



# **PROCUREMENT OF WORKS**

## **SPECIALTY TRAINING COURSEWARE**

Finance Department  
Government of Rajasthan

## **PROCUREMENT OF WORKS**

### **All Rights reserved**

The Finance Department, Government of Rajasthan reserves all the rights including the copyrights and intellectual property rights. The Finance Department, Government of Rajasthan reserves the rights to amend this document at any time, in any manner, for any reason, without notice.

### **Right and Permission**

The materials are subject to copyright and intellectual property rights by the Finance Department, Government of Rajasthan. No part of this document or any extract from it in any form can be copied, paraphrased, reproduced, stored, distributed, used, or transmitted in any manner or form, or by any means whether by photocopying, recording, electronically, mechanically, by internet, within another document or otherwise, without prior written permission of Finance Department, Government of Rajasthan. Any queries on rights and permissions may be addressed to the Joint Secretary (Economic Affairs), Finance Department, Government of Rajasthan, Government Secretariat, Janpath, Jaipur – 302005, Rajasthan, India. E-mail: [jsfead@rajasthan.gov.in](mailto:jsfead@rajasthan.gov.in)

Web: <https://finance.rajasthan.gov.in>

### **Disclaimers**

The content of the book is for information and training purpose only and shall in no manner be construed as a legal advice. This document, including its findings, interpretations and conclusions expressed therein do not necessarily reflect the view of the Finance Department, Government of Rajasthan. Various legal provisions, case laws, examples and situations given in the book are strictly for reference purpose so as to enhance the understanding of the reader(s). The courseware shall in no manner be understood to be binding upon the employee(s) of Government of Rajasthan and shall not be referred in the Court of Law against the Government of Rajasthan, any of its departments or instrumentalities.

The Finance Department, Government of Rajasthan makes no representations or warranties or assurances with respect to the accuracy, reliability, sufficiency, or completeness of the training courseware. The opinion(s) stated therein are not intended to deliver any particular result(s), and the advice(s) and strategy(ies) contained may not be suitable for every situation / individual. The Finance Department, Government of Rajasthan shall not be liable for any direct or indirect loss(es), claim(s), demand(s) or damage(s), including but not limited to special, incidental, punitive, consequential, or other Claim(s) and all legal cost or other expenses, arising whatsoever in connection with the use of the material(s) or learning(s).

First Edition 2023

## Preface

Public procurement accounts for a significant public expenditure and hence strengthening public procurement systems is central to achieve sustainable outcomes. Public procurement has long been used as a means of stimulating growth at national as well as sub-national levels. It is complex, multi-dimensional and professional process that demands qualified, well trained, and skilled personnel.

Realizing the need for reforms, the Government of Rajasthan has enacted the “Rajasthan Transparency in Public Procurement (RTPP) Act in 2012 and RTPP Rules in 2013” to regulate public procurement to ensure transparency, fair and equitable treatment of bidders, promoting competition, enhancing efficiency and economy and safeguarding integrity in the procurement process.

The Finance Department, Government of Rajasthan has conceptualized training on public procurement with the objective to increase effective implementation of RTPP Act & Rules. This Course Book on “Specialty Course on Procurement of Works” has been developed in line with the provisions of the RTPP Act and Rules and subordinate legislations, notifications, circulars, and Guidelines issued from time to time by Government of Rajasthan. This Course Book has been designed as part of training strategy and facilitation as resource material while imparting training.

The course book is covering all aspects of procurement of works including types and classification of works, difference between procurement of works and Goods, schedule of powers for engineering officers and core aspects of procurement cycle such as need assessment and estimation of cost including preparation of DPR, procurement planning, preparation of bid documents, management of risks through GCC and SCC, techno-commercial evaluation of bids. The contents are explained in lucid and simplistic manner so that the officials can mitigate the risks and avoid any adverse non-compliance challenges and litigations.

Development of this course book is based on wide consultations with officials of the Government of Rajasthan across Departments / Procuring Entities. Their specific reference to the day-to-day issues has helped in developing case studies around core issues and challenges faced in public procurement. Concepts have been explained through graphics as they have ability to make lasting impact in the mind of reader. The course book contains more than 50 examples, case studies, and case laws on various key aspects. This course book will be useful in imparting awareness and knowledge about procedures regarding public procurement of works as per RTPP Act & Rules and will also help officials handling procurement of works at all levels.

## Table of Contents

<b>Abbreviations .....</b>	<b>i</b>
<b>Chapter-1: Procurement of Works .....</b>	<b>1</b>
1.1 Introduction .....	1
1.2 Definition of 'Works' .....	2
1.3 Types of Work.....	2
1.4 Classification of Works.....	3
<b>Chapter-2: Methods of Procurement for Works.....</b>	<b>4</b>
2.1 Types of bidding.....	5
<b>Chapter-3: Registration, Empanelment and Enlistment.....</b>	<b>11</b>
3.1 System of Registration.....	12
3.2 Empanelment by Pre-qualification Process .....	12
3.3 Registration by Enlistment Process .....	14
<b>Chapter-4: Administrative Structure for Procurement of Works.....</b>	<b>21</b>
4.1 Schedule of Powers.....	22
<b>Chapter-5: Procurement Cycle of Works.....</b>	<b>23</b>
5.1 Pre-bid process for Procurement of Works .....	24
5.2 Detailed Appraisal & Assessment (including DPR) .....	25
5.3 Approvals & Sanctions.....	47
<b>Chapter-6: Types of Work Contracts .....</b>	<b>50</b>
6.1 Percentage Rate Contract .....	50
6.2 Item Rate Contracts.....	52
6.3 Lump Sum Contracts .....	53
6.4 Engineering, Procurement & Construction (EPC) Contracts.....	54
6.5 Turnkey Contracts.....	60
6.6 Cost plus Contracts.....	62
6.7 FIDIC Contracts .....	63
6.8 Public Private Partnership (PPP) .....	67
6.8.1 Characteristics of PPP.....	67
6.8.2 Why should Governments consider PPP?.....	68
6.8.3 Key Objectives while managing PPP Projects.....	68

6.8.4	Advantages of PPPs.....	68
6.8.5	Limitations of PPPs.....	69
6.8.6	Generic Models of PPP .....	70
6.9	Factors which influence the choice of contract.....	70
<b>Chapter-7: Process of Procurement of Works .....</b>		<b>71</b>
7.1	Important considerations during Preparation of Bid Documents .....	71
7.2	Important consideration during Techno-Commercial Evaluation.....	120
7.3	Reasons of time and cost overrun in major infrastructure projects .....	126
<b>Chapter-8: Post Award Monitoring .....</b>		<b>133</b>
8.1	Allotment Vs utilization of funds (FUC): .....	133
8.2	Completion Certificate/Completion Report: .....	133
8.3	Post Construction Audits.....	134
8.4	Documentation for Works Procurement .....	134
<b>Summary .....</b>		<b>135</b>
<b>Major Laws applicable for Public Procurement.....</b>		<b>136</b>
<b>Glossary .....</b>		<b>139</b>

## Abbreviations

Abbreviations	Description
A & F	Administrative & Financial
ACE	Additional Chief Engineer
AD	Administrative Department
ADB	Asian Development Bank
ADR	Alternative Dispute Resolution
ADRB	Alternative Dispute Resolution Board
AE	Assistant Engineer
ASTM	American Society for Testing and Materials
BBDT	Benkelman Beam Deflection Technique
BG	Bank Guarantee
BIS	Bureau of Indian Standards
BOQ	Bill of Quantities
BRD	Bidder Registration Document
BSR	Basic Schedule of Rates
CAG	Comptroller and Auditor General of India
CAR	Contractors all Risk Insurance
CBR	California Bearing Ratio
CC	Cement Concrete
CE	Chief Engineer
COD	Commercial Operation Date
CONCOR	Container Corporation of India Ltd
CPWD	Central Public Works Department
CSR	Corporate Social Responsibility
CWC	Central Water Commission
DAO	Divisional Accounts Officer
DLP	Defect Liability Period

Abbreviations	Description
DPR	Detailed Project Report
EAR	Erection all Risk
EE	Executive Engineer
EHS	Environment, health, safety, and harassment
EIA	Environmental Impact Assessment
EOI	Expression of Interest
EOT	Extension of Time
EOT	Extension of time
EPC	Engineering, Procurement & Construction
ERR	Economic Rate of Return
ESHS	Environmental, Social, Health and Safety
FCI	Food Corporation of India
FIs	Financial Institutions
FUC	Fund Utilization Certificate
GAD	General Arrangement Drawings
GCC	General Conditions of Contract
GPS	Global Positioning System
GST	Goods & Service Tax
GWMS	GIS based Works Management System
HoD	Head of Department
IPD	In-Patients Department
IPR	Intellectual Property Rights
IRC	Indian Road Congress
IRR	Internal Rate of Return
IRS	Indian Remote Sensing
ITB	Instruction to Bidders
JDA	Jaipur Development Authority
JE	Junior Engineer

Abbreviations	Description
JJM	Jal Jeevan Mission
LARR	Land Acquisition and Resettlement Act
LIS	Lift Irrigation Scheme
LOA	Letter of Acceptance
MB	Measurement Book
MDB	Multilateral Development Banks
MSIP	Management Strategies and Implementation Plans
MW	Mega Watt
NHAI	National Highway Authority of India
NIB	Notice Inviting Bids
NIBE	Notice Inviting Bidder Enlistment
NIT	Notice Inviting Tender
NPV	Net Present Value
O & M	Operation & Maintenance
OPC	Ordinary Portland cement
PAPs	Project Affected Persons
PBG	Performance Bank Guarantee
PF	Provident Fund
PHED	Public Health Engineering Department
PMC	Project Management Consultancy
PPA	Power Purchase Agreements
PPC	Portland Pozzolana Cement
PPP	Public Private Partnership
PRIs	Panchayati Raj Institutions
PVC	Price Variation Clause
PWD	Public Works Department
PWF&AR	Public Works Financial & Accounts rules
QCBS	Quality cum cost basis Selection

Abbreviations	Description
RA	Registering Authority
RBI	Reserve Bank of India
RIICO	Rajasthan State Industrial Development and Investment Corporation Ltd.
RIPS	Rajasthan Investment Promotion Scheme
RTI	Right to Information
RUDSICO	Rajasthan Urban Drinking Water Sewerage & Infrastructure Corporation
RUIDP	Rajasthan Urban Infrastructure Development Project
RWSSMB	Rajasthan Water Supply & Sewerage Management Board
SCC	Special Conditions of Contract
SD	Security Deposit
SE	Superintendent Engineer
SEA	Sexual Exploitation and Abuse
SEBI	Securities and Exchange Board of India
SFC	State Finance Corporation
SOP	Standard Operating Procedure
SOR	Schedule of Rates
SPV	Special Purpose Vehicle
T & P	Tools & Plants
TA	Technical Assistant
TBM	Tunnel Boring Machine
TCC	Trauma Care Centres
UIC	International Union of Railways
VFM	Value for Money
VGF	Viability Gap Funding
WPI	Wholesale Price index
WRD	Water Resources Department

# Chapter-1: Procurement of Works

## 1.1 Introduction

Procurement planning and execution of works poses special challenges due to its variability depending upon users' choice, social requirements, environmental and climatic considerations, large no. of existing utilities, site approach condition and a lot of contractual issues and other surprises likely to be met during the execution. In order to manage these complexities and ensure timely completion of projects within budgets, there is a need to give adequate considerations to different aspects such as right specifications, designs and drawings, design of contractual conditions to minimize the risks, bill of quantities (BOQ), etc. while finalizing the bidding documents and implementing the procurement process.

Most of the Government guidelines regarding procurement of works are laid down in the "Public Works Financial & accounts rules" (PWF&AR) issued by the Finance department, Government of Rajasthan. These rules describe the financial transactions of public works departments, the procedures followed in connection with initiation and execution of works, maintenance of stock of stores, materials, tools and plants, the initial accounts maintained in the departments and accounts to be submitted to the Accountant General. The powers delegated to various functionaries in the Engineering Departments are contained in the Appendix XIII of these Rules.

Following are few examples of Works procurement:



## 1.2 Definition of 'Works'

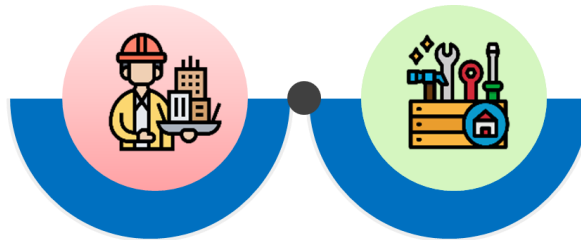
Rajasthan Transparency in Public Procurement Act, 2012 (RTPP Act, 2012) defines the 'Works' as under:

### RTPP Act and Rules

Works means "all works associated with the construction, reconstruction, site preparation, demolition, repair, maintenance, or renovation, or railways, roads, highways or a building, an infrastructure, or structure or an installation or any construction work relating to excavation, drilling, installation of equipment and materials, as well as services incidental to the works if the value of those services does not exceed that of the works themselves".

## 1.3 Types of Work

The following are the types of work:



**Construction/  
Original Works**

**Repair &  
Maintenance Works**

### 1.3.1 Construction/Original Works

This includes all new constructions, additions, and alterations to existing works, repairs to newly purchased/constructed structures or repairs/restoration of abandoned structures to make them fit for re-use.

#### Example

Construction of new roads, canal, power transmission lines, water supply pipelines, addition of new IPD block in hospital, development of signal free major traffic junctions, installation of power plants, etc.

### 1.3.2 Repair and Maintenance Works

These are petty/minor value works required to keep the structure fit for its ordinary use. If any value addition takes place through repairs, they are treated as original works debited to repairs.

Repair and maintenance works are further classified as-

#### 1 Ordinary Repairs

- **Annual repairs** being carried out annually like internal white washings of buildings, patch repairs to carriage way of the roads, etc.,
- **Periodical repairs** like outside white washing of buildings, renewal of road surface, etc.

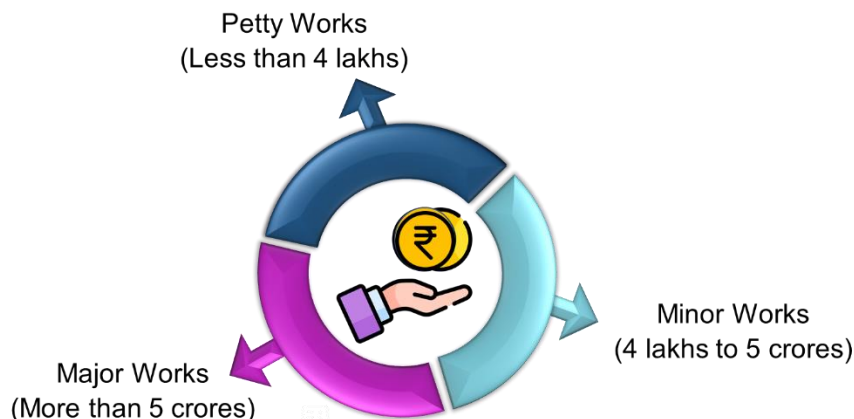
#### 2 Special Repairs like renewal of flooring, repair of bridges, replacement of roofs

#### 3 Emergency repairs: restoration of damage due to floods, earthquake, etc.,

In case of fund constraints, ordinary repair works shall be prioritized, as specified in departmental guidelines.

## 1.4 Classification of Works

As per PWF & AR, procurement of works has been classified, based on value of works, into three categories:



Sanctioning and budget allocation procedure differs for different classes of works.

#### System of Budget allocation for works:

- For major works, the allocation is budget is work-wise
- For petty and small original works, the allocation of budget is lump sum
- For repair works, the allocation of budget is lump sum

## Chapter-2: Methods of Procurement for Works

The methods of procurement of works are as follows:

### 1. **Open competitive bidding**

The open competitive bidding method is considered as the default/ preferred method for procurement of works.

### 2. **Limited bidding**

Limited bidding method is used for small value, urgent, or specialized /complex nature of work. Other bidders who fulfill the criteria, may also be allowed to bid in limited bidding. For limited bidding (for the cases other than urgent, special/complex in nature), maximum value of works is rupees two lakhs only (Six lakh for Panchayati Raj Institutions (PRIs), with condition that minimum three bidders should be there. There is no requirement of NIB publishing in newspapers in this method of procurement.

### 3. **Swiss Challenge method**

The Swiss Challenge method which is a form of open competitive bidding, is used to deal with unsolicited offers in prescribed sector/market, which costs more than Rs. 50 cr. each.

### 4. **Electronic Reverse Auction**

It is an open competitive bid, where detailed description of subject matter, place, time, terms & conditions, and quantifiable evaluation criteria can be expressed in monetary terms, are known and sufficient competitive market exists.

Based on pre-defined qualification criteria, bidders are invited to register on e-procurement site, giving specific details regarding opening & closing of auction, norms of conducting auction, and criteria for automatic evaluation of bids. Bids may be invited in Single stage/Two stages and in single part/ Two parts. Reverse auction takes place in financial evaluation.

### 5. **Single source procurement**

Single source procurement is used in emergency situations, like restorations after floods, earthquake, etc., or for hiring of consultant up to certain financial limits, or conditions as specified in RTPP Act/Rules.

### 6. **Request for quotations**

Request for quotations, each for less than Rs. 1 lakh, with annual limits of Rs 5 lakhs.

**7. Rate contract**

Rate contract method is used for small value contracts with repeated requirements over the period. The contract is placed on contractors, especially empaneled through open bidding especially for this purpose, for one to two years of duration.

**8. Piece work system:**

The method is used for each work less than Rs 1 lakh (total 5 lakh/yr.) on registered bidders, at rates sanctioned by Additional Chief Engineer (ACE) for the division. It is used for one order at a time, with maximum 21 days as per the duration of the contract. Piece work system may be terminated halfway by the department and no performance security is needed to be obtained.

**9. Work order system:**

In this method, each work order which is less than Rs 1 lakh (total 5 lakh/yr.) can be placed on registered bidders at prevailing/accepted rates with definite duration of the contract with the performance security.

**2.1 Types of bidding****2.1.1 Single Stage Bidding****1. Single Part/Single Envelope:**

The single part system of bid is generally an open bidding but may also be invited from enlisted bidders for appropriate class and category of work. In single part, 'technical, quality and performance aspects, commercial terms and conditions and financial aspects including the price' are contained in single envelope.

**Things to remember / Important points**

In single part system, lowest rate considerations quite often outweigh the contractor's credentials during bid evaluation. Probability of successful completion (in terms of time, quality) is low as compared to other systems of bidding.

## 2. Two part/Two envelope in single stage:

In cases of procurement of major, complicated/complex, and specialized nature of works, where “PE is of the opinion that it is essential to evaluate the technical aspects of a bid before considering its financial aspects, bids may be called in two parts, namely, -

- I. The techno-commercial bid containing technical, quality and performance aspects, commercial terms and conditions; and
- II. The financial bid containing financial aspects including the price.

Different organizations prescribe different qualifying criteria towards technical professional, managerial and financial performance.

In two-part bidding system, bid evaluation is not affected by quoted rates. Only responsive/ qualified bidders are selected in technical bids, whose second (financial) bids are opened. Financial bids of other bidders who are not found responsive or not meeting with requisite evaluation/qualified criteria are not opened. Contract is normally awarded to L-1/ H-1 as the case may be.

It is advisable to ask bidders to pinpoint the document /page no. in the prescribed format in support of qualification criteria if volume of documents is high, so that important document does not lose sight of.

### Things to remember / Important points

It takes more time and requires more expertise on behalf of evaluation committee members for bid evaluation if number of bidders is more and number of documents submitted is in large volumes.

Some organizations insist on submission of extra envelope along with technical bids to ascertain preliminary responsiveness & bids which are found preliminary responsive, are opened for technical evaluation.

### Things to remember / Important points

Finance department, vide their letter no. F.2(4) FD/Exp-III/99 dt. 19.3.2001 and updated vide letter no. F.8(27) PW/95/D-342 dt. 19.12.2019 which has been incorporated as para no. 30.7.6 of PWD Manual 2020, have laid down following bid submission methods; -

**Single part/ Single Envelope Method:** The single envelope system is generally for roads, costing up to Rs.3 cr. other construction works cost up to Rs.2 cr.

**Potential Assessment Method:** The two part/two-envelope system (potential assessment) is adopted for roads works costing Rs.3-10 cr. and other construction works cost Rs.2-10 cr.

Experience of execution of 33.33% of specified bid items in any of last 5 FYs. Completion of at least one work of similar nature of 33.33% of bid value in last 5 FYs. Turnover (Updated for price level) of 33.33% of bid value in any of the last 5 FYs.

**Post qualification Method:** It is also a two-envelope system where and is adopted for roads works cost Rs.10-100 cr. and other construction works cost Rs.10-50 cr. Following are the essential qualification criteria for post qualification method- Experience of execution of 50% of specified quantities of bid items in any of last 5 FYs; Completion of at least one work of 50% value of bid of similar nature in last 5 FYs; Updated Turnover of 60% of bid value in any of last 5 yrs.

**Pre-qualification Method:** it is a two-stage method adopted for road works more than Rs.100 cr. and other works more than Rs. 50 cr.

### 2.1.2 Two Stage Bidding

A procuring entity may choose to procure the subject matter of procurement by the method of two stage bidding, if-

- (a) It is not feasible for the procuring entity to formulate detailed specifications or identify specific characteristics for the subject matter of procurement, without receiving inputs regarding its technical aspects from bidders; or
- (b) The character of the subject matter of procurement is subject to such rapid technological advances and market fluctuations to make open competitive bidding unfeasible; or
- (c) The procuring entity seeks to enter into a contract for the purpose of research, experiment, study or development, except where the contract includes the production of items in quantities sufficient to establish their commercial viability or to recover research and development costs; or
- (d) The bidder is expected to carry out a detailed survey or investigation and undertake comprehensive assessment of risks, costs and obligations associated with the particular procurement.

**The procedure for two stage bidding should be as under: -**

1. In the first stage of the bidding process, the procuring entity should invite proposals containing the professional and technical competence, qualifications of bidders regarding the subject matter of procurement and contractual terms and conditions of the proposed procurement. Bid security should invariably be obtained in the first stage itself.
2. All first stage bids, which are otherwise eligible, should be evaluated in accordance with the procedure laid down in these rules and the bidding documents by bid evaluation committee.
3. The committee may hold discussions with the bidders and if any such discussion is held, equal opportunity should be given to all bidders to participate in the discussions.
4. In revising the technical design, stipulations, relevant terms and conditions of the procurement, the procuring entity should not modify the fundamental nature of the procurement itself, but may add, amend, or delete any specification of the subject matter of procurement or criterion for evaluation.
5. In the second stage of the bidding process, the procuring entity should invite bids from all those bidders whose bids at the first stage was not rejected, to present final bid with bid prices and detailed technical bid in response to a revised set of terms and conditions of the procurement.
6. Any bidder, who was invited to bid in first stage but not in a position to supply the subject matter of procurement due to changes in the specifications, may withdraw from the bid proceedings without liability of forfeiting bid security.

**A two-stage bidding process proceed as follows:**

1. The first stage bid will consist of a technical bid only, without any reference to prices, but including a list of any deviations to the technical and commercial conditions set forth in the bidding documents and/or adding any alternative technical solutions a bidder wishes to offer, and a justification therefore, always provided that such deviations or alternative solutions do not change the essential requirements specified in the bidding documents. Following the evaluation of first stage bids, a bidder that adequately meets the minimum acceptable qualification criteria and has submitted a sufficient technically responsive bid may be invited to attend a clarification meeting(s), during which the bidder's bid will be reviewed. Suitable bid security may be obtained in the first stage itself.  
Any required bid-specific changes, additions, deletions, and other adjustments will be noted and recorded in a memorandum, or, if amendments are of a general nature, will be promulgated via an addendum to the bidding documents.

2. All suitably qualified and eligible bidders, however, should receive invitations to submit second stage bids (RFP) with modified technical and commercial conditions along with financial bids.

#### **Advantages of the two-stage bidding process:**

1. It offers more flexible approach to awarding contracts because it allows participation of prospective bidders in the definition of the technical specifications and scope of work.
2. The preferred bidder is more likely to have a good understanding of the requirement, which potentially reduces risks in the implementation of the contract.
3. Prospective bidders are able to make suggestions for improvement of the technical specifications and scope of work of the assignment, through their technical proposal and clarification discussions.
4. The second stage bidding time is reduced.
5. The technical approach and methodology can be adjusted to suit the agreed technical specifications and scope of work.
6. Risk is minimized given the early involvement of prospective bidders in the definition of the technical specifications and scope of work.
7. A financial proposal is submitted only after reaching agreement on the technical specifications and scope of work.
8. A contract is negotiated on the basis of the agreed technical specifications and scope of work.
9. More certainty regarding the qualifications of the preferred bidder.
10. Evaluation for second bidding may be either lowest cost basis or qualification cum cost basis selection (QCBS).

#### **Challenges of the two-stage bidding process:**

1. Extended procurement lead-time due to two stage submission process.
2. Second stage negotiations with the highest ranked bidder could prove difficult and protracted.
3. There is a risk of price escalation, and negotiations becoming adversarial in the second stage.
4. Once a firm is selected for negotiations, competition is lost, and this may impact price.

#### **Pre- qualification Method:**

A panel of bidders is prepared through open competitive bidding for subject matter of procurement which is frequently required but details of subject matter like quantity, time, place is not known in advance, valid for one or two years.

First stage bids (EOI) are invited from prospective bidders with pre-laid down qualification criteria and bids are evaluated. Only qualified bidders are allowed to take part in the bids (RFQ) which gets invited for the subject matter in the empanelment period. Any number of bids can be invited for the subject matter within validity of the panel.

### Example

**Pre-qualification:** If in a mega road project involving many bridges, tunnels, etc. the bidders may be prequalified for categories like earth work, bridges, tunnels, road surfacing, etc. & bids may be invited from pre-qualified bidders in small packages, as and when needed during the empanelment period as per procurement planning.

## Chapter-3: Registration, Empanelment and Enlistment

Registration of Bidders in different forms and purposes, such as empanelment and enlistment are traditional systems followed in public procurement when there were no electronic means of inviting bids and Governments used to rely on a list of credible bidders prepared by them and their names were listed in a physical register.



These registered bidders were issued enquires for submission of bids for various type of works to be executed during their enlisted/empaneled period. This list of registered bidders used to be prepared for routinely needed type of works by procuring entities. The system of registration is still being used by various work departments in Rajasthan.

The Government of Rajasthan (GoR) has implemented legislation in this regard, viz.

**The Rajasthan Transparency in Public Procurement (RTPP) Act in 2012 & Rules in 2013** states that–

### RTPP Act and Rules

“With a view to establishing reliable sources for a subject matter of procurement or a class of procurement, which may be commonly required across procuring entities or repeatedly required by a procuring entity, a procuring entity may maintain a panel of registered bidders”

Bidders are normally registered for commonly needed works having recurrent needs of the department.

### Example

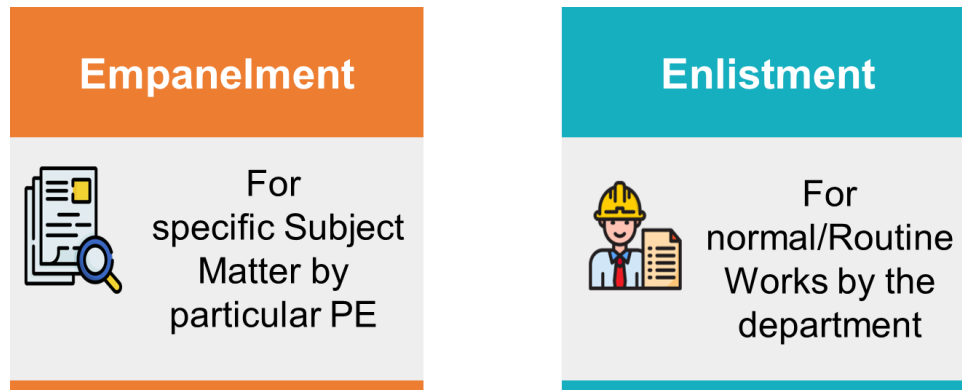
Bidders who specialize in specific type(s) of construction activities like Civil Work, Electrical work, Painting, Plumbing, Wood Works, sanitary and pipelines, etc. are enlisted/registered for Works.

### 3.1 System of Registration

There are two most common systems of registration that are being used in the State:

1. **Empanelment by Pre-qualification Process:** This process may be carried out by various procuring entities for procuring such subject matter of procurement that are required frequently but their details, quantity, time, and place are not known in advance. The panel can only be used by the authority which has empaneled it.
2. **Registration by Enlistment Process:** This process is carried out by PWD for registering contractors for various categories of works (civil, electrical, furniture, sanitary & pipe fitting, and painting) and is used by all works departments of the State.

The two systems of registration of bidders are explained further.



### 3.2 Empanelment by Pre-qualification Process

The Government of Rajasthan (GoR) has implemented in this regard, viz. **The Rajasthan Transparency in Public Procurement (RTPP) Act in 2012 & Rules in 2013** states that-

#### RTPP Act and Rules

“A procuring entity may engage in a pre-qualification process, with a view to identifying, prior to inviting bids, the bidders that are qualified for any specified period of time.”

A panel is a list of bidders who are capable and competent for execution of particular nature of works. The credentials, capability & competence of the bidders for the subject matter of procurement are verified by a process of pre-qualification or empanelment. Pre-qualification or Empanelment is the process of identifying qualified bidders before the invitation of bids. Empanelment may be done for a particular subject matter, which is repeatedly required by one department. At the time of empanelment, the scope of works, services, and quantity of goods to be procured, when will the material be required, where to be delivered, etc. may not be known. Procurement is required to be made from the empaneled bidders only, but empanelment is not a commitment from the procuring entity that the contract will be placed on the bidder. Panels can be reused for any number of procurements during the validity period of empanelment.

### Example

PE issued notice for empanelment by pre-qualification of bidders for supply and laying of pipelines under Jal Jeevan Mission (JJM). Bidders having satisfied the pre-defined qualification criteria are empaneled. The validity of empanelment may be 12 months. PE may invite bids from these empaneled bidders during the empaneled period depending upon the procurement plan.

### Things to remember / Important points

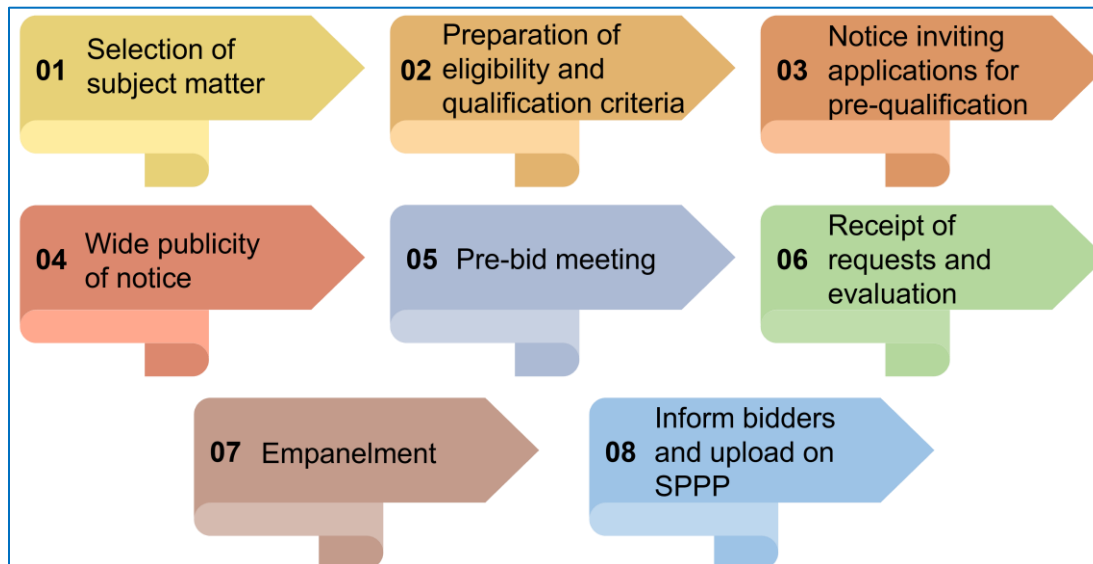
It may be kept in mind that the empanelment of bidders should NOT be with “price” for the subject matter of procurement, else it will become a Rate Contract (RC) which is not the essence of empanelment.

**Process of Empanelment:** The Government of Rajasthan (GoR) has implemented legislation in this regard, viz. The Rajasthan Transparency in Public Procurement (RTPP) Act in 2012 & Rules in 2013 states that–

### RTPP Act and Rules

“The procuring entity shall invite applications for empanelment or pre-qualification as per the procedures prescribed for inviting open competitive bidding.”

The following is the brief process for making a panel for a subject matter of procurement by the process of empanelment:



### 3.3 Registration by Enlistment Process

Enlistment of Bidders is a process of registering contractors, evaluating the performance of existing contractors, renewing their enlistment, and weeding out non-performing contractors from time to time. The information on enlistment is entered in a register, which may be in the form of a computer database or a paper-based register. Enlistment of contractors is one of the important activities of the Works Departments.



#### 1. Why Enlistment?

Enlistment of bidders is done to prepare lists of qualified & reliable contractors for the type of work needed frequently by the department. Work is segregated into different categories, like Civil works, Electrical works, etc., and bidders are registered for those categories. Bidders are also graded/classified according to their capacity to handle contracts. Thereafter, bidding is done among bidders enlisted for the category and up to the limit of the value of work.

### Example

Competition for a Painting work of a particular value should take place between bidders who are registered for Painting Works, and for the value-range in which the value of the work falls. Bidders who are not registered for Painting works, or for lower value of Painting works, may not be considered.

## 2. Categories of Bidders

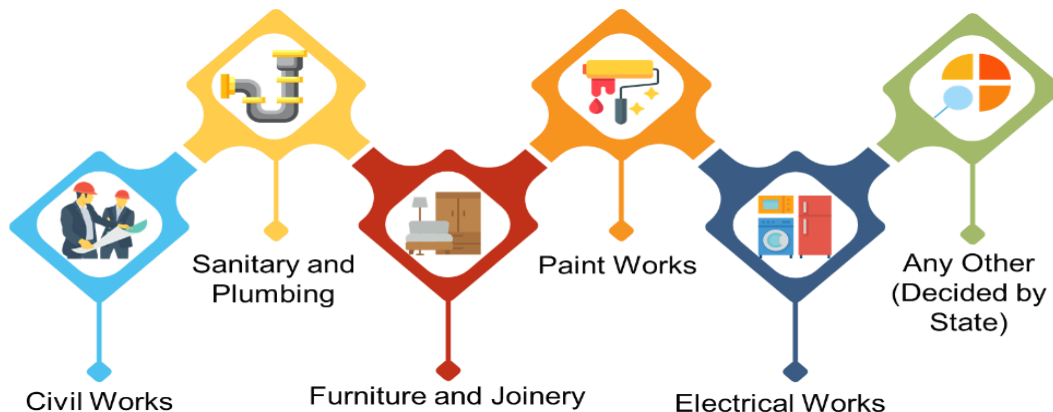
In order to have competition between similar types of bidders, Works have been divided into various functional areas or categories. Each category requires a different kind of skill, experience & knowledge, which is specific to the category, and different from another category. For example, a painter's skills are very different from a plumber's skills, though both may work on constructing the same building. The different Categories have been laid down by the policy of the State Government.

Bidders are registered (or enlisted) in these categories only. Categorization ensures that a bidder can bid only in the category in which he is enlisted. However, a bidder may apply for, and be enlisted in more than one category if the bidder can fulfill the conditions of that category. In such a case he can bid for the other categories also.

### Example

A bidder registered for Electrical Works can bid for projects where electrical work is involved. It cannot bid in the category of furniture and joinery works.

The Bidder Registration document lists all the requirements considered essential for each category. Any bidder applying for enlistment should demonstrate in his application that the bidder fulfills these requirements. The categories in which bidders register are:



Electrical works also have further subcategories like wiring, substation and DG sets (EWSD), Air Conditioners (AC), Lift & Escalators (LE), Fire Fighting (FF) and Electronics related (ER).

### 3. Classes of Bidders

Within each Category, bidders are enlisted for different classes. Class determines:

- Value of procurement up to which the bidder is qualified to bid (with concessional bid security)
- Who is the Registering Authority for that class of bidders?
- Jurisdiction (a geographical area in which the work should be located) in which it is allowed to bid with concessional bid security



#### Example

Bidders who are registered in Civil Works category may be registered into any one of the five classes, i.e., AA, A, B, C or D. A bidder who is registered in the category of “Civil Works” and Class “A” by Chief Engineer-1 of PWD is qualified to bid for works up to Rs 3 Crores with concessional bid security in the jurisdiction of Chief Engineer-1.

However, if the bidder deposits full bid security as per extant rules, bidder can bid in other areas under other Chief Engineers of PWD, or in any other Engineering department of the State.

Class imposes a limit on the max value of work for which a bidder can bid. The different Categories & Classes of enlistment and the respective Bid Value limits may be as under:

CIVIL WORKS					
Class →	AA	A	B	C	D
Max Bid Value in Crores	Any	3	1.5	0.50	0.15
ELECTRIC WORKS					
Class →	E XY- I	E XY- II	E XY- III	E XY- IV	

Max Bid Value in lakhs	Any	25	10	5	
<b>FURNITURE WORKS</b>					
Class →	F-I	F-II	F-III	F-IV	
Max Bid Value in lakhs	Any	10	5	2	

**XY:** Represent further sub-category.

<b>SANITARY &amp; PIPE FITNESS WORKS</b>					
Class →	S-I	S-II	S-III	S-IV	
Max Bid Value in Lakhs	Any	10	5	2	
<b>PAINTING WORKS</b>					
Class →	P-I	P-II	P-III	P-IV	
Max Bid Value in lakhs	Any	10	5	2	

#### 4. Basic Conditions for Enlistment

Any bidder who wants to get enlisted with a procuring entity should fulfill the basic conditions as specified in the Invitation to Bidder Enlistment document such as:



Must Possess prescribed Qualifications



Must have prescribed Organizational Set up



Must not have any Conflict of interest



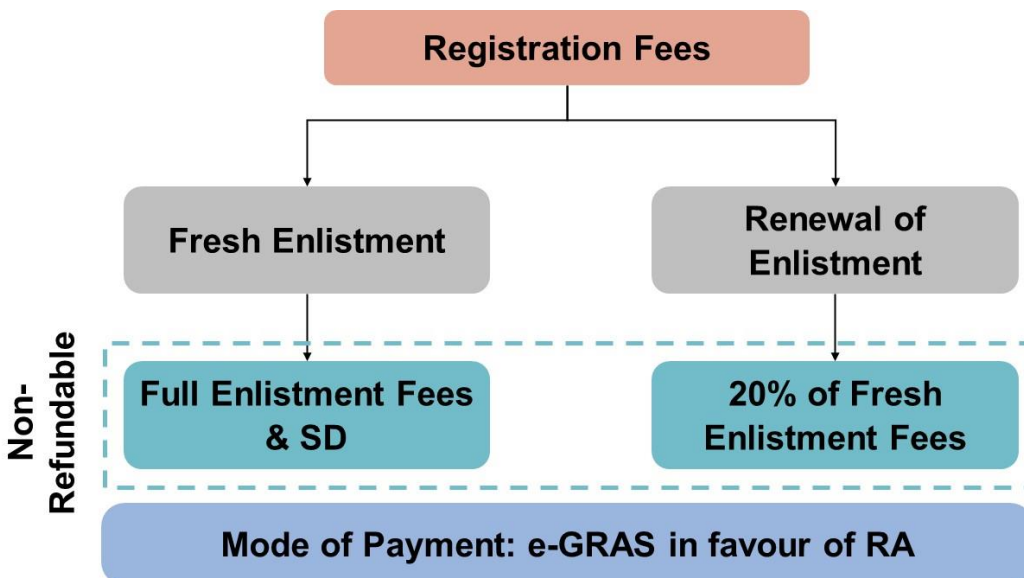
Must Possess prescribed Experience



Must not debarred

### 3.3.1 Registration Fee

The registration fees for both fresh and renewed enlistments are as follows:



### 3.3.2 Fresh Enlistment

Every bidder seeking enlistment for a particular Category and Class is required to pay full registration fees (Non-refundable) applicable for the category and class of works, along with his application. The amount of fees to be paid is notified from time to time by the State Government.



### 3.3.3 Renewal of Enlistment

Every bidder seeking renewal of enlistment for a particular Category and Class is required to pay a non-refundable Registration Fee amounting to 20% of the fee for fresh registration applicable for the category and class of works. This fee must be paid each time.

### 3.3.4 Procedure for Enlistment of bidders

Following is the procedure for enlistment of bidders:

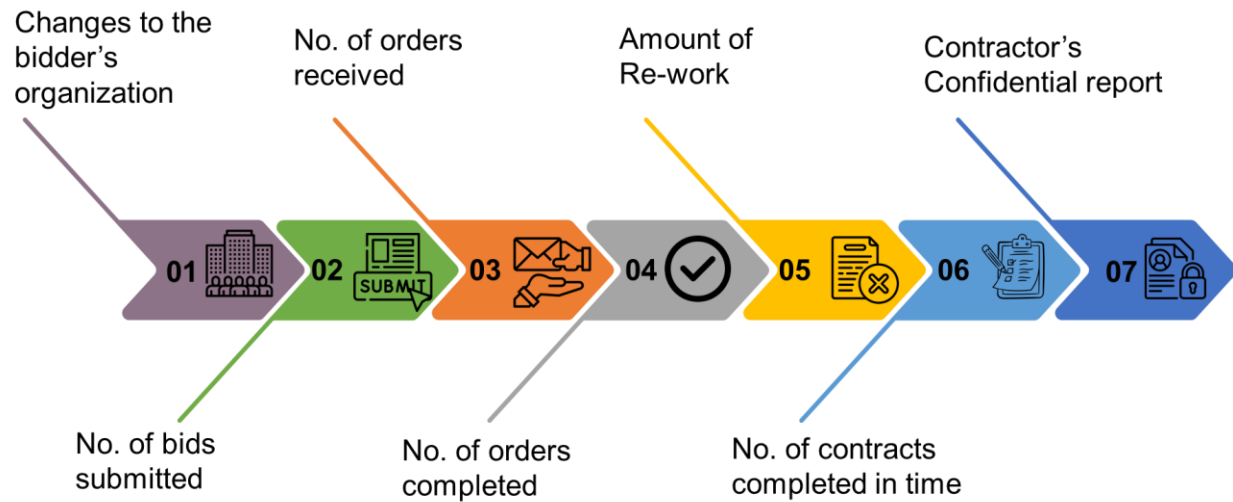
1. The department can authorize one or more Procurement Entities as Registering Authority (RA) for the enlistment of new bidders. Only such authority can register/ de-register/upgrade/downgrade bidders.
2. Enlistment is done as a continuous process, where any bidder can apply for enlistment at any time of the year. In addition, the RA may also update the list by inviting firms to register at least once a year.
3. For this purpose, a “Notice Inviting Bidder Enlistment” (NIBE) is issued, which contains the terms & conditions of enlistment. NIBE should be advertised on the SPP portal, while an abridged NIBE may be published in newspapers.
4. Bidders are required to apply for enlistment by purchasing (at a cost of Rs 300/) and filling up the “Bidder Registration Document” (BRD). BRD should be submitted with the prescribed Registration Fees and Security Deposit to the Registering Authority.
5. Completed BRDs received should be scrutinized by the Registering Authority strictly as per the conditions specified in the NIBR.
6. Enlistment may be granted to bidders who satisfy the conditions of enlistment. They are informed about their enlistment.
7. Other applications are rejected, and bidders are informed of the reason(s) for not registering them.
8. The list of fresh enlistments and non-enlistments is published on the departmental website and the State Public Procurement Portal.

### 3.3.5 Register of Bidders

The Register of Enlisted bidders shall be maintained by every Registration Authority (whether Division, Circle, Zone, or Headquarters) in the prescribed format.

### 3.3.6 Review / Renewal of Enlistment

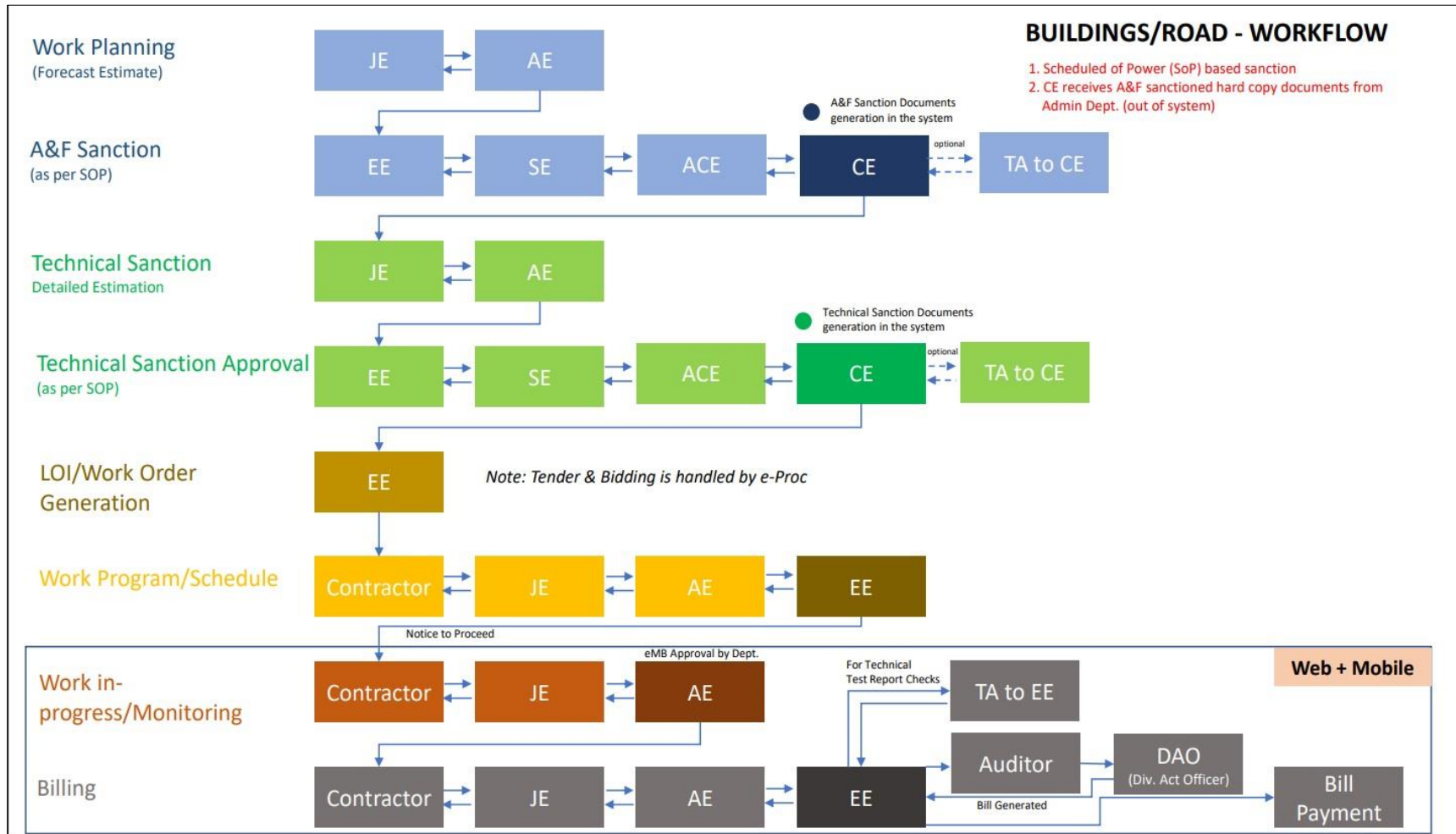
The key factors to be considered for renewal of enlistment are as under:



If the bidder's performance has been satisfactory, the bidder's enlistment may be renewed once in every two years. If the performance is deemed to be inadequate, the class allotted to him may be lowered, or if his performance is deemed to be unsatisfactory, his enlistment may be canceled after giving a show cause notice & considering the response.

## Chapter-4: Administrative Structure for Procurement of Works

Typical administrative structure for procurement of civil works (PWD, PHED, WRD) (Illustrative)



Source: GIS Based Workflow Management System (Public Works Department), Department of Information Technology & Communication, Govt. of Rajasthan Presentation

## 4.1 Schedule of Powers

PWFAR (Appendix XIII) prescribes Powers for various functionaries of Engineering Departments for various activities like-

- Administrative sanction, (original/revised)
- Financial sanction (original/revised)
- Technical sanction to estimates (Detailed Estimate/Revised Estimate/Supplementary Estimate) for
  - Original/New works, and
  - Repair & Maintenance works
- Invitation and Acceptance of bids
- Extension of time (EOT) time, variation in quantities, Price Variation Clause (PVC), imposition of liquidity damages (LD), etc. in ongoing contracts

Factors like initial cost estimates of work, percentage over original construction cost in case of repairs, NIB cost & percentage rate quoted above NIB cost; quantum of variation (percentage over original contract value), determines the level of competent authority for approvals/sanctions.

### Things to remember / Important points

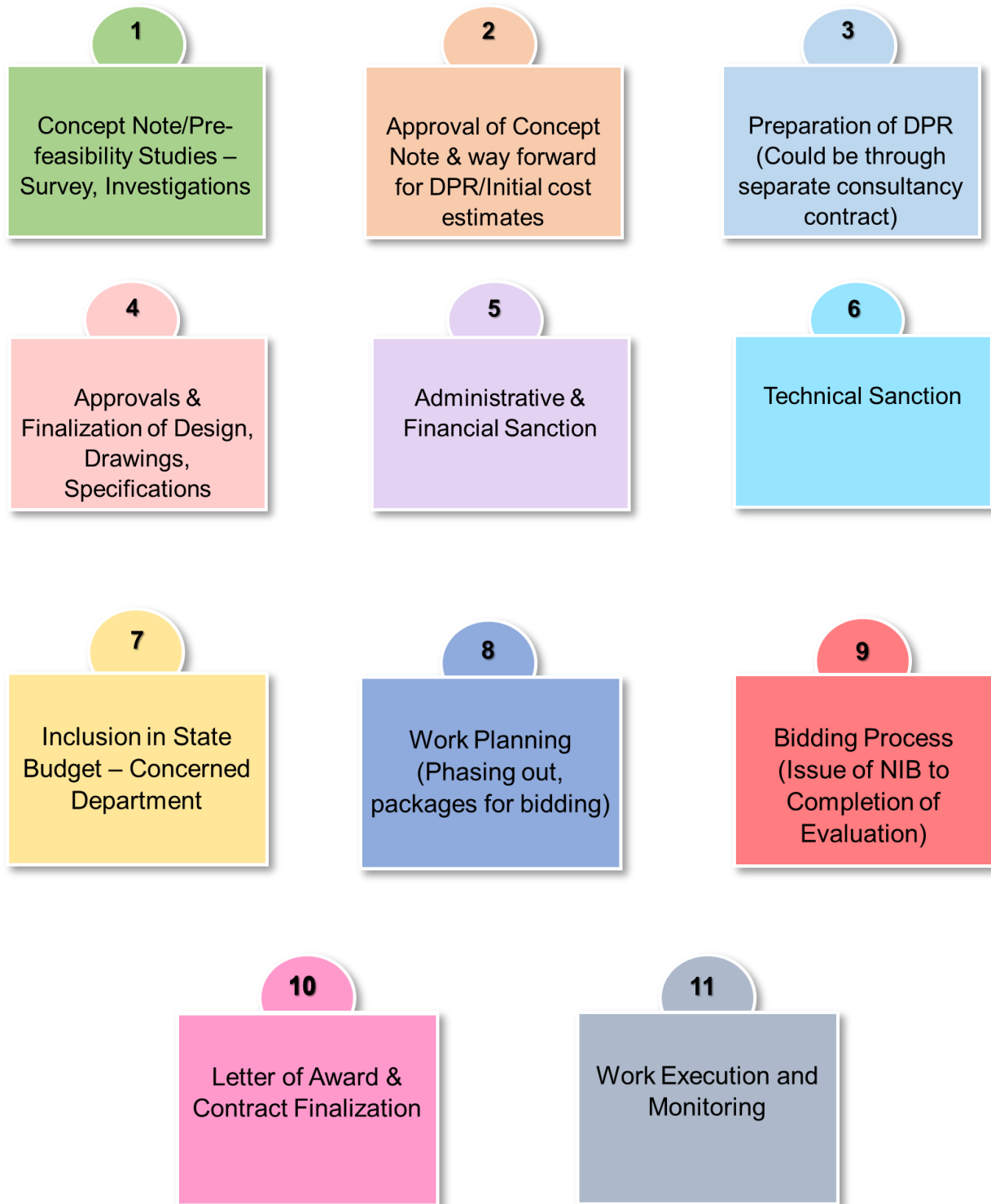
**Splitting of Works:** Splitting of works is generally not allowed to bring the bid processing/sanction powers within a particular PE's competence limit. However, it can be resorted to for logical reasons to facilitate planning and execution like specialization, different standards, topographical, jurisdictional reasons, etc. to achieve efficiency, economy, and timely completion with prior approval of competent authority who can sanction entire work before splitting.

### Example

**Construction of road between two villages with a bridge to cross the river:**

If a road is required between two villages A and B located 10 kms apart with a river flowing in between at km 3 from village A. Separate works cannot be sanctioned for every kilometer of road, but separate procurements (post splitting the works into three packages) may be allowed say - for road work from km 0-3, bridge at km 3, and road between km 3-10 with prior approval of competent authority who is authorized to sanction the entire 10 kms of road construction including the bridge.

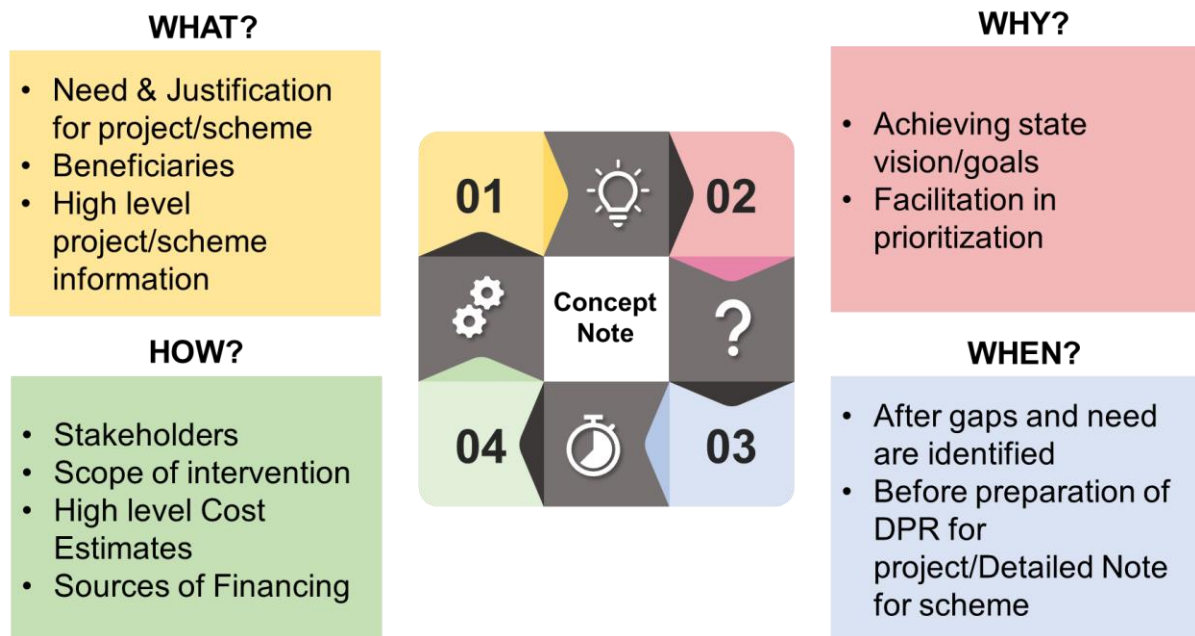
## Chapter-5: Procurement Cycle of Works



## 5.1 Pre-bid process for Procurement of Works

### 5.1.1 Need Assessment/Concept Note/Pre-feasibility Study

The preparation of a Concept Note/Pre-Feasibility is a preliminary stage to assess whether, at face value, a sufficient case exists for considering a proposal in depth. This is used to recommend whether to proceed to the detailed appraisal stage where administrative departments undertake detailed appraisal and assessment of the project, prepare Detailed Project Report and finally recommends the project to be included in the Budget.



Pre-feasibility study is generally carried out where the subject matter is complex, or it is getting developed for the first time or for a new sector.

#### Example

Whether construction of a green field express highway is prima facie feasible between point X & Y, or a major canal is feasible between point A & B, or a dam or a power plant is prima facie feasible at site Z before undertaking detailed feasibility study/DPR preparation.

**Pre-feasibility report:** In cases of very big projects like highway, canal, dams, pipelines, power plants, etc. involving investment in terms of thousands of crore of rupees, pre-feasibility report highlighting details of proposed project profile, site suitability; land availability, existing arrangements and socio-economic effect of proposed subject matter, technical feasibility including possible alternatives without carrying out detailed investigations, financial aspects including preliminary cost estimates and cost-benefit analysis, social, environment feasibility is required to be prepared for considering and to decide whether it is worth to take up detailed feasibility study or not.

## 5.2 Detailed Appraisal & Assessment (including DPR)

Appraisal is the process of assessing the costs, benefits, risks involved and mitigation measures which help the Department to select right schemes/projects/programmes for funding through the State Budgetary mechanism. Detailed appraisal and assessment stage prevents



inappropriate and inefficient interventions from getting into the project execution cycle and gaining support and momentum which would be difficult to stop at later stages.

Therefore, once in-principal approval for the concept note of new intervention has been received from the Finance Department, the Line Department shall get prepare a detailed paper/detailed project report which shall include technical/financial/site specific details, requirements of all statutory clearances, environmental and ecological considerations, availability of land, detailed cost estimates, etc. to formulate the project so that its execution is well within time and at anticipated cost and usages are hassle free.



For major/complex works, preparation of Detailed Project Report (DPR) is most common method of ascertaining the project viability. The DPR should provide a level playing field to the bidders in terms of detailed specifications, designs, drawings, and all execution related aspects which would ultimately facilitate wider participation and competition during procurement process.

### 5.2.1 Engineering Surveys, Investigations & Cost Estimation

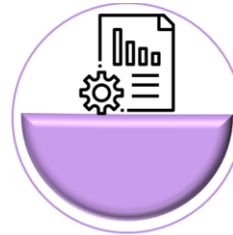
Various types of techno-economic surveys and investigations (involving multiple type of scientific techniques/procedures/equipment) are carried out to work out the techno-economic feasibility, design and execution planning of the subject matter.

Each type of subject matter/project may require different kind of survey and depth of data to be collected for preparation of feasibility report/detailed estimate/DPR.

#### 1. Engineering Surveys:



Reconnaissance/  
Pre-Feasibility  
Surveys



Techno-Economic/  
Detailed Surveys

**Reconnaissance/Pre-Feasibility Surveys:** These kind surveys are carried out to prima-facie establish the feasibility of proposed work. Satellite images, survey of India maps, satellite based infra-red imageries, etc. along with some field verifications are used to assess the technical feasibility of project (for linear projects like roads, rails, canal, pipelines, etc.), site selection (manufacturing plant/factory, dams, tunnels, airports, etc.) and to find out alternate routes/sites. Specially conducted aerial surveys are increasingly used for this purpose.

**Techno-Economic/Detailed Surveys:** Detailed field studies are carried out to work out the technical solutions to the proposed project, land requirements, detailed soil investigations, under water surveys/investigations to work out foundation technology and cost and to work out the cost of construction (including social, environmental, rehabilitation, O&M cost. Traffic surveys, industry survey, demographic surveys, etc. to arrive at likely economic benefits (including social benefits in case of major projects). Finally, return on investment is worked out.

## 2. Site Investigations:



**Topographical:** To assess the ground surface contour to finalize alignment, gradients and plan of linear projects, length and location of bridges, viaducts, location of various facilities in concentrated project.

**Geo-technical/Geophysical Investigations:** To assess underground soil, rock and other strata conditions, water table to design foundation and other underground structures like tunnels, dams, storages, etc. Indian Remote Sensing satellite (IRS) data/imageries are quite frequently used underground soil/rock/water table characteristics. These data can be obtained from Indian Remote sensing Centre, an ISRO arm or from BHUVAN app. On request, special data for specific area may also be provided on user's request.

Based on geotechnical/geophysical investigations, suitability of site and underneath soil/rock strata characteristics in terms of joints, their dip/directions, strength, bearing capacity of rock and soil quality, water table, etc. and its effect on proposed structures and mitigation measures to be assessed.

**Hydrological Investigations:** To assess rainfall and run-off characteristics, etc.

**Condition Assessment:** Assessment for the purpose of rehabilitation, redevelopment of existing works, EPC contracts of redevelopments, its existing structural, and functional conditions of structures. For example, highway project existing condition of bridges, pavement, embankment, and other structures needs to be assessed.

**Material Investigations:** To assess the availability, quality of raw materials like aggregates, sand, water, etc.

**Feasibility Report:** Based on the techno-economic surveys/investigations, a feasibility report highlighting detailed project description and facilities proposed, clearly describing all inclusions and exclusions, land requirements, type of proposed structures suitable for the site and functional requirements, their general arrangement drawings (GAD), alignment, resettlement/rehabilitation plan of Project Affected Persons (PAP), environment protection plan, cost of project including cost of approaches/site access, utility shifting, likely financial/economic benefits likely to accrue, expected IRR/ERR, completion period, likely sources of financing, etc. to be prepared for submission for inclusion and sanction by legislature in the budget.

### Things to remember / Important points

#### Typical Survey and Investigation requirements for a highway redevelopment project

1. **Reconnaissance and Alignment**
2. **Topographic Surveys**
  - Longitudinal and Cross-Sections
  - Details of utility Services and Other Physical Features
  - Road and Pavement Investigations
  - Road Inventory Surveys
3. **Pavement Investigation**
  - Pavement Composition
  - Road and Pavement Condition Surveys
  - Embankment Condition
  - The shoulder and embankment conditions
  - Drainage Condition
  - Pavement Roughness
4. **Pavement Structural Strength**
  - Sub-grade Characteristics and Strength
5. **Investigations for Bridges and Structure**
  - Inventory of Bridges, Culverts and Structures
  - Hydraulic and Hydrological Investigations
  - Condition Surveys for Bridges, Culverts and Structures
  - Geo-technical Investigations and Sub-Soil Exploration
6. **Material survey/Investigations**

**Design and Drawings:** Based survey and investigations reports, specified 'design criteria', 'specifications and functional requirements'; design and drawings are developed, proof checked and approved.

**Architectural Designs/Inputs:** It is preferable to get architectural inputs for all major building works (important bridge works also) and other small structures where standard type drawings are not available. Architectural design inputs regarding building elevations, plans, orientation, building bye laws, etc. are to be obtained before carrying out structural designs to ensure its functional utility, appearance, type of materials to be used, economy, etc.

After completion of work, a certificate from the architect is required to be obtained about satisfactory execution of works from architectural point of view.

### CAG Report

Instances of irregularities in preparation and sanction of estimates were noticed such as non-preparation of preliminary estimates of roads, non-availability of road history and road registers, traffic census not being carried out as per IRC specifications, estimates prepared without assessing California Bearing Ratio (CBR) value of soil and Benkelman Beam Deflection Technique (BBDT). Technical sanctions were accorded for estimates having excess/deficient/ wrong provisions and in cases where exact percentage of components of price variation were not approved which led to avoidable/unauthorized/ excess/ short/irregular expenditure.

***(Source: Audit Report (Economic Sector) for the year ended 31 March 2018; Performance audit on Contract Management of Road Works in Public Works Department in Rajasthan.)***

### CAG Report

- Design traffic of road crust was incorrectly computed resulting in adoption of sub-standard specifications and richer specifications resulting in extra cost. It was also observed that though design traffics were worked out correctly in 20 estimates, department erroneously adopted richer specifications resulting in extra cost.
- Provisions of cross drainage and length of road were made without survey and investigation. As a result, wide deviation from estimate was noticed which resulted in excess expenditure. Similarly, length of road specified in the estimate was increased up to three kilo metres in six road works and decreased up to 10.50 kilo metres in 24 road works.

- Quantities of earthwork were provisioned in the estimates by taking average thickness without taking actual ground levels. Due to failure in taking levels and erroneous consideration of levels, quantities of earthwork were not provisioned correctly in the estimates resulting in variation (more than 10 per cent) in 68 road works.
- Provision of richer specifications was made without ensuring its necessity, design traffic of road crust was incorrectly computed, and crust composition was also erroneously adopted resulting in extra cost and possibility of premature failure of crust.

***(Source: Audit Report Economic Sector for the year ended 31 March 2016; Compliance Audits: Public Works Department, MP Govt.)***

**Cost Estimation and Sanction of Works:** Large scale violations of Indian Road Congress (IRC) specifications and norms were noticed in designing of roads and their construction. In 88 percent of works, soil testing was not carried out, pavement conditions were not assessed, and no deflection tests were conducted. Further, in 81 percent works, road designs were prepared and widening planned without conducting traffic census in violation of IRC norms.

IRC norms were not adhered to which made the entire process of road design and cost estimation non-transparent with inherent risk of construction of sub-standard roads, incorrect cost estimation, loss to government and undue favor to the contractors.

***(Source: CAG performance audit report on contract management in road sector of UP govt. for the year ended 31 March 2016)***

## Objectives of DPR

Objectives of DPR is to know the site specific requirements and suitability of site, land requirements, detailed drawings, bill of quantities, method of execution, completion time lines, cost estimates, funds flow, efficiency of project (self-sustainability without any further need of sanction of any additional/enabling works), cost-benefit analysis, environment and social impact assessment and mitigation arrangements including livelihood restoration plan, project monitoring mechanism requirements and types of contract/ and methods of procurement.

On receipt of in-Principal Approval/Administrative sanction of the project, the procuring entity should prepare and finalize the Detailed Project Report (DPR). The DPR should provide a level playing field to the bidders and should ensure as far as feasible, the widest possible competition.

For major/complex projects, DPR may be required for inclusion in the budget.

### CAG Report

#### Road Works Planning

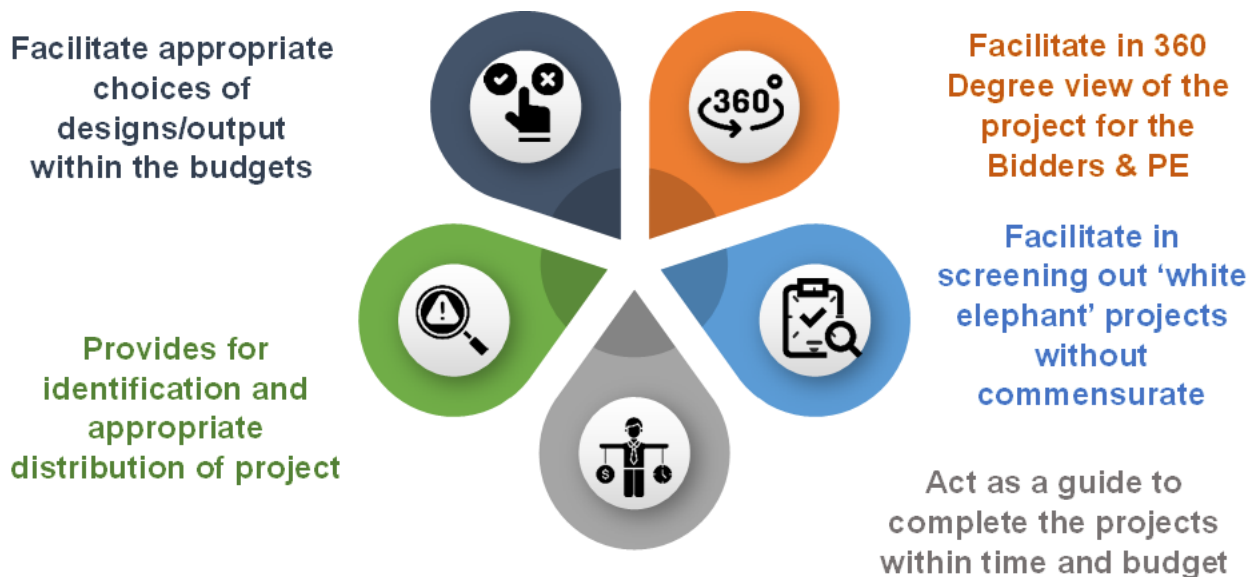
There was absence of systematic and comprehensive planning of road construction in the Public Works Department as the proposals of road construction by the State Government were generally sanctioned on the basis of recommendation of representatives of people, local groups of people, etc.

No prioritization of roads was carried out in majority of cases to support project proposals. The department also did not have an updated data base of roads to facilitate systematic and objective planning.

**Source: Audit Report (Economic Sector) for the year ended 31 March 2018; performance audit on Contract Management of Road Works in Public Works Department in Rajasthan.**

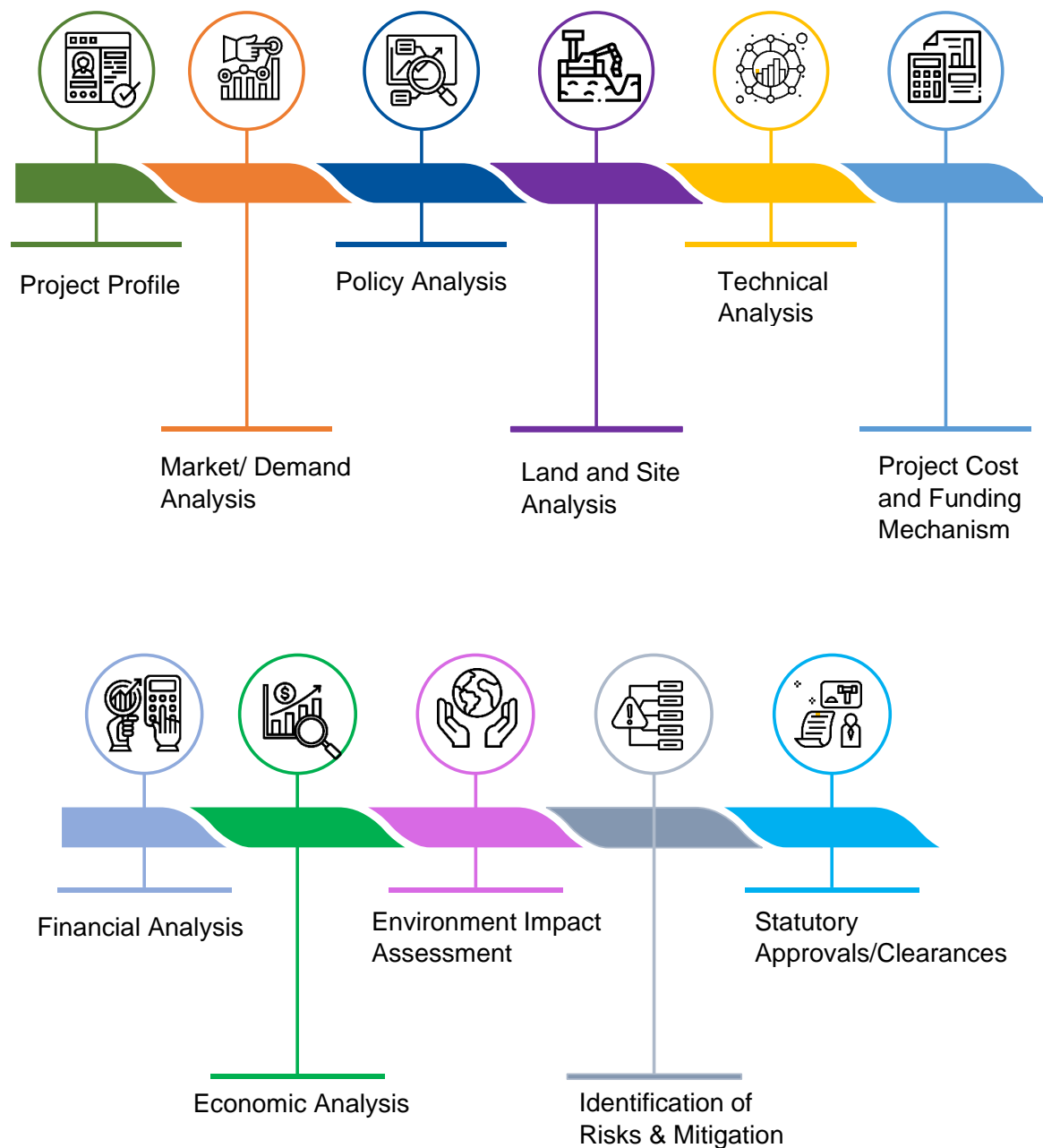
### Importance of DPR

The importance of DPR is summarized as under:



## Key Components of DPR

The DPR shall include the following:



The above components are briefly discussed below:

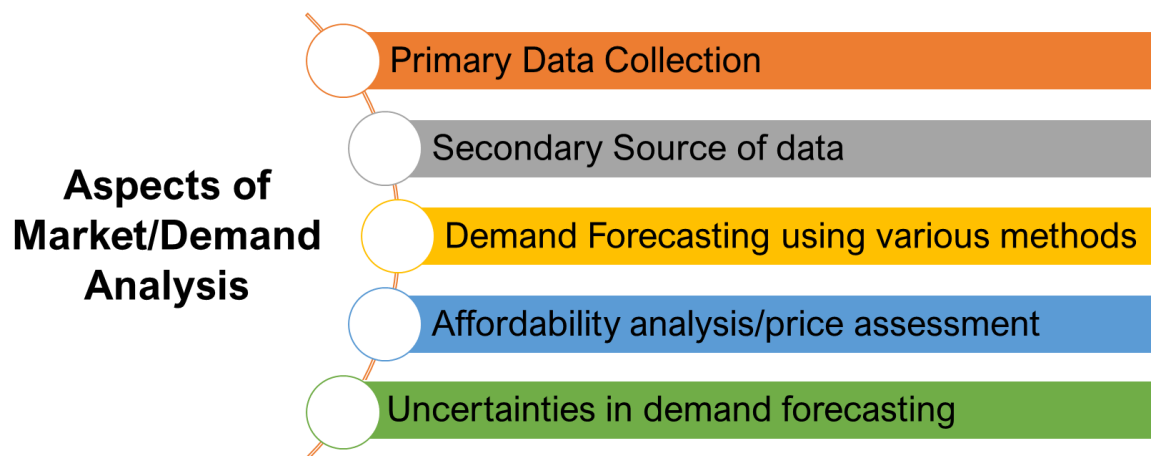
## Project Profile:

The project profile will primarily include (not exhaustive):

- Project Objectives: For example - Solid waste management by setting up a Waste to Energy plant
- Project Location
- City/region profile
- Population/demographic profile

## Market/Demand Analysis:

Assessment of the demand/ market scenario would include:



## Policy Analysis:

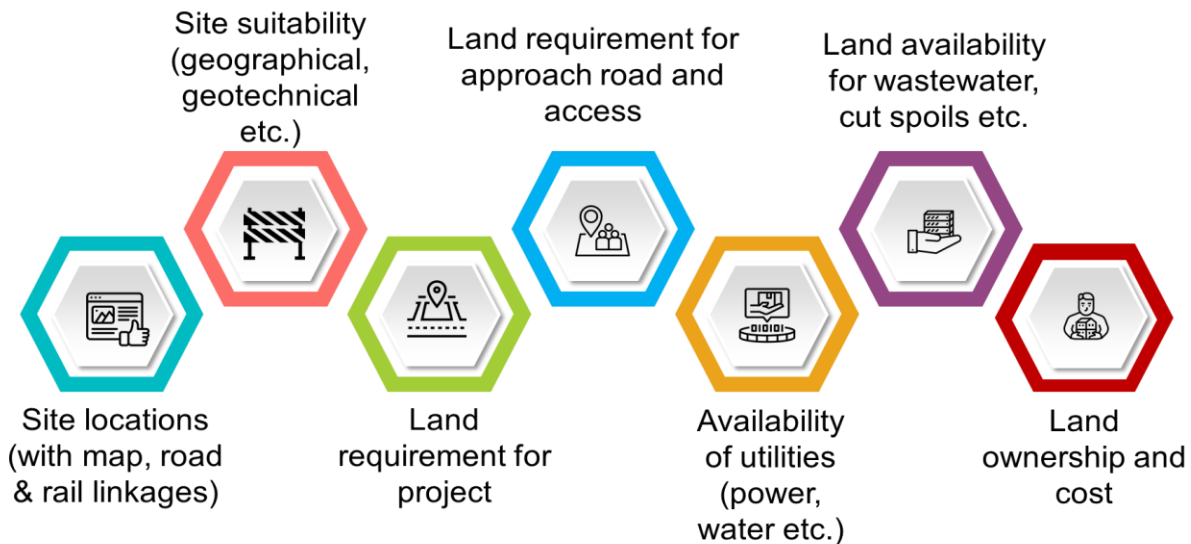
The policy assessment would include:

1. **Government Initiatives:** Central and State government. For example, Bharatmala project for national highways, Jal Jeevan Mission for drinking water in rural areas.
2. **Specific Government Policies/Rules:** For example, Procurement Policy (RTPP Act & Rules); Land acquisition and Rehabilitation and Resettlement Policy
3. **Incentive Packages.** For example: Ease of doing business, Industrial promotion (like RIPS 2022), waiver of duties etc.

## Land & Site Analysis:

In order to implement timely land acquisition procedures, there is a need to do the assessment of land requirement, land availability and land plan schedules.

Following are the inclusions for land analysis:



### Things to remember / Important points

**Land Acquisition:** It is important to know the ownership of land as there are different procedures to be followed and clearances are required for acquiring private land, state govt. land, forest land, wet area land, Railway and Defense land, other central govt. land.

#### Acquisition of Private Land:

- After ascertaining the land requirement, following basic steps are needed for acquiring a private land under LARR Act 2013: Identification of land khasra details, owners' details, land area village-wise and publication of notification in Gazette indicating intention for land acquisition, and public hearings and getting objections if procurement is not under emergency provisions
- Value assessment of land, and developments, relief and rehabilitation needed and publication of the same as firm need for acquisition
- Publishing award for each parcel of land-by-land acquisition officer, payments to landowners
- Taking possession of land

**Resettlement/Livelihood Restoration Plan:** Some of the construction projects like dams, power plants or mega highway projects, etc. requires very large contiguous parcels of land requiring existing landowners/occupants to be displaced beyond the project area. Land acquisition and resettlement Act (LARR-2013) prescribes ways and means for resettlement and lively restoration plans of such displaced/Project affected persons (PAP). DPR of the project should provide details of such plans.

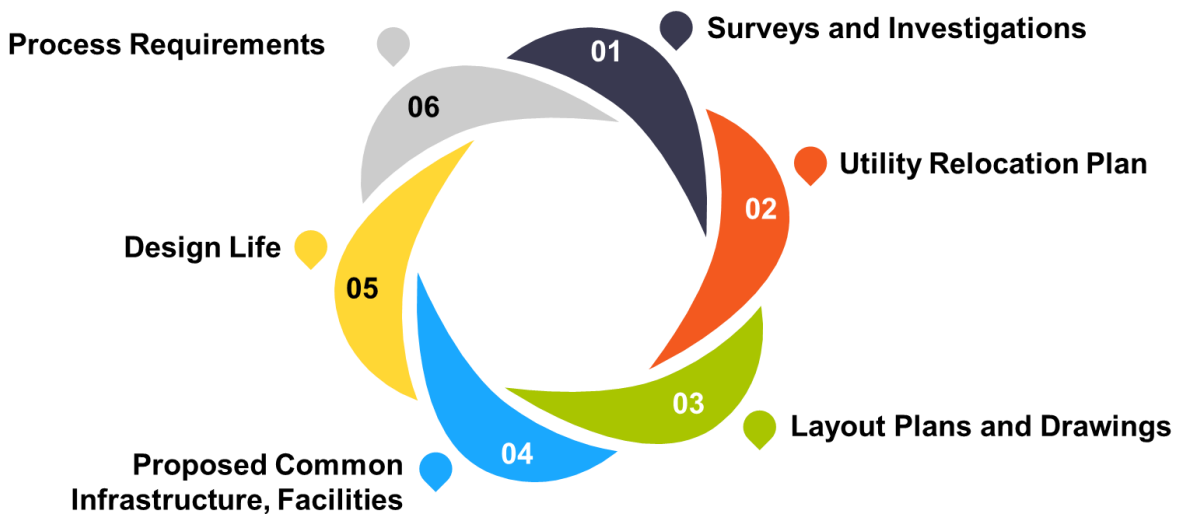
**Example**

In case of a dam project, occupants affected by the project, need to be given alternate sites for residences, well connected with necessary amenities of the villages got submerged/ acquired, agriculture, vocational training to earn livelihood or govt. jobs apart from shifting charges and other compensation for compulsory land acquisition including of land developments.

**Technical Analysis:**

Technical analysis determines whether parameters are soundly conceived, realistic, and technically feasible.

Key aspects of technical analysis include:



1. Detailed subject matter of procurement including detailed scope of the project clearly indicating the list of Engineering Services as well as Operation and Maintenance included or not included.

**Example**

For metro rail project - coaches, traction and general lighting, communication, air conditioning, signaling, drainage, etc.

2. Exclusions (if any) which is not included in project estimate

**Example**

Whether staff quarters are part of metro project or not?  
Whether development of approach roads to stations is part of project or not?  
Identification and Development of water source is part of water supply scheme?

3. Reference to Concept plan/ preliminary drawings and their acceptance by Administration Department.
4. Design, drawings: based on survey and investigation reports, detailed designs and drawings are prepared which are used for quantity and cost estimation.
5. Surveys - Topographical, geotechnical/geophysical surveys using various survey and investigation techniques to determine suitability of site for proposed project.

**Example**

Survey to assess whether any forest land, water body, heavy built-up area, religious/heritage structures are coming in the metro rail alignment, suitability for bridge foundations and underground stations.

6. Suitability of proposed structure and methodology of execution and alternates, if any to meet the same objectives and its site-specific suitability

**Example**

Alignment plan, index plan and index sections, whether overhead alignment or underground alignment, arrangements for crossing of water bodies, roads and highways, railway tracks, canals, major road traffic junctions, use of cast in site bridge components or pre-cast technology for metro rail.

7. Various facilities, special requirements/features and broad specifications for specialized equipment and plants.

**Example**

Commercial development at stations, staff quarters, maintenance depot, junction arrangements with existing lines, administrative building, tunnel ventilation etc.

8. Identification and diversion of utilities like water supply, sewer, communication, power lines, or creation of new infrastructures like buildings, maintenance depot, etc.
9. Site specific functional utility/ Public acceptability.

### Example

Likely daily/peak ridership,

Public acceptability of a remote site for low-cost housing scheme

10. Any site-specific restrictions like working season, working time, etc. to arrive at appropriate execution methodology.
11. Quality assurance system/ mechanism; output acceptance criteria

## Project Cost and Funding Mechanism:

The works contracts (like road, airports, bridge construction) are complex in nature as they involve multiple stages across the construction life cycle. Therefore, it is extremely important to prepare detailed cost estimates of the entire construction period and the maintenance cost of the infrastructure so created to ensure timely completion of the projects within the approved budgets. While designing the projects, principles of Life Cycle Cost may also be considered, to the extent possible.

The estimated cost of works is calculated in two stages:

**Preliminary Cost Estimates**



**Detailed Cost Estimates**



### Preliminary Cost Estimates:

For original works preliminary cost estimates are required to quickly assess whether proposed project is worth further investigations and sometimes are also used for getting projects included in budget speeches and to get Administrative and Finance sanctions.

Normally, cost indices (building cost index, average costs per running metre for bridges, cost per MW for power project, average accepted cost for similar items, model estimates & model drawings, etc.) are used for initial estimation.

**Detailed Cost Estimates:**

Detailed cost estimates are prepared based on designs/specifications/quantities as finalized. The rates contained in the applicable schedule of rates are used. Depending on the gap between the time of bidding and the latest schedule and timing of the project execution, corrections to the schedule rates might have to be applied keeping inflation in view.

For a project, various items like land value, resettlement of affected persons, environment protection, compensatory afforestation cost, survey and investigations, utility shifting, making approaches to sites, temporary works, execution of works, etc. contributes to the overall cost. Important cost components include:

Physical infrastructure component wise cost (Labor, Materials, Equipment, etc.) (Lump-sum or item rate based on project), viz. Dam, spillway, powerhouse, main canal, diversion tunnel, penstocks, staff colony, control room, land, and resettlement, etc. in case of a dam project
Environmental compliance cost: Cost of compensatory afforestation to compensate damage to existing trees, wildlife protection and movement facilities, pollution control measures, etc.
Rehabilitation & resettlement cost: Cost involved in relocating and rehabilitation of PAPs, alternate jobs, if warranted
Cost of surveys & investigations: It normally depends upon the type of project and may vary from 1-3% of the project cost
Cost of shifting utilities: Cost estimates for shifting of utilities like sewer line, communication lines, roads, shall be obtained from the concerned authorities.
Cost of consultancy services: For preparation of DPR and for any PMC like functions, 1 to 10% of project cost provision is kept, depending upon the extent of consultancy services to be deployed.
Other statutory compliance costs if applicable
Finance/interest cost during construction
Contingency: Approximate 2-3% of the project cost is provided to include quality control, and other exigencies.
Any other direct or indirect cost: Like cost of supervision and execution (pro-rata charges), office establishments, cost of making approaches, temporary works, etc.

Project Estimate shall include cost towards any of above components.

Basic Schedule of Rates (BSR) is referred for preparation of detailed cost estimates for the Bill of Quantities as worked out from the approved/finalized detailed drawings, designs and specifications. For preparation of bid document, cost estimates may be prepared in a following way:

- Refer latest rates as per BSR (BSR of concerned department).
- If rate is not available in BSR, then approved rates of any other department of Rajasthan for that item can be considered.
- If rate is not available in BSR/Approved rates, then CPWD rates may be referred.
- If rate is not available as above, then the latest rate of other State Government/Agencies' Schedules of Rate/ BSR may be considered.
- If rates is not available in any of the above-mentioned sources, then market rates may be considered by inviting at least 3 quotations. Rate would be selected post approval of Competent Authority.

**Note:** In case Latest BSR/SOR (current year BSR/SOR) not available, then rates are updated for inflation in rate, calculated by taking consideration of RBI Index (Commodity inflation).

After finalization of items, quantities and rates the estimates for works prepared, for example a format for estimation purposes shown below-

#	Item/ Ref. No. of BSR	Brief Description of Item	Unit of Measurement	Unit Basic Rate	Quantity Required	Total Value
1	2	3	4	5	6	7 = 5*6

### Things to remember / Important points

#### Additional Charges:

Once basic value is known, standard contingency charges (may be around 2.5% for unforeseen items) to be added. Further to this Pro-rata charges for supervision (%) are added. Finally expected inflation at prevailing rates during construction period excluding first year (%) is added and Gross total estimated cost of the project is worked out.

Total Value say 100

Add for contingency (1.5%) + quality control (1%) (total 2.5%) =  $100 \times (1 + 2.5/100) = 102.5$ .

Add for pro-rata charge (say 13%) =  $102.5 \times (1 + 13/100) = 115.825$

For completion period of say 4 years, add for inflation (say for 3 years @ 7% p.a, excluding for first year.) =  $117.42 \times (1 + 3 \times 0.07) = 140.15$  = Gross estimate value. The bids may be invited for whole project or for suitably divided sub-packages as per procurement planning.

**Detailed Estimation for ordinary repair work:** Different departments have laid down detailed guidelines for maintenance of works which includes type of repairs, its periodicity, priority, timing of the year, weightage for age of structure for various types of structures like buildings, roads, etc. Rates for various items may be taken from BSR, or last accepted rates in rare cases.



Field units are required to frame annual maintenance requirements as per above guidelines and submit the same to head of department for consolidation and inclusion in budget.

### CAG Report

#### Observations on Estimation

- Widening and strengthening of large number of roads was executed without proper need assessment as in 38 per cent of test-checked works in 17 districts, proposals for widening were not based on mandatory traffic census reports. Renewal of roads were also not carried out as per laid down policy norms. Policy objective of ensuring environmental protection through extensive plantation along the roads was not achieved. Provision of Rs.47.87 crore was not made for tree plantations in the estimates of 168 out of 170 works test-checked by audit. Normal items of works such as Wet Mix Macadam, Dense

Bituminous Macadam and Bituminous Concrete approved by government were excluded from tendering but subsequently executed by sanctioning extra-items in 92 contracts (valuing Rs.553.27 crore) during 2011-16.

- Further, 27 separate complete road works amounting to Rs.6.53 crore were executed without tendering and payments were made as extra-items under the contracts executed for other works.

**(Source: CAG performance audit report on contract management in road sector of UP govt. for the year ended 31 March 2016)**

- Pre-requisite activities for preparation of estimates of road works, such as feasibility study and detailed survey and investigation were not carried out. Due to failure in taking levels in 103 road works and erroneous consideration of levels in 93 road works, quantities of earthwork were not provisioned correctly in the estimates resulting in variation (more than 10 per cent) of Rs.25.71 crore in 68 road works.
- Road works were awarded without ensuring adequate provision in the estimates for acquisition of forest and private lands. As a result, 26 out of 196 test checked road works were delayed for two months to over six years, which included 15 road works on which an expenditure of Rs.66.86 crore was already incurred remained incomplete even after lapse of 21 to 68 months.

Cost of utility shifting in 10 estimates was provisioned on assumption basis without obtaining technical sanction from concerned departments resulting in delay from 11 months to 27 months in construction of roads, besides increase in cost of road by Rs.7.14 crore.

**(Source: Audit Report Economic Sector for the year ended 31 March 2016; Compliance Audits: Public Works Department, MP govt.)**

The important sources of financing the project cost would include:

### Proposed Financing Arrangements



**State Budget**  
State Budget



**CSS**  
Funding from Government of India as Central share in Centrally Sponsored Schemes (CSS)



**Loans**  
Funding from external agencies such as World Bank, ADB, etc.

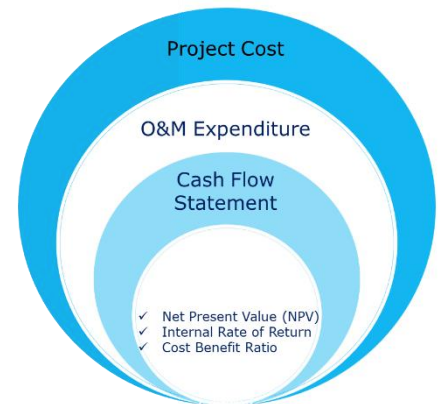


**PPP**  
Private investments in PPP

## Economic & Financial Analysis:

Following approaches are commonly applied for economic and financial appraisal of projects to determine whether the project is financially viable.

**Internal Rate of Return (IRR)** is done by estimating the project cost, O&M cost scenarios vis-à-vis the revenue accruing from the project. Cash flow projection should also be prepared to show year-wise funds requirement. Net present value of all investments and returns over 10-20 years duration is worked out and discount rate at which Net present value (NPV) of investments equals returns, is called IRR. Normally 10% IRR is recommended for selection of a project.

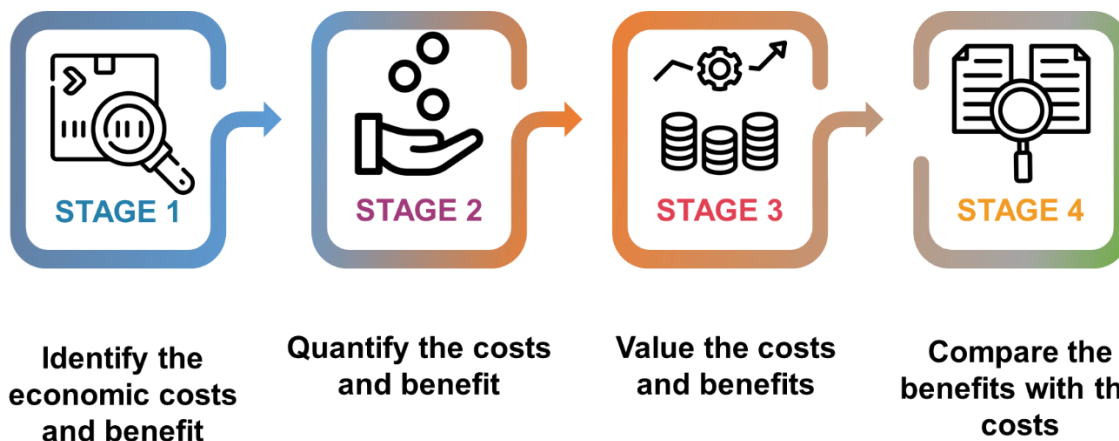


**Economic rate of return (ERR):** Apart from financial cost and benefits, other indirect investments and socio-economic benefits accruing from the project to local area/people over 10-20 years duration are converted into monetary terms and NPV of such economic cost and benefits is worked out and rate at which benefits equals cost, is called ERR. Normally 10% ERR is recommended for selection of a project.

**Project Viability:** In case of PPP projects, if expenditure (both capital and O&M) incurred by concessionaire is giving reasonable profit margin (Return on Equity, ROE) with likely revenue streams generated out of project operation over concession period, the project is considered viable.

**Viability gap funding (VGF):** In case project is not found viable by the concessionaire with revenues generated out of project operations over the concession period, the deficit which is required to be funded by procuring agency to make it viable, is called VGF.

There are four basic stages to analyze the economic viability of a project:



### Environmental Impact Assessment:

Environmental Impact Assessment (EIA) needs to be carried out to identify the probable changes in the various socio-economic and biophysical attributes of the environment, which may result from the proposed project. The key aspects include:

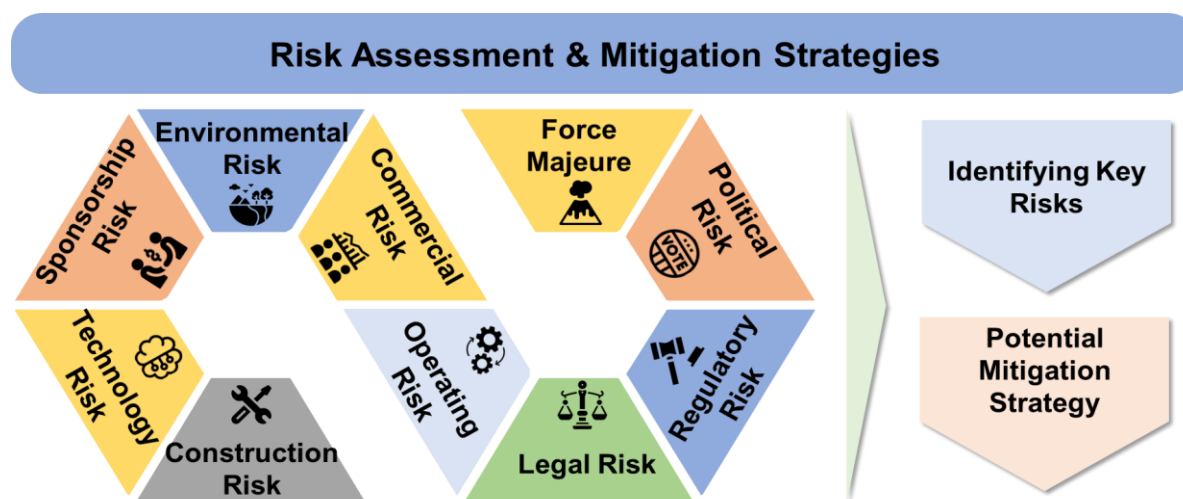


Along with EIA, Social Impact Assessment also needs to be done, based on baseline socio-economic survey and census survey data, to identify the Project Affected People (PAPs). A Resettlement and Rehabilitation Plan should be prepared for the PAPs in accordance with Central & State Governments framework of resettlement policies and

other social safeguard policies designed to protect the rights of the affected persons and communities.

### Risk Assessment & Mitigation Strategies:

The identification of various types of risk across Project Development Stage, Project Construction Stage and Operation & Maintenance Stage and their mitigation strategies must also form part of the project appraisal/DPR. This would facilitate in adequate risk distribution between the procuring entity and the contractor, and all the relevant terms and conditions must be incorporated at the time of preparation of bidding documents to avoid any contract execution related issues at later stages. The different types of risk may include:



### Statutory Approvals/ Clearances:

There will be a requirement to take statutory clearances, approvals of several authorities before project execution. All these must be identified in DPR

**Example**

Approvals from pollution, forest, ecological, heritage, local authorities, city traffic police, adjoining road network authorities (town planning body), underground utilities owning authorities, safety approvals by Commissioner of Railway safety, Electrical Inspector, Highway, Railway, airport, waterway authorities, etc.

## CAG Report

**DPR for irrigation projects:** Preparation of Detailed Project Report (DPR) includes data of surveys, geological investigations, seismic investigation, hydrology, design etc. and these DPRs are approved by CWC (Major and Medium Projects). Typically, preparation of Administrative Estimates for Minor Irrigation Projects is done departmentally.

The DPR/Administrative Estimate contains the detailed justification of the project, area affected by it, steps involved in execution, estimated cost and benefits etc. During finalization of DPR, feedback/comments are also taken from other stakeholder line departments like Agriculture and Public Health Engineering Department. DPR preparation is to be followed by land acquisition and taking statutory clearances like environment and forest. This has to be initiated by nodal department (WRD). In all selected projects, funds are provided through the regular budget of the department under various Central/State schemes.

This is followed by planning the work execution and establishing the monitoring system. A successful execution of project and effective delivery of outcome requires detailed planning at each stage of project.

***Government of Rajasthan for the period 2014-15 to 2019-20.)***

In all the selected projects, Audit noticed changes in quantities of items, modifications in scope of work and structural engineering and designs after commencement of work with significant financial implication.

***(Source: CAG audit report no.6 of 2021: Performance Audit of “Outcomes in Surface Irrigation” relating to Water Resources Department)***

### **Quality of DPR:**

Major reasons for the problems in procurement of works contracts is the out-sourcing of preparation of Detailed Project Reports to consultants without having sufficient relevant experience or giving them sufficient time to do so.

- The involvement of the Administrative Department in providing proper inputs including functional requirements, during the preparation of the DPR and before accepting the draft DPR, is paramount in ensuring successful implementation of project. Proper field surveys and investigations of ground conditions are critical in preparation of a reliable DPR.

- It is also essential that the Department insists that the Consultant offers them technology options at the early stage of preparation of the DPR, so that a cost-efficient choice may be made using principles of Life Cycle Costing.
- The Department must insist on a qualified team of engineers with experience, whose credentials are pre-approved, for carrying out DPR studies in field and in office.
- Presentation may be made about the DPR before the department authority and various stakeholders by Project Executing Authorities. The presentation may include salient features of the project including general layout, architectural drawings, broad specifications, cash flow (over the life of the project), composition of the project team, quality management plan for the project, important outcome milestones in the project execution, obligations of the authority and the contractor/ concessionaire and possible risks and mitigation measures.

### CAG Report

#### **Construction of unviable projects due to poor quality DPRs (Source: CAG report no.6 of 2021)**

- (A)** As per category of catchment area and run off, 27.583 Mcum, 0.591 Mcum and 9.401 Mcum water was to be received in the dam at 956 mm, 211 mm and 594 mm rainfall at Jalore during 2017, 2018 and 2019 respectively. However, water was received for full storage capacity (1.72 Mcum) for four months in the year 2017 and after that no water was received during the years 2018 and 2019. Non/short receipt of water in the newly constructed project despite good rainfall (594 mm rainfall was received during 2019 against 330.75 mm), reflects deficient pre- construction survey.
- (B)** The project was constructed with an anticipation of receiving 64.577 Mcum water at 484.50 mm rainfall. However, no water was stored in 2014 to 2019 except a little water in 2016 despite rainfall of 353 mm to 734 mm during these years (430.5 mm (2014), 513 mm (2015), 734.5 mm (2016), 391 mm (2017), 353.5 mm (2018) and 548 mm (2019).  
Thus, proper catchment area was not envisaged in survey & investigation conducted prior to construction of the project.
- (C)** As per the quantum of rainfall received during 2013 to 2019, 0.11 Mcum to 2.85 Mcum water was to be received in the dam. However, no water was received in these years. Non-receipt of water in the dam reflects that the hydrology of the dam was decided without proper survey & investigation.

## 5.3 Approvals & Sanctions

The detailed project appraisal done and/or DPR as prepared for any works need to be approved both by the concerned Line Department and the Finance Department. The procurement of works will only get initiated after the following approvals:



**Administrative Approval & Technical Sanction:** The administrative approval and technical sanction of the intervention are done by the Line Department itself. The Head of Department (HoD) shall review the detailed paper/detailed project report for the proposed intervention, review the technical feasibility, and provide their comments (if any) to be taken for budgeting purpose. The review comments will be attached as part of the Appraisal Note which will be then sent to Finance Department for Financial Sanction.

**Financial Sanction:** The Financial Sanction is provided by the Finance Department after thorough review of the project appraisal report, observations of the line department, if any and undertake detailed review of the project cost estimates as prepared and decide whether the intervention is viable to go forward with the budgeting process considering the fiscal space.

**Technical sanction:** Technical sanction is given by the procuring entity signifying acceptability of proposed technical solutions of identified need, cost estimates, completion timelines, procurement planning, etc.

**Appropriation/ Re-appropriation:** Appropriation/ Re-appropriation is done to ensure availability of funds during the financial year for a particular object. It is available till the end of financial year and any unspent amount gets lapsed at the end of the financial year.

All the above Approvals/Sanctions are necessary before initiating any procurement and also subsequently as necessary.

## CAG Report

### **CAG observations regarding sanctions:**

Deficiencies in tendering system such as tenders invited before issue of technical sanction, Notice Inviting Tenders (NITs) issued before administrative sanction, irregularities in issuing corrigendum in NIT and inadequate time for submission of bids were noticed.

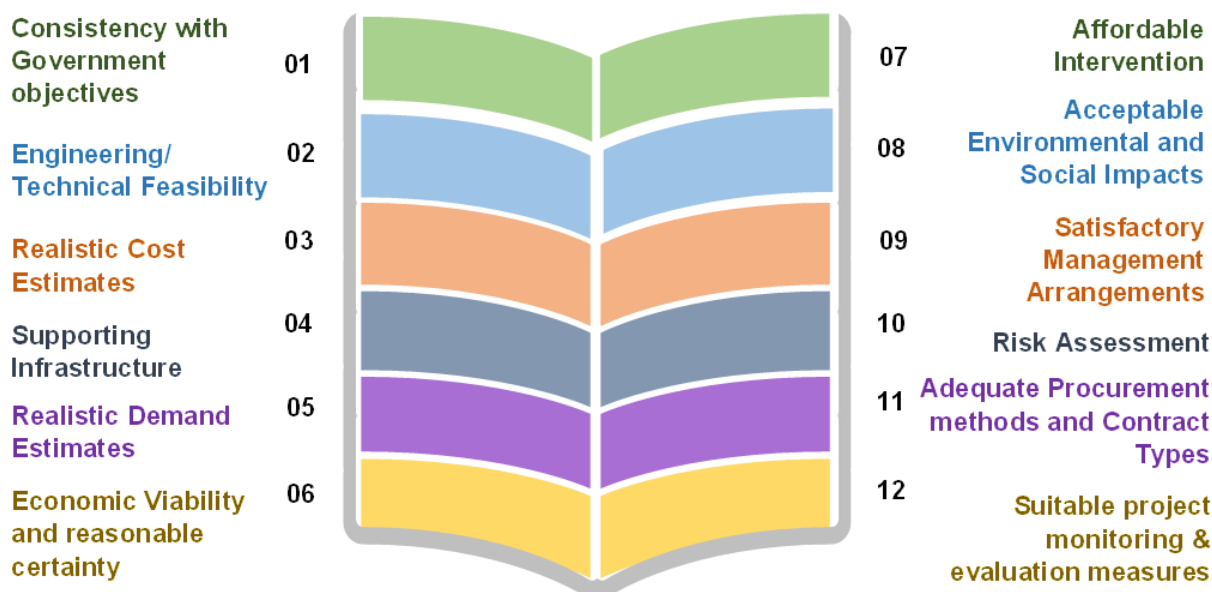
Execution of contracts suffered from deficiencies such as non-submission of Works programme, non-deployment of technical staff by contractor at site, bank guarantee not renewed after expiry of validity date, insurance cover not provided by the contractor, non-registration of labor under Workmen’s Compensation Act, non-recovery/levy of compensation and delay in payment of final bill.

Cases of irregular sanction of time-extension, sanction of extra/excess item in deviation from Central Road Fund guidelines, irregular award of work as additional/remaining/balance work against the savings in original work and excess payment of price variation were noticed.

**(Source: Audit Report (Economic Sector) for the year ended 31 March 2018; performance audit on Contract Management of Road Works in Public Works Department in Rajasthan.)**

### **Key Considerations during Technical Sanction & Administrative Approval:**

The HoD must assure that the proposed intervention meets the following criteria:



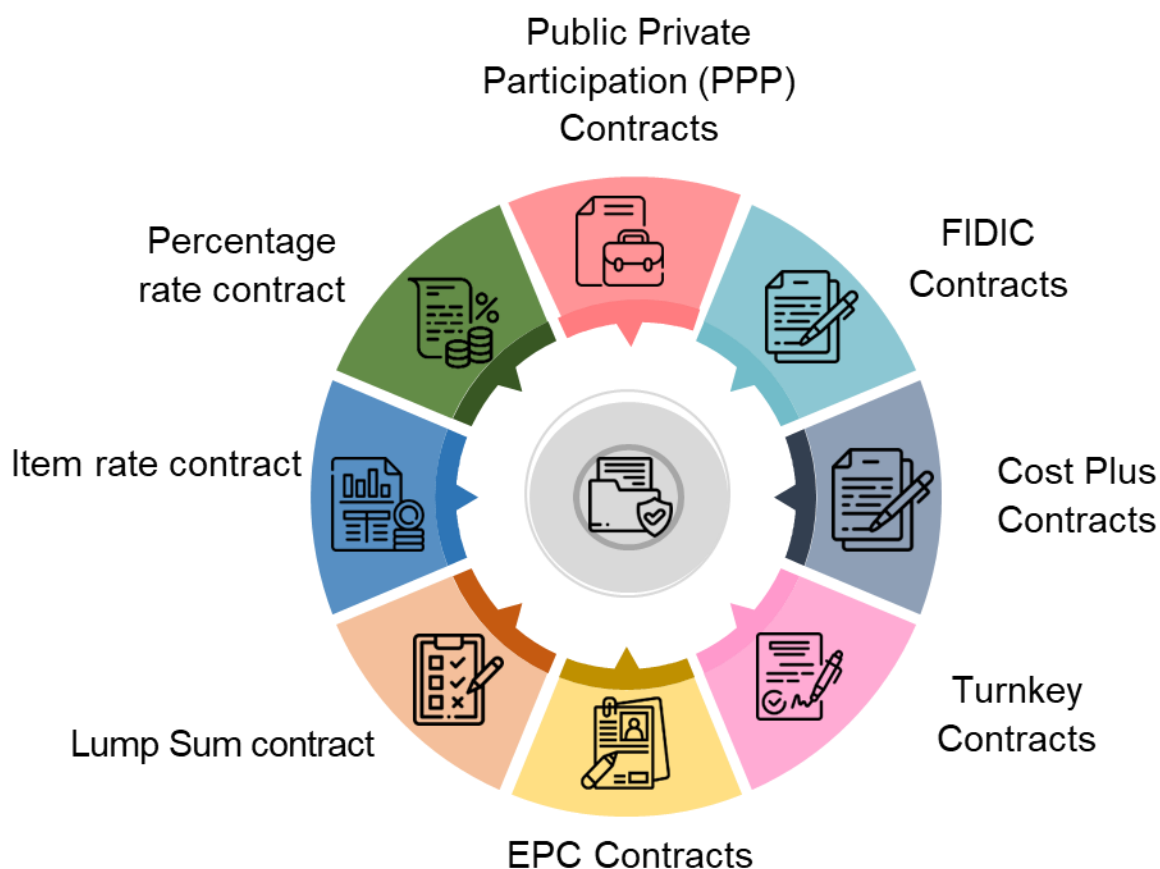
- The intervention is convincing and the strategic 'fit', meaning its consistency with the Government's medium to long-term strategic objectives, is reconfirmed
- The engineering/technical feasibility (in the case of a project) has been validated and realistic cost estimates prepared for the scheme/project/programme
- Any supporting infrastructure requirement to make the intervention operational is planned
- Realistic estimates of the demand for the public services delivered by the project have been prepared
- The economic viability has been confirmed with reasonable certainty, meaning that the net benefits are expected to be positive, there are no better ways of achieving the purpose and the public financial resources employed are unlikely to be employed better elsewhere
- The intervention has been shown to be affordable, meaning that all funding sources are assured, and it will be financially and fiscally sustainable once operating
- Environmental and social impacts are acceptable or, where negative impacts are foreseen, adequate mitigation measures are proposed
- Satisfactory management arrangements will be put in place for delivering the scheme/project/programme to specification, on time and to budget
- Implementation and operational risks have been assessed and necessary mitigation measures are foreseen for the most significant risks
- Adequate procurement methods and contract types are through
- Suitable project monitoring & evaluation measures have been framed

### Example

A new overhead water tank cannot be sanctioned alone without ensuring availability of water source development, pipelines, pump houses, etc.

## Chapter-6: Types of Work Contracts

The types of contracts based on method of measurements, payments, and risk allocation are as follows:



### 6.1 Percentage Rate Contract

Percentage rate contracts are commonly invited by various departments in Rajasthan, where-Schedule of quantities/Bill of quantities (BOQ) is prepared based on BSR (BSR related to concerned department/scheme) and detailed drawings. Corresponding detailed specifications regarding quality and measurement of the BSR items are also available and referred in the bid documents. Bidders are required to offer single uniform percentage above or below the total estimated cost shown in the schedule of quantities attached with the bid.

Example: In case of a boundary wall construction, bid can be prepared like:

SN	Item/Ref. No. as per BSR	Item brief description	Unit of measurement	Unit basic rate (Rs)	Quantity required as per drawing No.	Total value
1	10.1	Excavation in all soils/rock in foundation	M3	400	100	40000
2	10.5	Base cement concrete	m3	5000	50	250000
3	12.5	Brick masonry	M3	3000	40	120000
	14.3	20mm cement plaster	M2	400	100	40000
.	<b>Sub Total (Estimate bid value)</b>					<b>450000</b>

Bid percentage quoted by bidder 5 % above

Total quoted bid value:  $1.05 \times 450000 = 472500$

Payments are made based on the actual progress of any of above item at the 1.05\* item base rate.

#### **Advantages:**

This type of contract is appropriate for small/medium value contracts, when items of work are few and belong to same category. Inter-item variation/vitiations due to quantity variations are best avoided in this type of contract. For this type of contract, financial evaluation of bids is faster.

#### **Disadvantages:**

Detailed measurements for each item need to be recorded. There is a need to be careful about the sub-item quantities, since the contractors can avoid execution of loss-making items and could also find reasons for asking profit making items as variations on account of various pretexts like non-availability of item/substitution.

Same percentage above or below different category of items looks to be irrational in view of differential price variations across different categories like steel items, cement items, other building materials, etc. Success depends upon reliability of BSR rates with respect

to market rates across various categories of items like concrete, plumbing, woodwork, finishing, etc.

Problems are faced where design/drawing changes takes place due to site conditions or otherwise resulting into wild variation of item quantities under the G-schedule or need of new items within BSR/ outside the BSR. Invitation of composite tender e.g., Civil + Electrical + Communication combined is not possible under this system.

## 6.2 Item Rate Contracts

In this type of contract, bidders quote unit rates for different items which are inclusive of the costs of labor, materials, equipment, transport, loading/unloading and stacking. Most of World Bank contracts, ADB contracts, and other national projects follow item rate contract system.

Example: In case of a boundary wall, construction bid can be prepared like:

S N	Item/Ref. No. as per BSR	Item brief description	Unit of measurement	Unit basic rate (Rs)	Quoted rates by successful bidder	Quantity required as per drawing No.	Total value	Total quoted value
1	10.1	Excavation in all soils/rock in foundation	M3	400	500	100	40000	50000
2	10.5	Base cement concrete	m3	5000	4500	50	250000	225000
3	12.5	Brick masonry	M3	3000	3500	40	120000	140000
	14.3	20mm cement plaster	M2	400	350	100	40000	35000
.	Sub Total (Estimate bid value)						450000	450000

Payment to be made for the quantity of any item actually executed and measured at site periodically with quoted and accepted rate of that item.

**Advantages:**

Such contracts provide adequate flexibility to handle variations due to changes in design/drawings. Consistent quality of items needs to be ensured.

**Disadvantages:**

1. The detailed measurements are recorded, and payment made at the accepted unit rates.
2. Detailed rate justification for each item is required to be made by bid evaluation committee which is quite a time-consuming exercise.
3. Care is to be taken to ensure that bidder do not front load (abnormally high rates) the earlier executable quantities v/s rear unloading (abnormally low rates) of executable quantities in the end.
4. Clarification may be obtained from bidder about reasonability of such abnormally high or low rates and if clarification is not satisfactory, the bid may be rejected.
5. Contractors may avoid execution of less profitable items.
6. Possibility of vitiation (change in inter-se position of bids) due to quantity variation may take place.
7. Balance of bid prices to be examined.
8. Negotiations may be required to safeguard this tendency.

### 6.3 Lump Sum Contracts

In lump sum contracts, a lump sum rate is quoted by bidder with most of risk being shared by him. Normally quantities and rates of detailed items are not given in the bid documents. However, detailed scope and specifications are given in the bid documents

Detailed Specifications, general arrangement drawings, detailed scope (subject matter of procurement), performance milestones and stages of payment, quality assurance plan, acceptance criteria and penalty/incentive should be prescribed in LS contracts.

There are no detailed measurements. Payments are made after achievement of pre-specified milestone/stages of the various sub-works.

For any changes/variations in quantity/quality not anticipated in original contract or for assessing the value of premature terminated work, an indicative schedule of rates or reference to some BSR is kept in the contract for arriving at the executed value of work for such variation/time, etc. Premature termination of contracts creates lot of problems in ascertaining the value of work done. Adequate security deposits with validity up to 6

months beyond completion period needs to be kept safeguard against pre-mature termination/recovery of any contractual dues.

### Example

1. In case of a boundary wall construction bid can be prepared like-

Construction of boundary wall as per drawing no, XYZ for a length of 50m, estimated lump sum cost Rs.4,50,000.

Condition: stage Payment will be made for full section of wall per meter rate

Lowest bidder quoted lump sum rate is Rs.4,50,000

In this case payment will be made as work progresses according to completed length of wall at  $450000/50 = 9000$  per running meter.

2. A RCC overhead tank with given capacity and height can be awarded on LS basis, with contractor's design as per IS codes and suitable stage payment schedule.

## 6.4 Engineering, Procurement & Construction (EPC) Contracts

Large investments, public as well as the private, is required in various infrastructure sectors to meet the growing needs of the Indian economy. The public sector plays an important role in building infrastructure and thus ensuring efficient and timely construction of projects within the agreed costs is important. To ensure this, it is necessary to adopt a modern contractual framework in the form of a standardized Engineering, Procurement and Construction (EPC) contract based on international best practices.

### 6.4.1 Limiting features of existing Item Rate and Percentage basis contract

The various departments and undertakings of the Central Government and the State Governments have been undertaking construction projects through the conventional item rate contracts or percentage basis contracts, where the Government provides the detailed design as well as the estimates of quantities for different items of work (Bill of Quantities). Payments to the Contractor are made on the basis of measurements of the work done in

respect of each item. Experience shows that item rate contracts are prone to excessive time and cost overruns, besides recurrent disputes involving large claims. The reasons for their poor performance include inadequate project preparation and estimation coupled with allocation of several construction risks to the Government. For these reasons, the conventional item rate contracts or percentage basis contracts have long been discarded in the developed countries as well by the private sector in India. The structure currently in vogue is in the nature of EPC contracts where the responsibility for design, procurement and construction is assigned to the Contractor.

#### **6.4.2 Main features of EPC Contract**

The aforesaid drawbacks of item rate contracting are addressed by the EPC approach that relies on assigning the responsibility for investigations, design and construction to the Contractor for a lump sum price determined through competitive bidding. The objective is to ensure implementation of the project to specified standards with a fair degree of certainty relating to costs and time while transferring the construction risks to a private sector Contractor.

The EPC contract document being used by Rajasthan Government is based on the model EPC Contract developed by NITI Aayog which is also being used by various Procuring Entities of the Central and various State Governments and their PSUs. This document enables the Procuring Entities a transparent, fair, and competitive roll out of projects.

The EPC Contract incorporates international best practices and provides a sound contractual framework that specifies the allocation of risks and rewards, equity of obligations between the Procuring Entity and the Contractor, precision and predictability of costs, force majeure, termination, and dispute resolution, apart from transparent and fair procedures.

The EPC Contract specifies the basic design and performance standards and allows the Contractor to do detailed designing and construct the project using best practices and innovation to optimize on efficiency and economy as compared to the rigidity of the item rate contract that relies on a rigid design provided by the Procuring Entity. The Contractor also has full freedom to plan the construction schedule for efficient use of its manpower, equipment and other resources and payments are linked to specified stages of construction as compared to payment for individual items or units specified in the item rate or percentage basis contracts. Awarding contract for a lump sum price ensures predictability and financial discipline, both for the Contractor and the Procuring Entity. Moreover, clearly stated obligations and risks of the respective parties help in achieving timely completion of the project while minimizing disputes.

### 6.4.3 Technical parameters

Unlike the normal practice of focusing on construction specifications, the technical parameters proposed in EPC Contract are based mainly on output specifications. Only the core requirements of design, construction and operation that have a bearing on the quality and safety of the project are specified and enough room is left for the Contractor to innovate and add value. Thus, the basic framework of EPC contract focuses on the 'what' rather than the 'how' in relation to the works to be delivered by the Contractor. This provides the requisite flexibility to the Contractor in evolving and adopting innovative designs without compromising on quality of the works.

### 6.4.4 Contract Price

The Contract Price is a fixed lump sum amount for construction of the project based on the open competitive bidding. The Contract Price is normally subject to adjustment on account of changes in the prices of major inputs based on the variation in the price indices during the contract execution period as well as statutory changes in taxes or changes in the scope of the project as included in the tender conditions and the finalized contract since the Contractor cannot be expected to bear or manage the risks arising out of such changes.

### 6.4.5 Contract period

The contract period is normally determined on a project-specific basis depending on the nature and volume of construction work involved. The Contractor is liable to damages for any delay beyond the specified date of completion, subject to the damages not exceeding 10 per cent of the contract price. However, the Contractor should be entitled to time extension arising out of delays on account of change of scope and force majeure or delays caused by or attributable to the Procuring Entity. Similarly, contractor gets incentives for early completion of the work.

### 6.4.6 Selection of Contractor

Selection of the Contractor is normally based on open competitive bidding. All project parameters such as the contract period, price adjustments formula and technical parameters are clearly stated in the Bid document, and the bidders are required to quote only the lump sum price for the project. The bidder who offers the lowest price should be considered for award subject to meeting all qualifying requirements.

### 6.4.7 Risk allocation

As an underlying principle, risks are allocated to the parties that are best suited to manage them. Project risks are, therefore, assigned to the private sector to the extent it is capable of managing them. The transfer of such risks and responsibilities to the private sector is to increase the scope of innovation leading to efficiencies in costs and services. Accordingly, project risks such as commercial and technical risks relating to design and construction are assigned to the Contractor. The Procuring Entity is, however, liable to damages for any delays in handing over land, securing environment clearances or shifting of utilities.

### 6.4.8 Design and Construction

The EPC Contract clearly specify the dates on which different sections of the project land will be handed over to the Contractor. It defines the scope of the project with precision and predictability to enable the Contractor to determine its costs and obligations. It also normally lays down a ceiling on the variation of the scope in terms of contract price of say 10 percent to cater for any changes in the scope of the project during execution of the contract. The Contractor is to carry out survey and investigations and also develop designs and drawings in conformity with the specifications and standards laid down in the Contract. The design and drawings would be reviewed by the Procuring Entity's engineer to ensure that they conform to the scope of the project as well as the prescribed standards and specifications. The EPC Contract also stipulates provisions for quality control and assurance.

A provision is also made for levying the damages in case the Contractor is not achieving the prescribed milestones. Similarly, provision is kept in the contract to pay bonus to the Contractor for completion of the project before the scheduled completion date.

### 6.4.9 Force majeure

The EPC Contract contains the requisite provisions for dealing with force majeure events. It particularly provides protection to the Contractor against political actions that may have adverse effect on the timely completion of the project.

### 6.4.10 Termination

Termination payments are normally quantified precisely. Political force majeure and defaults by the Procuring Entity would qualify for adequate compensatory payments to the Contractor and thus guard against any discriminatory or arbitrary action by the

Procuring Entity. In the event the Procuring Entity terminates the Contract on account of any of the specified defaults of the Contractor, the Contract allows the Procuring Entity to forfeit the performance security and retention money of the Contractor.

#### **6.4.11 Monitoring and supervision**

Day-to-day interaction between the Procuring Entity and the Contractor has been kept to the bare minimum following a 'hands-off' approach'. Checks and balances have, however, been provided for ensuring full accountability of the Contractor. Monitoring and supervision of construction is normally undertaken through an Engineer (a qualified firm) that is selected by the Procuring Entity through a transparent process. Its independence would provide added comfort to all stakeholders.

#### **6.4.12 Milestone based payments**

A simple and rational method for estimating interim payments to the Contractor are provided in the Contract. It is to ensure that payments are made for all works conforming to the Contract and commensurate with the stages of completion of works. Each item of the project is further sub-divided into stages, and payment is made for each completed stage of work.

#### **6.4.13 Defects liability period**

Normally a reasonable defects liability period is specified in the contracts depending on the requirement of the Project and as decided by the Procuring Entity.

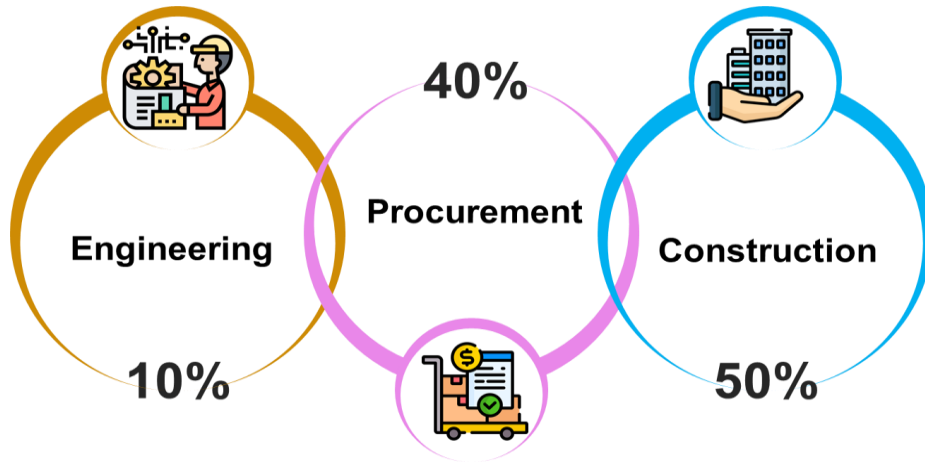
#### **6.4.14 Miscellaneous**

The Contract also have provisions for addressing issues relating to dispute resolution, suspension of rights, change in law, insurance, and indemnity.

#### **6.4.15 Conclusion**

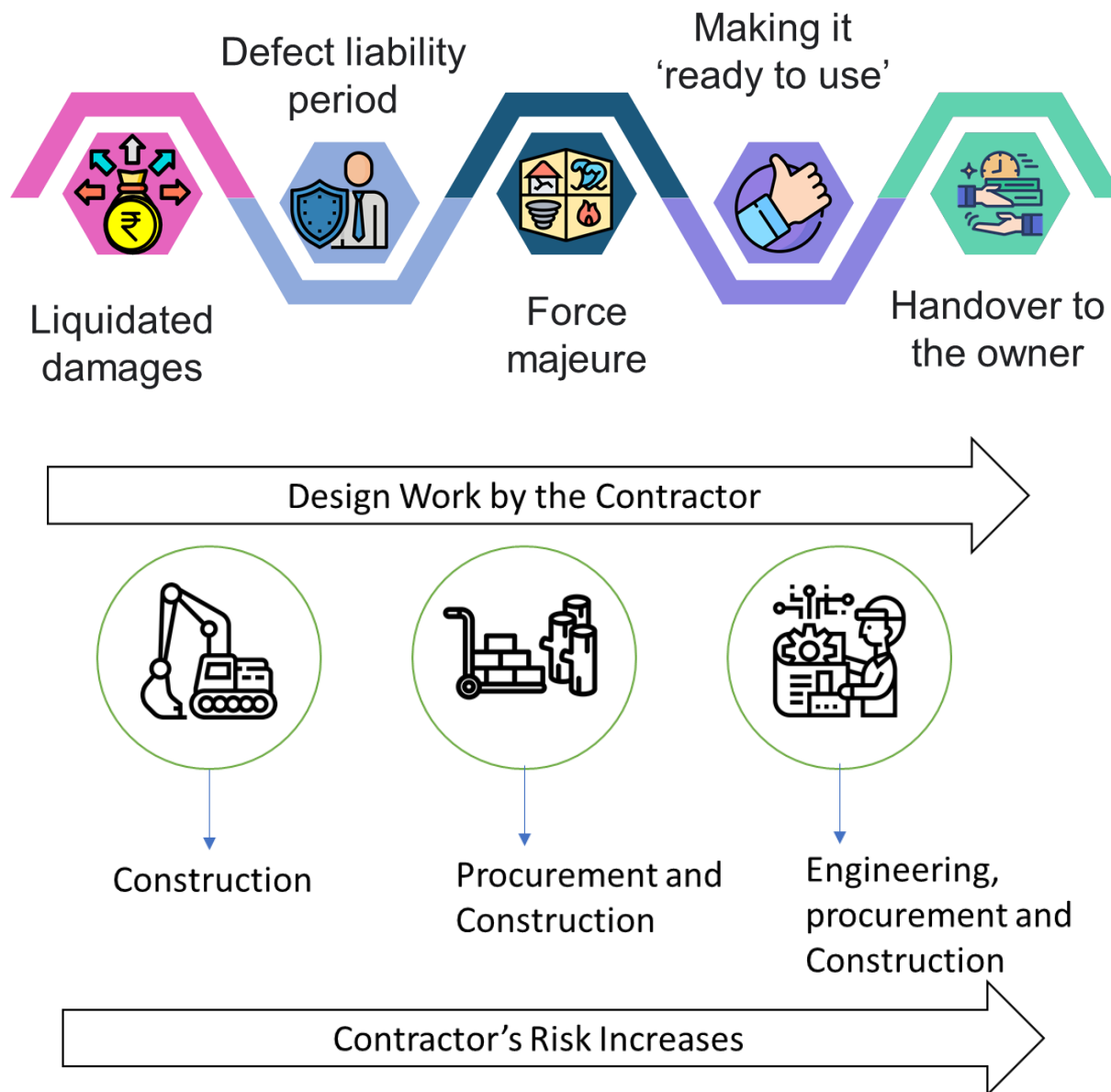
Together with the Schedules, the EPC Contract is framed incorporating international best practices which embodies enabling contractual framework for construction of projects in an efficient, economical, and competitive environment. It is framed to minimize, if not eliminate, the time and cost over-runs characteristic of the existing item rate or percentage basis contracts. Further, EPC contracts enable a faster roll-out of projects with least costs and greater efficiency while minimizing the potential for excessive discretion.

**6.4.16 The key elements in the cost of EPC Contracts**



**6.4.17 Key features of EPC Contract**





## 6.5 Turnkey Contracts

It is typically a construction contract under which a contractor is employed to plan, design, and build a project or an infrastructure and to do any development to make it functional or ready to use at an agreed price and by a fixed date. Normally preliminary design is provided by the employer. The employer just need to “turn the key”. In some cases training of staff, operation for some initial period is also covered under the contract.

### 6.5.1 Differences in the EPC and Turnkey contracts

There is no hard and fast boundary but a blurred line between these two types of contracts. EPC contract and Turnkey contract are very much similar in nature and at times these terms are used interchangeably. Both EPC and Turnkey projects cover planning, design, procurement, and construction leading to delivery. However, these two types of contracts have some differences which differentiate the two types of contracts. These are briefly mentioned as under:

S.No.	EPC Contract	Turnkey Contract
1.	EPC contracts cover the Engineering, Procurement and Construction parts of the Project. The Contractor will carry out the detailed engineering design, procure all materials and equipment necessary and construct to deliver the project.  Project such as manufacturing facility etc. are handled through EPC contracts.	In Turnkey contracts, the client gives the entire risk and project responsibilities to the main contractor. The Contractor provides ready to use project to the client. In this Client need not worry about the result and quality of the project as all these risks are covered by the turnkey contractor.  Large scale projects such as construction of bridges, airports, industrial service facilities etc. are handled by the turnkey project contractor.
2.	Procuring Entity will provide basic engineering to a contractor who should perform detailed design based on received basic design.	Procuring Entity will only provide certain technical specifications of the project and it is the responsibility of the contractor to prepare basic and detailed design of the project.
3.	In EPC projects, it may be the responsibility of other third person to do commissioning and start-up	In turnkey projects, contractor is responsible to perform start-up, engineering, procurement, construction, commissioning, performance and hand-over of the plant to Procuring Entity. Initial operations for some defined period, maintenance, and training of departmental personnel in O&M may be part of contract.
4.	EPC contractor handles a major part of the project	In turnkey projects, the contractor begins the work from scratch and deliver the end project which can be put to use immediately i.e., just to turn the key.
5.	EPC Contractor takes less risk.	Turnkey Contractor takes more risk.

S.No.	EPC Contract	Turnkey Contract
6.	Payments are gradually made as per progress.	Sometimes payments are made after commissioning of the project.

## 6.6 Cost plus Contracts

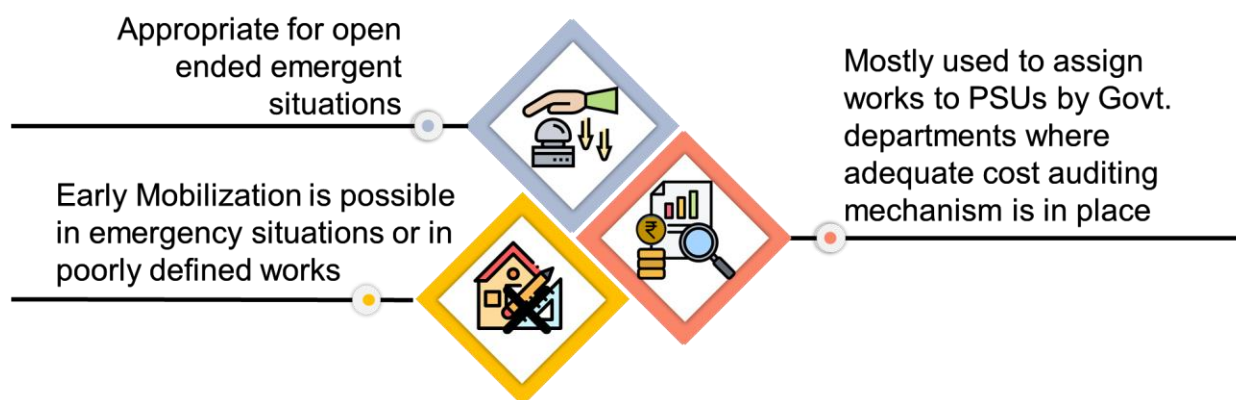
Cost plus contract is the periodic reimbursement of contractor's costs of inputs plus fee to cover pro-rata/overheads/profits. Here, the fee could be fixed, time based, or percentage of measured costs.

### Example

IRCON executes the works contracts on assignment basis on cost plus basis (10-12% over the project cost) for various Govt. departments.  
RSRDC executes various road works on cost plus 9% basis.

### Advantages

Early mobilization is possible in emergency situations or in poorly defined works-



### Pitfalls

- Cost audit of contractor by independent auditor is a must for this type of contract to check booking of un-related or over booking of expenditure
- If fee is fixed, there is little incentive to produce quality work; If fee is a percentage of the cost, then little incentive to be cost effective

## 6.7 FIDIC Contracts

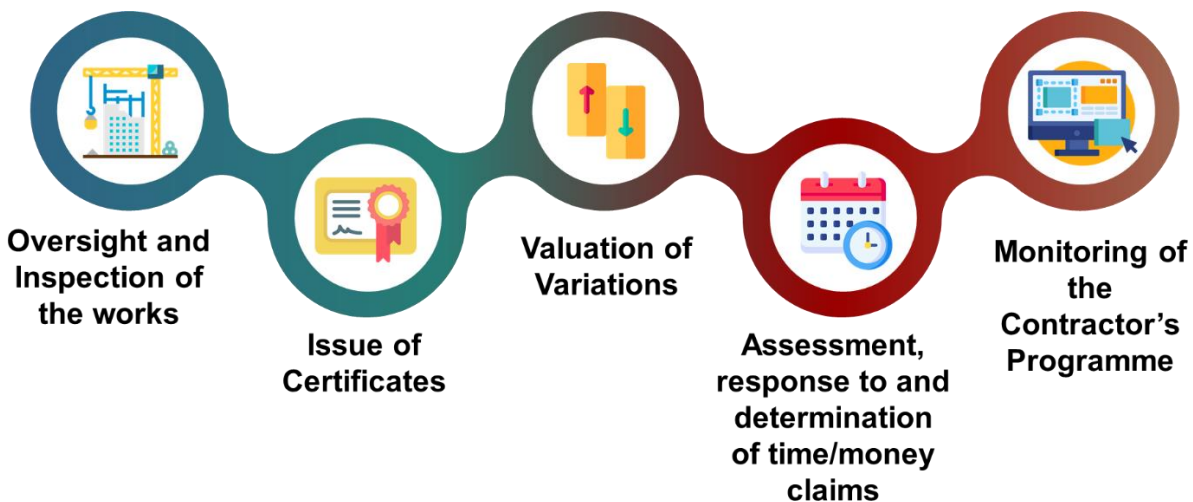
FIDIC is acronym for a French Federation which in English mean International Federation of Consulting Engineers. This Federation of Engineers releases standard contracts used in construction industry.

Usually, these Contracts are modified by the Employer before being adopted or used. The departments do not use the FIDIC contracts in the original structure for two basic reasons,

- Departments should be very much ready to give a response to each and every request from the contractor. Any delayed response to the reasonable or unreasonable request of the contractor, could benefit the contractor from the FIDIC contract modality.
- The Engineer or Project Manager is an independent agency.

Following are important provisions in FIDIC documents:

### 1. The role and authority of the Engineer



2. Liability for errors in the Drawings/Technical Specifications or Employer's Requirements
3. Liability for proving access to and on the Site
4. Liability for obtaining permits and approvals
5. Liability for unforeseeable physical conditions
6. Labor conditions
7. Delays caused by authorities
8. Defects liability, including latent defects

## 9. Procedures for dispute settlement/resolution

If the Engineer is unduly constrained so that he cannot exercise independent professional judgment, then problems with successful contract management, dispute avoidance and timely completion can be certainly anticipated.

In the Government works, the Engineers or Project Manager usually represents the employer therefore, FIDIC contracts could only be used after modification.

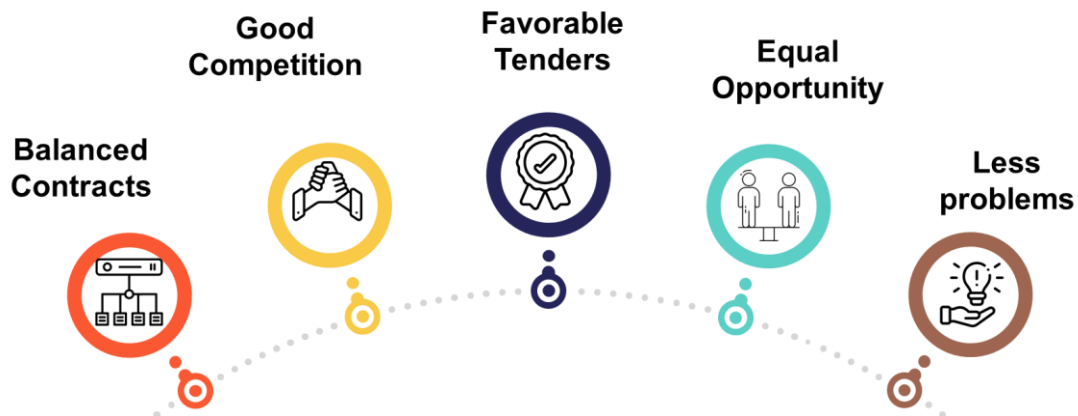
FIDIC suite are organized around the extent of design and other responsibilities like maintenance, operation assumed by the Employer and the Contractor.

Following are the types of FIDIC contracts and various books therefore, the PE interested in a particular type of the contract has to refer to the related book meant for it.


FIDIC Contract	Type	Details
Red Book	Condition of contract for construction for building engineering works.	This is for the very common works, designed mainly by the employer.
Yellow Book	Condition of contract for plant and design-build for electrical and mechanical plant and building and engineering works	The contractor is responsible for the plant design, building, and engineering, yet the employer might be required to carry out certain engineering works (EPC)
Green Book	Condition of contract for use on engineering and building works of relatively small capital value or where the construction time is short.	This is the short form of the contract. It may be used mostly for simple, repetitive, short duration works.
Pink Book	Condition of contract for use of building and engineering works designed by the employer.	Projects funded by various Multilateral Development banks (MDBs), which are supernational institutions such as World Bank.
Silver Book	Condition of contract for EPC/Turnkey Projects.	The contractor carries out the engineering, procurement, and construction task up to the final delivery of a fully equipped, tested, and ready to run facility.
Gold Book	Condition of contract for design, build and operation project.	It implies a long-term commitment of the contractor and offers a new and unique procurement route.
Blue Book (Turquoise)	Form of contract for dredging and reclamation works.	The only standard international form of contract especially designed for dredging industry.

White Book	FIDIC Client/ consultant model service agreement.	The White Book is an important part of the FIDIC suite and is one of the most widely used forms of professional services contract internationally.
------------	---	--


**6.7.1 Advantages of FIDIC document**



**6.7.2 Disadvantages of FIDIC document**



Engineer and Employer need to be prompt in replying to the contractor's correspondence



May cause waiver of claims if not promptly notified to the Employer. Also lead to huge claims if prompt action is not taken on the contractor's correspondence.

Selection of suitable FIDIC Contracts:



## 6.8 Public Private Partnership (PPP)

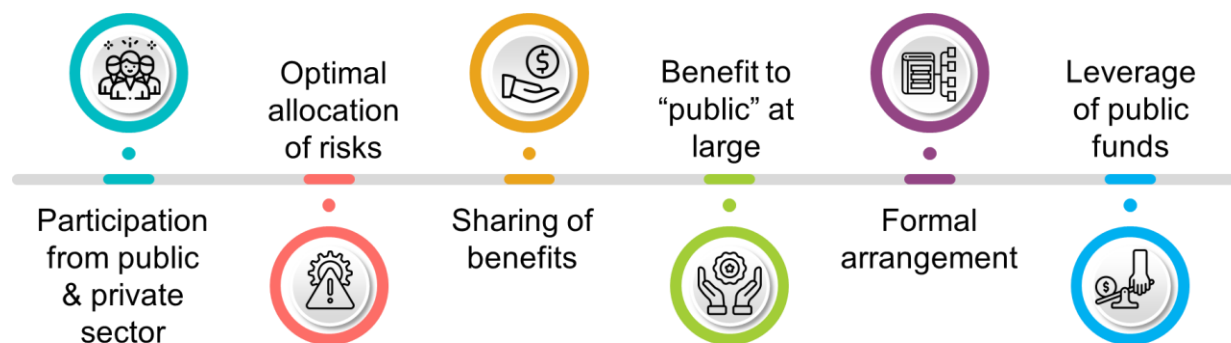
### RTPP Act and Rules

Public Private Partnership (PPP) means “an arrangement between the State Government, statutory entity or any other government owned entity on one side and a private sector entity on the other, for the provision of public assets or public services or both, through investments being made or management being undertaken, or both investments being made and management being undertaken, by the private sector entity, for a specified period of time, where there is well defined allocation of risk between the private sector and the State Government, statutory entity or any other government owned entity, as the case may be, and the private entity receives performance linked payments that conform (or are benchmarked) to specified and pre-determined performance standards, measurable by the State Government, statutory entity or any other government owned entity, as the case may be, or its representative.”

#### PPP contract includes

- Contract between state agency and private entity
- Providing public asset and/or public service
- Investment and/or management by private entity
- Definite period of time (medium to long term)
- Defined allocation of risks between state and private entity
- Performance based payments conforming to pre-specified benchmarks and performance standards measurable by state agency

### 6.8.1 Characteristics of PPP



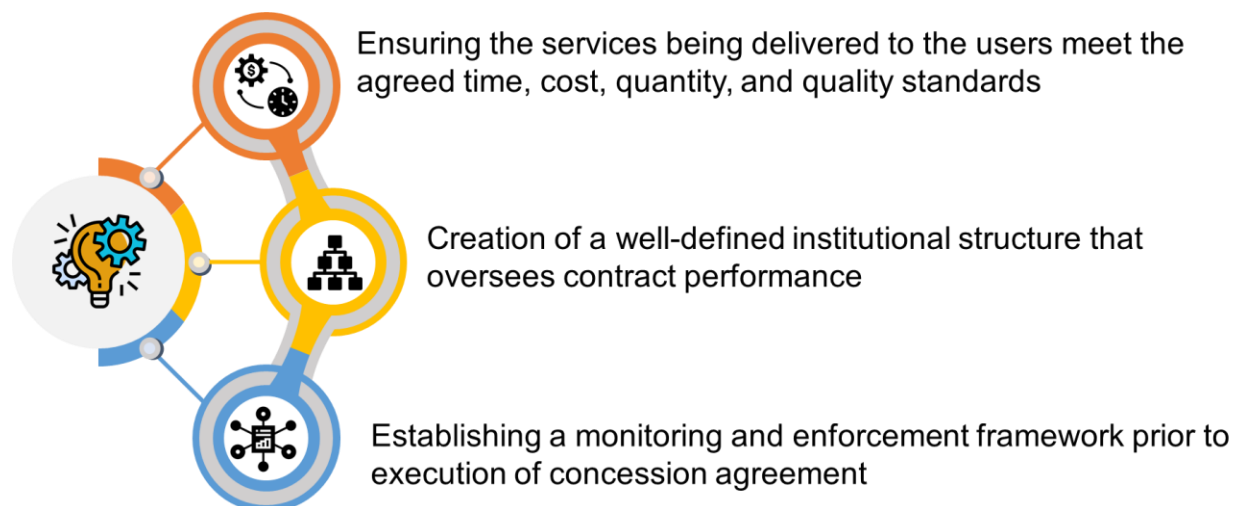
## 6.8.2 Why should Governments consider PPP?

Governments should consider PPP because of the following reasons:

1. It attracts private capital investment (often to either supplement public resources or release them for other public needs)
2. It delivers quality services that provides whole-life costings
3. Increases efficiency and use available resources more effectively
4. New options for public sector finances (parallel vs. sequential development)

## 6.8.3 Key Objectives while managing PPP Projects

Following are the key objectives while managing PPP Projects:



## 6.8.4 Advantages of PPPs

The advantages of PPPs to the public entity are as follows:

### 1. Higher efficiency in the Private Sector

It provides a private partner an edge in efficiency in carrying out the capital (design, construction) and operating phases of the project. For infrequent or new projects, the private sector can also have more recent experience and

leading technical skills. The reason for increased efficiency is the allocation of risk and the associated performance rewards and penalties.

## **2. PPPs focus on Life Cycle Costs of Projects**

PPPs focus on life cycle costs of the project in which the private partner designs the project to take account of the link between construction and operation so that the cost will be minimized over the project's lifetime.

## **3. Increased Transparency & Accountability**

In PPPs there is a clear allocation of risks and responsibilities wherein the role of the public entity is to monitor service provision and the private partner is responsible for actual delivery of services.

## **4. Access to Private Sector Finance**

PPPs allow the public entity to leverage private finances in development of public infrastructure projects. In doing so, the public entity would be able to focus more on social and other sectors which require more funding and support in comparison with the core infrastructure projects.

### **6.8.5 Limitations of PPPs**

Despite the benefits associated with development of projects under PPP framework, there are certain limitations to PPP arrangements which are discussed herein below:

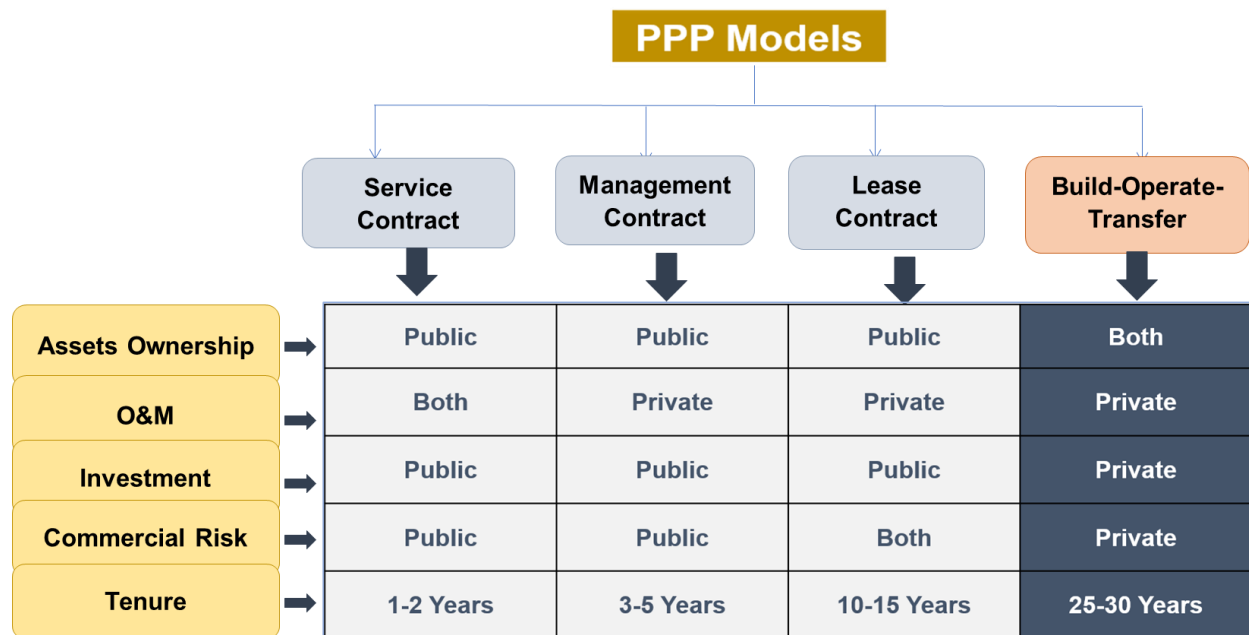
#### **1. Complex Procurement Process with Associated High Transaction Costs**

The PPP project must be clearly specified, including the allocation of risk and a clear statement of the service output requirements. The long-term nature of PPP contracts requires greater consideration and specification of contingencies in advance.

#### **2. Enforcement and Monitoring**

Once it enters the construction and operation phases, the success of the PPP from the public perspective will depend on the ability of the public entity to monitor performance of the private partner against standards and to enforce the terms of the contract.

## 6.8.6 Generic Models of PPP



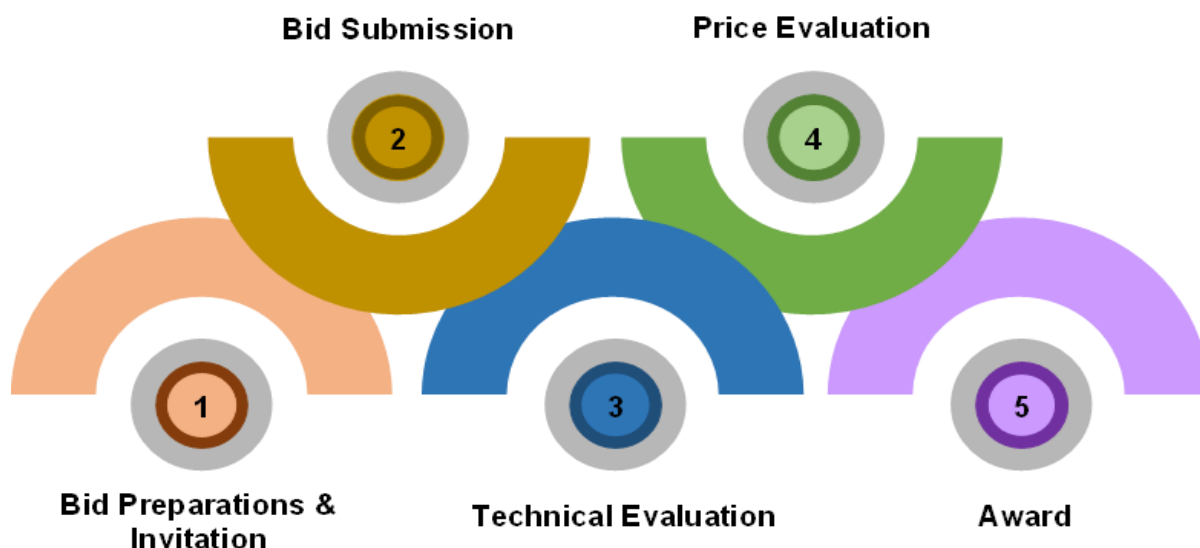
## 6.9 Factors which influence the choice of contract

Following may be the factors which affect the choice of contract.

1. Size, Nature, and complexity of works: small size work can be percentage /item rate; major/complex work may be Lump sum/EPC
2. Availability of funds: If funds are constraint, PPP may be planned
3. Duration of contract: shorter duration may be percentage/item rate contract
4. Degree of definition of the works, the element of risk/uncertainty and sharing of risk: If government's risk appetite is low, the EPC/PPP contract may be planned
5. Status of design (preliminary or final): if bidder is being asked to design, the EPC/PPP contract may be planned.
6. Technical capability, design, and supervisory resources of the Employer. If department lacks these capabilities, then EPC/PPP/cost plus contracts may be planned
7. Previous experiences of department on the type of contract being adopted and their pros and cons.

## Chapter-7: Process of Procurement of Works

The key processes for procurement of works are as under:



### 7.1 Important considerations during Preparation of Bid Documents

#### Essential Components of Bid documents for Works Procurement:

The essential components of bid documents include the following:

1. Detailed Subject matter of procurement (scope)
2. Notice Inviting Bids (NIB)
3. Instruction to bidders (ITB) regarding submission of bids, time frame for bid submission, documents to be submitted, bid document price/bid processing price, bid security, various forms/Affidavits/ declarations to be filled up, pre-bid conference, site visit, etc.
4. Bid data sheet
5. Qualification criteria and documents required in support of the same
6. Evaluation criteria (both technical as well as financial)
7. General conditions of contract' (GCC) common to procurement made by the particular procurement entity which normally shall not be altered/modified.
8. Special conditions of contract (SCC) specific to particular bid to deal with process, quality of materials/workmanship, payment terms, technical specifications, etc. of the proposed work

9. Bill of quantities (BOQ)
10. Reference to Specifications (Scheme specific, Departmental, BIS, industry/international, special, etc.)
11. General and working Drawings
12. Formats to be submitted/used
13. Method Statement (preferable for large contracts)

### Things to remember / Important points

Technical proposal from a bidder should include a statement of work methods, equipment, personnel, construction schedule and any other information as stipulated in bid documents and bidding forms, in sufficient detail to demonstrate the adequacy of the Bidder’s proposal to meet the work requirements and the completion time. This ensures that bidder is fully conversant with subject matter and its execution method suitable to site conditions.

#### Common mistakes in preparation of Bid documents:

- Any typing error or poorly drafted clauses having multiple interpretations, will be interpreted against the department who prepares the document. (Principle of ‘contra proferentem’).

