevant laws, auditors have not adopted the department even if they find out the problem and make an opinion. If this is the case, the cost audit will become just a piece of paper. It is hoped that through the research on the cost audit of public works, the purpose of strengthening the control of public engineering investment in China and improving the laws and regulations on cost auditing can be achieved.

### References

- [1] Li Lining:Problems and Countermeasures in Construction Engineering Cost Auditing, Shanxi Coal Management Cadre College, 2010(3), p.32-33
- [2] Chen Chao:Research on Engineering Cost Audit Risk and Preventive Countermeasures, SME Management and Technology, 2012 (04), p.117-118
- [3] Zhang Hong:Discussion on the application of engineering quantity list pricing model in engineering cost auditing ,Gansu Science and Technology,2012 (06) , p.115-117
- [4] Wu Meijun: Problems and solutions in project cost auditing, Manager, 2012 (17), p.165
- [5] Li Weiqing: Changes in Engineering Cost Auditing under the Bill of Quantities Model, Shanxi Architecture, 2012 (14), p. 261-262
- [6] Yang Lunzhen:Discussion on the audit method of construction project cost, Science and Technology Wind, 2013 (09), p. 170
- [7] Li Xinli:Research on auditing problem of engineering cost under the engineering quantity list pricing model, Shandong Industrial Technology, 2013 (04), p.79-80
- [8] Lu Liping:Discussion on the audit method of construction project cost, Shanxi Architecture, 2013 (07), p.232-234
- [9] Zhou Xiaohong:Discussion on the technical points of engineering cost auditing, Engineering and Construction, 2013 (01), p.140-141