

Construction Project Management in China and Its Development Prospect

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1. Foreword

1.1 The beginning of the reform

The reform of project management in China began from the Lubuge Hydrolic Power Project, financed by the World Bank in 1982. The project adopted the Model Bidding Documents of the World Bank and Conditions of Contract of Federation International Des Ingenieurs-Conseils (FIDIC), after which traditional Design - Bid - Build delivery system was introduced to China. Up to the mid 1990s, most projects financed by the World Bank and Asian Development Bank, which totally valued about 3-5 billion U.S dollars annually, adopted this system. In 1993, the State Council, based on the experience of the previous ten years, formally decided to implement “the responsibility system of the project legal person”, “the bidding system”, “the construction supervision system” and “the contract management system” in the Chinese construction industry in order to promote the construction marketization and provide a clear guiding principle.

1.2 Establishing the construction supervision system

The supervision engineer is a very important role in the traditional construction approach. The Ministry of Construction formally decided to set up “the construction supervision system” of China in 1988. Through the efforts of 15 years, about 6500

enterprises and a strong team of 262,000 professionals have been cultivated. About 90,000 projects adopted “the construction supervision system”, whose investment value amounted to 1.8 trillion, accounting for 40% of the total investment in fixed assets (4.3 trillion) of China in 2002^[1]. Such “engineer” role has already evolved into the certified supervision engineer system now, with 52,000 professionals having already become certified supervision engineers in whole China so far and “the supervision system” has played a very important role in the construction industry in China.

1.3 The gradual perfection of Legislations related to construction

In the past ten years, a lot of work has been done in strengthening the market management and promoting the market standardization in China, which was embodied in:

(1) The introduction of new laws

In the past ten years, several laws, directly related to construction projects, have been laid down, such as “the Construction Law”, “the Law of Highway”, “the Tendering and Bidding Law”, “the Contract Law”, “the Law of Management of Urban Real Estate” and also many relevant laws, such as “the Law of Government Procurement”, “the Law of Product Safety”, “the Law of Environmental Protection”, and “the Law of Arbitration” etc. These laws have made the management of the construction industry more standardized.

(2) The issuing of regulations and rules

The State Council and relevant ministries and commissions have made and issued a lot of lower-level legal documents applicable nationwide, for example “Regulations of Quality Management for Construction Projects”, “the Tendering and Bidding Procedures for Construction Projects” and “the Certification of the Tendering agencies for Construction Project Procurement” etc.

(3) Each province or municipality has set up their “Construction Project Procuring Service Center”, whose purpose is to strengthen the control and management of the tendering and bidding process for construction project, in order to prevent and reduce illegal activities.

(4) Most ministries and commissions (such as Ministry of Construction, Ministry of water conservancy, Ministry of Communications, State Electric Power Corporation, etc.), with the help of experts, prepared their respective “Model of Construction Conditions of Contract”

and “Model of Supervision Conditions of Contract”. The State Electric Power Corporation has also worked out seven model conditions of contract, among which is “the model form for the design of power transmission and transformation engineering projects” etc. These models greatly have standardized the bidding documents and contract management of all relevant sectors.

1.4 Promoting the Design /Build and Turnkey Delivery System

In the middle and late of 1980's, the Ministry of Construction and the then State Planning Commission, and other ministries jointly issued the pilot implementation of the Design/Build and Turnkey System of the construction projects. So far, more than 2560 construction enterprises have been approved by Ministry of Construction as qualified for undertaking such design-build/turnkey projects. According to the survey of 236 design institutes and construction companies, they have undertaken 3409 design-build/turnkey projects domestically from 1993 to 2001, and the contract value is up to 255,800 million RMB, and 37 large-sized engineering companies have entered the international market, who have completed 117 Design /Build projects with a total contract volume of 2,500 million U.S dollars^[2].

In the beginning of 2003, the Ministry of Construction issued “Instructions on Nurturing and Developing Construction Enterprises for Design-build/Turnkey construction projects and Project Management Companies”, which will play a very great role in promoting the design-build/turnkey delivery system in China.

2. The main problems involved in project management in China

2.1 Multiple Administrative “Bosses” and Management by Segmentation and the Improper Administrative System in construction industry

In China, the early stages of the project, including feasibility study, investment decision and evaluation of projects, etc., are under the administration of the State Develop and Reform Committee (the former State Planning Commission) who has approving authority; the exploration, design, construction and supervising of a project are under the administration of the Ministry of Construction; while the consulting and contracting services

for the international projects are administered by the Ministry of Commerce. Therefore the construction industry administration system is by less than satisfactory and relevant industry associations and institutions are attached to relevant ministries, which results in frequent contradictions.

2.2 Oversimplicity of Project Management Systems and More Efforts to be Made to Learn from Foreign Countries

New modes and theories of project management in the past 20 years have emerged and developed rather rapidly internationally. For example, the research of the Design /Build institute of U.S.A. shows that, by the year of 1985, the traditional approach accounted for 82% of the market share and the Design /Build Mode 5%, while it is forecast that to the year of 2005, both approach will account for 45% of the market share, and by 2015, the traditional approach will drop to 35% and the Design/Build approach will be up to 55%; the CM approach will still hold a the market share of about 10%^[3]. This statistics and analysis report illustrates the main disadvantages of the traditional approach and the advantages of the Design/Build approach. But in China, over 95% of the domestic projects adopt the traditional approach so far and therefore more efforts should be made to learn from foreign countries with regard to the new project management approaches.

The General Contracting means that one company, according to contract requirement, undertakes all implementing responsibility to the owner for a whole project or a stage of a project. The General Contracting can roughly be divided into four kinds: General Contracting of Turnkey, General Contracting of Design/Build, General Contracting of construction and General Management Contracting.

The Construction General Contracting has been practiced rather frequently in the past and there are ready-made contract models too, but the General Contracting of Turnkey and Design/Build mode is seldom practiced and the mode of General Contracting of management least, and there is no formal model conditions of contract for the latter two modes so far.

2.3 Lack of Investment Legislations

In 2002, China ranked first in terms of securing foreign investments (up to about 50

billion U.S dollar^[4]) in the world, but little foreign capital was invested in infrastructures. I think that the most important problem is that on one hand, there are no relevant laws, such as lack of “Financing Law”, which leave no legal guarantee to the foreign capital invested in infrastructure ; on the other hand, the regulations and rules made by each province attracting foreign capitals are of different standards.

2.4 Insufficient Professionals for construction project management

The education system of China attaches importance to science and engineering and ignored management skills in the past, and the status was changed in recent years. In 1999, the undergraduate “construction project management” program was listed in the Program Catalogues of the Ministry of Education, and nearly 100 universities and colleges in the whole China enrolled the undergraduate students of “construction project management”, and Chinese Academy of Engineering also set up “the Department of construction project management” as of 2000. But talents of the construction project management are by far insufficient.

2.5 Low level of management informationization

In the past ten years, China has worked out many project management software Programs by itself, and also introduced some foreign common software, for instance, Project2000 of Microsoft and P3 of U.S.A. etc. But to one enterprise, management informationization should be reflected in three aspects: namely intra-enterprise, between general headquarters and domestically and overseas branches of the project and using e-commerce to purchase. For one project, management informationization should be embodied in that, besides the respectively management information system of the owner-the engineer –the contractor, there is also an information platform owned mutually, by which orders, requisitions and information are issued. But enterprises and projects reaching the above-mentioned requires are rare in China.

3. Developing Prospects

3.1 Promote the level and status of the supervision engineer and establish the project management company actively

At present, most of the supervision companies in China are only responsible for the quality supervising of a project at construction stage, which deviates to a large extent from the original intention of Ministry of Construction when establishing the post of “supervision engineer”. In FIDIC “Conditions of Contract for Plant and Design-Build” (1999 edition), the Engineer supervises the project not only on the progress, cost and quality of the project, but also on the qualification of the Contractor’s designer and the submission and modification of the design document of Contractor.

Strong supervision companies in China should take the initiative in evolving into project management company, in order to participate in more project consultation in different stages of the project life cycle and provide services when the owner selecting different types of project management modes.

3.2 Push forward various kinds of project management approaches progressively

On one hand, we should learn and study the new development and new theories of foreign project management approaches and put more efforts in their promotion; on the other hand, we should summarize the experiences and lessons of the reform in construction management of our country over the past 20 years and push forward various kinds of project management approaches which are tested suitable for the China's actual conditions progressively .

3.3 Revision and compiling of the model contract forms

Various kinds of contract model must be made in order to use experiences of other countries and popularize new project management approaches. Every model contract is revised by its relevant organization every 5-10 years abroad. In 1999, FIDIC published 4 new Conditions of Contract, which were of great difference from the previous ones.

The Conditions of Contract model of our ministries and companies are all based on the FIDIC “Conditions of Contract for Works of Civil Engineering Construction” (the 1987 fourth edition, revised in 1992), while Conditions of Contract of Design /Build, Turnkey General Contracting and Management Contracting are still blank in China. We should work out in 2-3 years a whole new set of Conditions of Contract model, by learning from FIDIC 1999 new edition Conditions of Contract, NEC Conditions of Contract of UK and new Conditions

of Contract of Hong Kong. These Conditions of Contract models should have English versions, in order to meet the needs of our country's entry into the WTO and the entrance of more foreign capitals and foreign project consulting companies and contracting companies.

3.4 Strengthen the cultivation of the managerial talent of the project management

It is important to strengthen the cultivation of reserving talent of project management of every university, what's more, it is more important to strengthen the training of the first-line managerial talent in the construction project. The certified engineer system has already been set up in China, among which related to project management are as follows: "certified supervision engineer", "certified cost engineer", "certified consulting engineer (investment)" and "certified real estate appraiser". "Certified construction engineer" will be set up this year. These certified engineers are required not only to possess certain academic credentials and working experience, but also by passing through a relevant and strict qualifying examinations. These outlines of examination are all made by experts and professors and approved by Ministry of Construction and Ministry of Personnel Management, etc.

As to the engineers who have already obtained the registrations, it is also very much important for them to have continuing education

3.5 Strengthen the cooperation with companies from Hong Kong and foreign countries, utilizing the opportunity of entering the WTO

China is a great construction market only second to U.S.A. and Japanese in the whole world, which is a big market appealing to the foreign corporations greatly.

After entering into WTO, foreign consulting companies, design companies and project management companies will enjoy national treatment, who will enter China more and more. For project management companies of China, it is both an opportunity and a challenge. This is an opportunity for us to cooperate with them, by means of which we can learn from other's strong points to offset our weaknesses, study the experience of management of the foreign corporations and train talents in practice. The challenge also means competition, in which "the fittest will survive", and strong companies grow up.

After Hong Kong's return to the motherland, the construction market of China is also

attractive to Hong Kong. Under the many years' market economy condition, many experienced project management companies and high managerial talent are available in Hong Kong. I hope that the companies and experts of Hong Kong will participate in domestic construction projects more and more, to introduce your experience of management in building large-scale projects to the domestic counterparts, or adopt the way of joint venture in order to make win-win and to contribute our strength for building our country.

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