

Comparative Study between PPP Mode of Contracts and EPC Mode of Contracts

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Abstract:- India has the second largest road network in the world. To meet the challenges of growing demand for new and better infrastructure services the resources are limited. To increase and improve infrastructure services in short duration, the Public Private Partnership is an attractive alternative. In India National highways consists of single lane roads, which have prolonged and neglected. This length is about 20,000 km. These single lane national highways would have to be upgraded to two lane basis, but most of these highways have low traffic density, in such cases PPP mode will not viable, annuity based models are also expensive and conventional contracts will require more time and cost. To make such projects viable EPC Engineering Procurement Construction should be adopted.

I. Introduction

India's economic growth has primarily derived by considerable Investment in infrastructure development after liberalization These investment have increased to 56.3 trillion in twelfth plan which was 23.8 trillion in eleventh five year plan . The share of infrastructure as a percentage GDP is increased from 7.2% in eleventh five year plan to 8.6 % in twelfth plan

The success factor of any construction project is directly related to adoption of an appropriate project delivery method . As the construction industry is increasing rapidly there is need various models of contracting. To get success for mega infrastructure projects more flexible and effectice methods are needs.

Following ten factors were identified to measure the project performance.

- 1) Preconstruction time
- 2) Construction time
- 3) Total Time
- 4) Speed of construction
- 5) Unit cost of Building ‘
- 6) Time overrun
- 7) Cost overrun & client satisfaction
- 8) Time
- 9) Cost
- 10) Quality

II. PPP – Public Private Partnership

Public Private Partnership is defined as “ an arrangement between the public and private sector with clear agreement for delivery of public infrastructure or public services.

2.1 Forms of PPP

1) Build Operate and Transfer (BOT):-

The private-sector partner finances, builds, owns and operates the infrastructure component in perpetuity. The public-sector partner's constraints are stated in the original agreement and through on-going regulatory authority

2)Build-Own-Operate-Transfer (BOOT):

The private-sector partner is granted authorization to finance, design, build and operate an infrastructure component (and to charge user fees) for a specific period of time, after which ownership is transferred back to the public-sector.

3) Design-Build-Finance-Operate (DBFO):

The private-sector partner designs, finances and constructs a new infrastructure component and operates/maintains it under a long-term lease. The private-sector partner transfers the infrastructure component to the public-sector partner when the lease is up.

4) Buy-Build-Operate (BBO):

This publicly-owned asset is legally transferred to a private-sector partner for a designated period of time.

5)Build-lease-operate-transfer (BLOT):

The private-sector partner designs, finances and builds a facility on leased public land. The private-sector partner operates the facility for the duration of the land lease. When the lease expires, assets are transferred to the public-sector partner.

6) Operation License:

The private-sector partner is granted a license or other expression of legal permission to operate a public service, usually for a specified term. (This model is often used in IT projects.)

7) Finance Only:

The private-sector partner, usually a financial services company, funds the infrastructure component and charges the public-sector partner interest for use of the funds.

8) Design-Build (DB):

The private-sector partner designs and builds the infrastructure to meet the public-sector partner's specifications, often for a fixed price. The private-sector partner assumes all risk.

9) Operation & Maintenance Contract (O & M):

The private-sector partner, under contract, operates a publicly-owned asset for a specific period of time. The public partner retains ownership of the assets.

2.2 Objectives of PPP

- 1) To Make sure government services are delivered in the most economical, effective and efficient manner.
- 2) To increase overall economic growth by creating opportunities for private sector growth.
- 3) Appropriate allocation of risk and returns between public and private sector.

2.3. Benefits of PPP

- 1) Value for money.
- 2) Improve partnership between public and private sectors.
- 3) Increased completion improves the greater construction capacity.
- 4) Appropriate risk allocation.
- 5) Better performance .
- 6) Efficient and cost effective delivery of projects.
- 7) Government support.
- 8) Higher accountability.