### Example

In one of the tunnel projects, there were special conditions describing the tunnel approach work methodology, where it was typed as tunnel approaches excavation will be paid under item (1a) instead of writing item (10). Contractor claimed huge bill as per item (1a) without even starting main tunnel work, resulting into dispute, Arbitration, payments, and contract termination.

#### INDICATIVE SCHEDULE

Item no.	Item description	Qty (m3)	Rate (Rs)
1	Tunnel excavation in Hard rock	5,000	10,000/m3
1a	Tunnel excavation in soft soil	10,000	20,000/m3
10	Excavation in approaches in all soils	20,000	400/m3
11	Excavation in approaches in Hard rock	50,000	2,000/m3

- Proper scientific/mathematical conventions/symbols of various measurement /payment units shall be ensured.

### Example

MT can be inferred either as metric ton or meter which may have huge financial impact in case of items which are measurable both in terms of weight and length like steel sections.

Sometimes, Hindi translations create big issues like MT is translated as meter.

- Circular letter-Effect: Per-se, circulars do not govern a contract, until these are accepted by the parties or made part of the contract. All departmental directives/latest updates, method of treatment of variation in duties/taxes/levies shall be incorporated into the bid conditions. Post contract, nothing will be applicable except statutory variations, howsoever important or logical it may be, without acceptance by contractor. Annexing the guidelines with the bid will not suffice unless they are embodied in special conditions.

### Case Law

**In case of BSNL vs. BPL Mobile Cellular Ltd.(2009) 1 SCC 150 it was held that:**" They might have been published by some publisher but indisputably they are not statutory in nature. They have not been framed under any statute. The Telegraph Act or the Rules framed there under do not provide for issuance of such circulars. The circular letter collected at one place are loosely called rules. They, as noticed hereinbefore, are meant for office use only. The directions contained in the said circular letters are relevant for the officers who are authorized not only to grant licenses but also enter into contracts and prepare bills. The circular letter having no statutory force undoubtedly would not govern the contract. If some authorities have violated the terms of the said circulars, they might have committed misconduct, but when a contract is entered into, the parties shall be bound thereby."

It was furthermore observed: "In view of the aforementioned law laid down by the Court, there cannot be any doubt whatsoever that the circular letter cannot ipso facto be given effect to unless they become part of the contract. We will assume that some of the respondents knew thereabout. We will assume that in one of the meetings, they referred to the said circulars. But that would not mean that they are bound thereby. Apart from the fact that the finding of fact has been arrived by the T.D.S.A.T. that the said circular letters were not within the knowledge of the respondents herein, even assuming that they were so, they would not prevail over the public documents which are the brochures, commercial information and the tariffs."

## Case Law

### **Civil Appeal No. 2500 of 2001 With Civil Appeal No.2501 of 2001: Supreme Court of India**

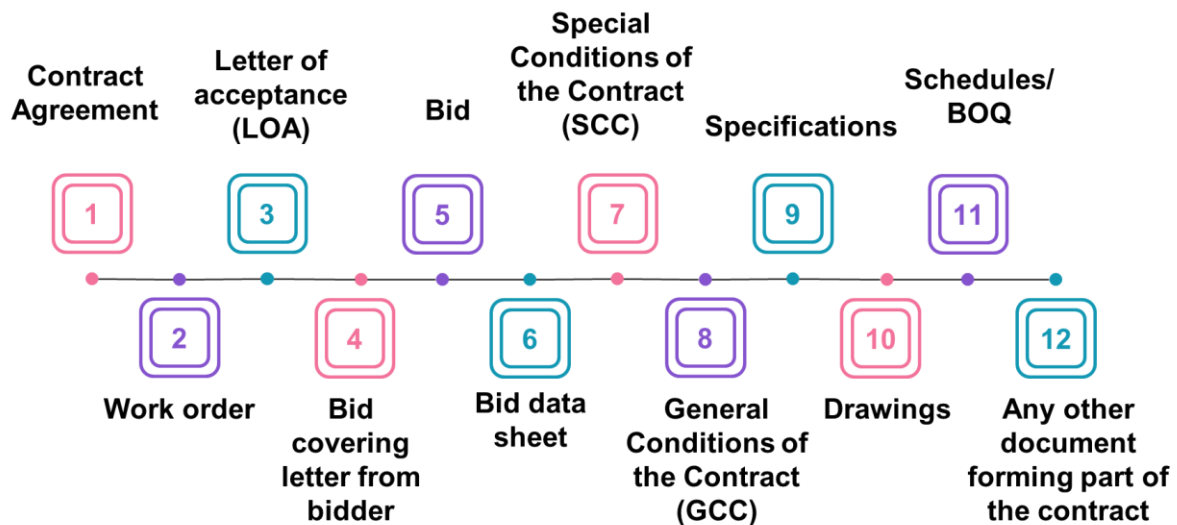
As regards claim No. 2 Mr. Luhadia fairly admitted that Clause 5.11(iii) of the Contract requires chiseling of stones on all sides. He however submitted that the rates given in Schedule G were only for chiseling of stones on one side. He submitted that this was clear from Note 1 under Schedule G which stated that Schedule G was based on B.S.R. 1975. He submitted that B.S.R. 1975 showed that such rates were only for chiseling stones on one side. He submitted that when the stone has to be chiseled on all sides the rates given in B.S.R. 1975 were to be applied. He submitted that claim No. 2 was based on those rates. We are unable to accept this submission of Mr. Luhadia. The Contract is very specific. The work specified in the Contract has to be done at the rates specified in Schedule `G`. Even though Schedule G may be based on B.S.R. 1975 it is not exactly as B.S.R. 1975. Where in respect of a work specified in the contract the rate has been given in Schedule G that work could only be done at that rate. Works specified in the Contract does not become extra work. It is only in respect of extra work that rates specified in B.S.R. 1975 can be applied. To us it is clear that the claim No. 2 is contrary to the terms of the Contract. It is barred by Clauses 57, 60 and 61 of the Contract.

As regards claim No. 26, Mr. Luhadia relied upon the case of Tarapore & Co. v. State of M.P. [1994 [3] SCC 521]. In this case, the question was whether the contractor was entitled to claim extra amounts because he had to pay increased wages to his workers. This Court has held that the contractor would have tendered on the basis of the then prevailing wages and as the contract required the contractor to pay the minimum wages. If the minimum wages increased, it was an implied term of the contract, that he would not be entitled to claim the additional amount. However, it must be noted that, in this case, there was no term in the contract which prohibited any extra claims being made because of the increase in wages. Clause 31 of the Special Conditions of the Contract, which has been reproduced hereinabove, specifically bars the contractor from claiming any compensation or an increase in rate under such circumstances. Not only that but the Respondent had with their initial tender put in a term which provided that if there was any increase in the minimum wages by the Government the rates quoted by him would be increased by the same percentage. At the time of negotiation this clause was dropped. Thus, the Respondent had themselves specifically agreed not to claim any compensation or increase by reason of increase in wages. This claim could therefore not have been granted.”

**Order of Precedence:**

Order of precedence among various documents need to be specified in bidding documents to sort out the interpretation issues of same item between various part of the contract document viz. drawing, specifications, BOQ, GCC, etc. Such differences may have huge financial impact leading to disputes/delays.

Normally following order of precedence (higher to lower) is followed-



In the event of a discrepancy, the document of higher priority takes precedence.

**Example**

Conditions may prescribe use of PPC cement, drawing may prescribe use of M20 concrete, BOQ may say 1:1.5:3 concrete in OPC cement. In this case drawing will prevail over BOQ i.e., M20 concrete to be followed. Conditions will supersede the drawing and BOQ i.e., PPC cement to be use.

**Project Execution Risks to be managed through GCC & SCC:**

The management of works contract are very complex because of the inherent risks present across the entire project execution cycle. Therefore, it is important that thoughtful considerations are provided to identify and manage the execution risks and all the appropriate terms and conditions are incorporated into the bidding documents especially under GCC and SCC so that all the prospective bidders are aware about these contract conditions. Key aspects to be included:

### Example

#### **Continuous monitoring during construction of a building:**

There is a continuous requirement of quality control and supervision during construction of a building since replacement of intermediate output (say replacement of column at a later stage after casting of slab may not be possible). Quality of workmanship also differ amongst different person as against machine made products. Therefore, continuous testing and acceptance of material/processes is a must during execution of works.

1. **Site Visits:** Site visits are required for the bidder to be well conversant with site conditions, availability of resources, access to sites, possible hindrances/hazards, etc. so that bid is submitted duly factoring into such details.

### Example

For a metro alignment, it is very important to know the possible difficulties in execution along the entire alignment and risk mitigation strategy to be worked out. Land availability or schedule of availability free from any encumbrances, site security, site investigations like soil testing for bridge piers, building foundation, possible tunnels, presence of under-ground utilities, water table, etc. to be carried out to collect required details for design, and execution.

2. **Plant, Materials & Workmanship:** Based on site survey, the bidder is expected to work out the proposed execution methodology wherein type of plant and machinery to be deployed, skilled manpower requirement, sources of the requisite quality materials like sand, aggregates, etc. and proposed quality assurance plan are to be worked out and submitted along with the bid/immediately after acceptance of bid.

### Example

For construction of a flyover on a busy city road intersection, a bidder shall assess the type of foundation required for piers, type of girder launching technology viz. using road cranes, using launching girder, or in-situ casting, one piece girder or segmental construction, etc. and requirement of machinery to suit the proposed method.

3. **Responsibility to seek statutory/regulatory approvals/clearances:** In order to get various approvals/clearances like environment and forest, pollution control for establishing mixing plants, aggregates crushing plants, sand mining, municipal approvals, traffic police approvals, archaeological and religious structures clearances, underground utility shifting, labor licenses, explosive licenses, etc., a clear division whether a department or bidders will get such approvals should be specified. The delays, if any, in getting such approvals will also be decided along with the compensation, if any, to be made in the bid conditions.

### Example

In a contract, it was mentioned that all permissions and sanctions are to be procured by the contractor and the client namely DFCC will only assist wherever necessary. Subsequently, when the contractor informed DFCC that in the State, permission for sand mining can only be granted to the DFCC and the Contractor is subservient. The Engineer in-charge of DFCC agreed to take the mining permissions for the Contractor raised the claims of EoT and DFCC stated that the above delay of 06 months is attributable to the Contractor as it was the duty of Contractor as per the Contract to procure all permissions and sanctions. Here DFCC is Estopped by its conduct when it took over the task of taking the permissions for mining.

If a Contractor gives an unconditional No Claims Certificate and states that it has no claims against the Procuring Entity with respect to the project, then can the Contractor subsequently raise the claims? No, he has unconditionally waived its claims.

4. **Scope variations:** A variation is an alteration to the scope of works in a construction contract in the form of an addition, substitution, or omission from the original scope of works. Almost all construction projects vary from the original design, scope, and definition. Whether small or large, construction projects will inevitably depart from the original tender design, specifications and drawings prepared by the design team.

This can be because of technological advancement, statutory changes, or enforcement, change in conditions, geological anomalies, non-availability of specified materials, or simply because of the continued development of the design after the contract has been awarded.

In large civil engineering projects variations can be very significant, whereas on small building contracts they may be relatively minor. Provisions for scope variation, procedure for approval, rate determination and payment on account of such variation need to be specified in the bid documents.

### Things to remember / Important points

#### **Payments for variations:**

In a leading case, the Appellate Court of Illinois, USA laid down general principles entitling a contractor to receive payment for a variation. They include:

- The works must be beyond the agreed scope and outside the express or implied obligations of the contractor under the original contract.
- The work should have been ordered by or on behalf of the employer.
- The employer should, have expressly or impliedly, agreed to pay for it.
- The extra work has not been done voluntarily by the contractor.
- The work should not have been rendered necessary by the fault of the contractor
- Where applicable, that any failure of the contractor to comply with contract requirements as to procedure or form should have been waived by the employer.

In certain cases, however, variations may not be permissible without the consent of the contractor (unless expressly provided by the contract), they include:

- Acceleration of progress and advancement of completion date
- Additional works beyond the usual scope of the contract
- Change the nature of works under the project
- Omission of parts of the contracted works and transferring them to another contractor
- In case of lump sum contract, variation without additional payment

### Example

In a district hospital there were three separate contracts on each for security, housekeeping and running canteen. Contractor of housekeeping abandoned the work due to their internal problem. Hospital administration attached the work of housekeeping to the contract of security using variation clause.

### Example

A contract was awarded for 100 additional beds in an IPD, in an existing hospital building. Suddenly, RVVPNL has asked for separate electrical sub-station to take additional 500 KVA load as existing building is found insufficient to house additional electrical T&P.

### Example

A contract of 'watch and ward' (providing security of premise) of lift irrigation scheme (LIS) 'A' was awarded to the contractor. Contract was for two years. In the second year of this contract one more lift irrigation scheme 'B' was completed in the adjacent tehsil. Contractor doing the work of LIS 'B' refused to 'watch and ward' the premise. Work of 'watch and ward' of this LIS 'B's' premise was attached to the existing contract of 'watch and ward' of another LIS 'A' using variation clause.

### Example

At a JDA project, the Contractor was asked by the Superintending Engineer to do some additional works on urgent basis and an amount of INR 10 lakhs was ascertained as consideration for the additional work. However, no formal variation order was issued to the Contractor as the procedure for placing variation order was very tedious. In good faith, the Contractor completed the additional works within time. However, the Superintending Engineer changed, and new SE refused to approve the payment in the absence of any Variation Order. Contractor took up the matter to Arbitration and raised claim of INR 10 lakhs.

- Is JDA bound to pay to the Contractor for additional works?  
Yes, JDA shall pay to the Contractor for additional works done, else it would lead to undue enrichment of the Procuring Authority.
- If yes, then JDA is required to pay INR 10 lakhs?  
No, in the absence of any written contract, the payment can only be made on Quantum Meruit basis and not on the agreed amount of INR 10 lakhs.

5. **Place variations:** The procedure of variation of place of execution and its effect on accepted rates, time of completion needs to be specified in the bid documents.

### Example

A contract was awarded for a 220KVA substation at location X. Due to some reasons, it was decided to shift the same to another location which is 10km away from location X.

### Example

Contract was fixed to transport the fertilizer from Chandrapur railway station to various destinations of Chandrapur and Gadchiroli districts. Due to some problems one rack reached to Wadsa station of Gadchiroli district. Contractor was asked to lift and transport from Wadsa station also. Contract was for 'Unloading from wagon, loading in truck and unloading and stacking at godown'. It was rate contract on 'Km-ton' basis. There was no dispute regarding change in quantity. But contractor asked for revised rates for material collected and transported from Wadsa station. His plea was labor rates prevailing in Gadchiroli district are 20 % more than that of Chandrapur district. It was amicably decided that instead of increasing rates for material collected and transported from Wadsa station, rates for labor component for material collected from Wadsa station will be increased.

For example: Rates for contract Rs 12 per T-Km. Labor component 18%. Rate applicable for material transported from Wadsa station will be Rs 12 +  $(12 \times 0.18 \times 1.2) = 12.43$  per T-Km.

6. **Extension of time of completion (EOT):** Contracts are generally agreed upon for a fixed term, and as such when the validity of the contract nears its expiry, one of two things usually happens:

- One, the contract reaches the end of its term and ceases to exist, or
- Two, a brand-new contract is agreed upon once the term expires

However, there is a third option as well, a contract may also be extended. In this case, a new contract needn't be created. The date of termination of the contract is simply pushed further. This option is usually favorable in a situation where a contract has been agreed upon, but both parties are unable to carry out their performance obligations within the stipulated time period.

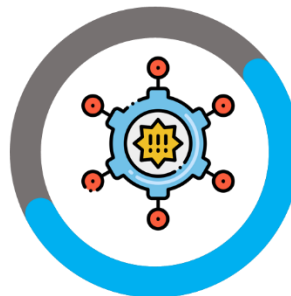
A contract extension is an agreement between the parties to an existing contract to extend the terms of that agreement for an additional period of time. The duration of the extension is specified in the extension agreement. In some cases, the extension does no more than extend the termination date of the contract on account of various reasons.



If the delay is done by the Contractor



If the delay is done by the Employer



If the delay is done by the any other factor

The procedure and conditions under which completion time will be extended (whether bidders account, or departmental account or third-party account/force majeure account), should be specified in General Conditions of contract (GCC).

### Things to remember / Important points

#### **A typical clause for extension of time was expressed as below:**

If the Contractor shall desire an extension of time for completion of the work on the grounds of his having been unavoidably hindered in its execution or any other ground, he shall apply in writing to the Engineer-in-charge within 30 days of the date of hindrance on account of which he desires such extension as aforesaid and the Engineer-in-charge shall, if in his opinion (which shall be final) reasonable grounds be shown therefore, authorize such extension of time if any, as may, in his opinion be necessary or proper.

An analysis of the clause afore mentioned would lead to the following inference:

- That the option to apply for extension of time rests with the contractor since the clause starts with the expression “If the contractor shall desire an extension of time”.
- That the contractor, if he decides to seek extension of time, must apply in writing to the Engineer-in-charge requesting for extension of time so as to enable him to complete the work.
- That the application must mention the grounds which hindered the contractor in the execution of the work within the time allowed.
- That the application must be tendered within 30 days of the date when hindrance took place
- The Engineer-in-charge must be of the opinion that the grounds on which extension of time has been applied for are reasonable.

### Example

There were several delays on a project. Tell who is eligible for compensation.

(a) Initially for 48 days, State Road Development Corporation was not able to provide RoW for construction due to acquisition issues.

(b) After 06 months, there were concurrent delays wherein 90 days delay was on the part of the contractor due to non-availability of adequate machinery and Labor. Concurrently, the Corporation also delayed by 60 days in shifting the utilities due to which clear fronts were not available.

(c) After 01-year, Contractor delayed the project by 150 days due to lack of finances and inadequate cash-flow.

**Ans:** In all of the above cases, a reasonable EoT will be granted to the Contractor however the claims will be as under:

(a) Contractor can raise claim for idling of resources etc.

(b) Since the Contractor had excess delay of 03 months, same needs to be notified and if the milestone is not achieved in time, LD must be levied.

(c) Here if the milestone or the total works are not completed in time, then LD must be levied alongside issuance of EoT.

### Example

As per GCC, time limits ( $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , full period) are laid down for various milestones or stages ( $\frac{1}{8}$ ,  $\frac{3}{8}$ ,  $\frac{3}{4}$ , full completion). For extension of time on contractors' default, certain amount of liquidity damages is recovered from the contractor for slippage of any of these stages, depending upon duration of slippage v original duration of that stage. In such situation, for extension, other than contractors' default, only reasonable time extensions are granted without any monetary compensation to the contractor. For concurrent delays also, only time extension is granted without any compensation

### Example

In a construction Contract, the Client was not able to provide RoW to the Contractor and that delayed the project. Client granted EoT to the Contractor and thus "time is the essence" lost its meaning and applicability. In order to maintain the sanctity of "time of essence". The client can subsequently make "time is the essence" of the Contract to ensure that there are no further delays on the part of the contractor. This will enable client to recover compensation, damage, or penalty from the contractor if the contractor further delays the project. For that client must grant reasonable EoT and shall quote "Time is the essence of the Contract" in its letter granting EoT.

## CAG Report

Engineering authorities sanctioned time-extensions in 355 works costing Rs.547.72 crore involving delays of 21 to 1928 days on ineligible grounds without levying liquidated damages of Rs.52.24 crore which was irregular and amounted to extending undue favours to the contractors. (Paragraph 11.1.1)

**Source: CAG performance audit report on contract management in road sector of UP govt. for the year ended 31 March 2016**

## Case Law

### Time Extension:

**The Hon'ble Supreme Court vide its judgment in Ramnath International Construction Pvt Ltd v UOI AIR 2007 SC 509** where the agreement had a clause stating that where extension of time has been granted by reasons of the delay on the part of employer/authority or due to reasons beyond the control of the contractor, the contractor is not entitled to make any claim either for compensation or damages arising due to delay such as price escalation had overruled the decision of Arbitral Tribunal. The arbitrator in the instant case had awarded damages to the contractor due to unjustified delays on part of the authority, both liquidated damages and price escalation damages. The Arbitrator held that "where the work was delayed on account of delays attributable to the employer, grant of extension of time by the employer for completing work does not exonerate the employer from the liability to pay damages for breach on account of delay caused by the employer unless the employer establishes that the contractor has consented to accept the extension of time alone in satisfaction of his claims for delay."

However, the SC overruled the decision of arbitrator and relied on the judgment given in the case of Associated Engineering Co v Govt of Andhra Pradesh AIR 1992 SC 2 in which SC upheld the findings of HC stating "applying the principle of above decision to facts of case before us, it must be held that clause 59 bars a claim for compensation on account of any delays or hindrances caused by the department. In such a case, the contractor is entitled only to an extension of the period of the contract. Also, regarding the price escalation costs claimed by the contractor due to delays caused on part of the employer, it upheld the decision given in Ramalinga Reddy v Superintending Engineer (1999) 9 SCC 610 wherein the SC affirmed the decision of High Court "Clause 59 of AP standard specifications which applied to the contract between the parties, stated that no claim for compensation on account of delays and hindrances to the work from any cause would lie except as therein defined. The claim falls outside the exceptions. Therefore, claim 8 which was for payment of extra rates for work done beyond agreement time at the schedule of rate prevailing at the time of execution is impermissible."

### Case Law

#### **No unilateral time extension**

Since one party to the contract could not unilaterally alter or vary the terms thereof, he could not extend the time thereof without the other party's intimating its consent or agreement thereto by any of the methods stated in section 4 of the Contract Act. This is clear from a plain reading of sections 55 and 63 of the Act. **(AIR 1986 Kant 14)**

### Case Law

#### **Madras High Court original application on 256 of 2013. The Project Director vs M/S.RNS Infrastructure Ltd on 8th February 2017.**

Contract for upgradation of highway was awarded to the contractor. Later on, the scope of work was changed to reconstruction of road. There was delay from the department in giving the designs to the contractor. There was some delay from contractor also. