Lessons and Experiences from International Engineering Project Subcontracting

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Abstract: In the international engineering contracting market, communication Large enterprises often leverage their brands Advantages in management and business operations, as a leading enterprise Business, general contracting for projects, general contractor The wind must be controlled in the following steps Insurance, namely: secondary design, personnel dispatch, materials Procurement, technical support, on-site training, etc. No It will bring great benefits to the smooth progress of construction Trouble, it also brings a lot of trouble for project handover and maintenance A major hidden danger.

Keywords: International engineering projects; to subcontract; Lesson and Experience

The Chinese government has assisted in the construction of a large sports stadium project in a certain country, with a total construction period of two years and a total cost of approximately 100 million yuan. The main construction projects include reinforced concrete frame structures for the civil engineering part, roof steel structures for the installation part (including colored steel tiles), high pole lighting systems for the site, electronic display screen systems, safety supervision and control systems, site sound reinforcement systems, closed-circuit television systems, large generator sets, elevators, grandstand seats, and other special projects. The general contractor is responsible for the reinforced concrete frame and outdoor civil engineering in the later stage, while other specialized projects are completed by professional subcontractors.

This article analyzes some lessons learned during the subcontracting process of this project, and from the perspective of the general contractor, elaborates on how international contracting projects can identify potential risks, transfer and control risks in professional subcontracting, so that subcontractors can maximize their advantages and work together with the general contractor to complete comprehensive engineering projects, achieving maximum project benefits.

1.Technical risks in subcontractor's secondary design

Generally speaking, subcontracting projects often use mature and stable domestic technical equipment, which does not pose technical risks. However, full attention should be paid to the connection between subcontracting projects and local supporting facilities.

The design and construction of the large-scale sports hall project adopts Chinese standards. The design unit of the project has carried out detailed design of the main structure and building parts, while only conceptual design is provided for professional subcontracting projects. Professional subcontractors are responsible for the entire process of secondary design, supply, installation, commissioning, and trial operation services. Complete comprehensive engineering projects to maximize project benefits.

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3.The hidden risks of on-site construction in subcontracting projects

Because the design, production, and supply are all completed domestically, and due to insufficient consideration of the on-site situation, the risks surrounding installation and construction are only exposed when subcontractor personnel and subcontracting materials and equipment arrive at the site.

Example 1: Risks associated with construction and installation plans.

The sports field project will subcontract the outdoor lighting project with high pole lights. How to erect a 50 meter high pole lamp? The original construction plan in China was to use traditional pole pulling methods. However, upon arrival at the site, it was found that the sports stadium is located in a bustling city area with dense population and narrow space. The steel wire cables for pole pulling have no place to locate and construction cannot be carried out. Finally, a large tonnage crane could only be rented from nearby island countries to lift the light poles, while a small tonnage crane cooperated with positioning to successfully erect the high pole lights. The equipment and tools originally prepared by the method of pulling rods had to be left unused, causing significant waste and economic losses.

4,Risks in in-house technical materials and on-site training

The general contractor should carefully inspect and accept the materials, equipment, process records, etc. of subcontractors in order to determine whether the subcontracted materials and equipment are qualified. Meanwhile, as a whole, the general contractor is subject to the supervision and management of the project supervisor and designer. So checking internal data has become another focus besides engineering entities. In the subcontracting project of a large sports stadium, the general contractor has controlled the occurrence of risks in the following aspects of internal data:

One is the professional standards, industry norms, acceptance inspection norms, material and equipment qualification certificates, factory qualification certificates, etc. that are matched with the subcontractor's materials and equipment.

The second is equipment unboxing records, technical disclosure records, concealed engineering records, installation pressure testing, trial operation inspection records, local changes in design that occur on site, correspondence emails, confirmation letters, etc.

In today's overseas engineering market, Ren He, a construction company, is fighting alone To complete a task involving multiple systems in a certain way Professional comprehensive engineering is already difficult to achieve.Who can choose in future market competition Appropriate subcontractors to effectively control subcontracting risks Insurance, who can improve market competitiveness and leverage Joint advantages to maximize project benefits Transformation.

reference:

[1] Jiang Weichao. On the Whole Process Management of International Engineering Business Contracts [J]. Sichuan Hydroelectric Power, 2024,43 (03): 80-83

[2] Wang Zhenyue. Research on Regional Management of International Project Management Process [J]. Engineering Technology Research, 2024,9 (07): 140-142. DOI: 10.19537/j.cnki.2096-2789.2024.07.045