2.4 Disadvantages of PPP for Public sector in construction

1. 1.Obligations of the concordant (to provide & clear land).

2. 2.Loss of influence on investment .
3. Loss of control and technical skills .
4. 4.Reduction of bargaining position with civil works ompanies.
5. Loss of technical staff.

III. EPC – Engineering Procurement Construction.

EPC contract will carry out detailed design of project, procure all the equipment and materials required and then construct functioning facility prescribed by the client within stipulated time period. EPC contract is popular type of contract for infrastructure and power projects.

3.1 TYPES OF EPC CONTRACTS

- Privately Negotiated
- Tendered out
- Issued under Nomination basis
- Single document
- Single document (separate purchase orders for various scopes)
- Multiple document
- Lump sum price – with / without split of various revenue streams
- Split Price

3.2 Features of EPC

- 1) Single point of Responsibility.
- 2) Fixed time and quality .
- 3) Fixed cost.
- 4) High degree of risk for contractor.
- 5) There is no possibility of cost variation.
- 6) Risk for client are minimized.
- 7) Better performance.

3.3 Need For EPC

- 1) Guaranteed Price
- 2) Guaranteed completion time.
- 3) Better level of performance
- 4) Single Point of Responsibility.
- 5) Increased supervision and control.
- 6) Flexibility and certainty.
- 7) Post – Commissioning services.

3.4. Advantages of EPC

- 1) For Mega projects EPC is more flexible and effective delivery method .
- 2) EPC is innovative approach in contracting.
- 3) EPC minimizes the owner/ clients risks.
- 4) EPC project completion time is fixed.

IV. Objectives

The purpose of study is to investigate in detail whether the project is a desirable, viable and achievable investment. The following were the objectives of the research. The study will be based on following objectives:

- a. To study the PPP mode of contracts
- b. To study design framework of PPP Contracts
- c. To study the EPC mode of contracts.
- d. To study the design framework and benefits of EPC Contracts.
- e. Discuss findings and present conclusion.

V. Research and Development In PPP.

Competitiveness of the nation is adjudged by the successful innovative technologies a country churns out every year. Innovation is also critical for economic development, wealth creation, and enhancing the visibility of the nation. Since the liberalization of economy, the government on one hand facilitated new R&D programmes at national level to foster innovation & technology development and on the other hand put in place far reaching policy measures for creating an enabling eco-system for nurturing innovation. To provide further impetus to the innovation development, Government declared current decade (beginning 2010), as the 'decade of innovation'.

The concept of public-private-partnership has been adopted in many of the Innovation & Technology support programmes launched by the various departments. However, the effectiveness of these programmes is critically viewed by the industry. The road block to the success to the desired level may be due to among others inadequate fund allocation, long processing time, inadequate flexibility in operational mechanism, lack of remedial action on earlier project failures, and relatively lower priority assigned to technology development & commercialization by R&D institutions. These have led to lukewarm response from industry to the government schemes.

With the Government's thrust on PPPs to enhance the innovation and the recognition that PPPs are the better option

to reach out to industry, there is a need to revisit the PPP programmes and reposition them to enhance its effectiveness. PSA office has taken a lead in this regard and has constituted an expert committee to look at the PPP programmes holistically and suggest suitable modifications.

VI. CONCLUSION

Two broad views on PPP performance and design emerged in the discussions. The PPPs are good projects which deliver value for money when they are toll financed. The design and construction risk to private partners. The second view holds that PPP need for private finance to provide infrastructure facility or service, PPPs will therefore have extensive recourse to debt finance, with risks for investors reduced through availability payments in place of tolls in order to lower the cost of finance and attract a bigger pool of investors.

The EPC contract plays vital role in infrastructure development. Due to investment of private partners in PPP, risk is more to private sector, mainly to the landers or financiers which goes into bad loans and delay in project completion. Because of these risk factors nowadays there is low interest from the investors in PPP. Therefore government is moving towards the EPC mode as it has fixed time limit with fixed cost.

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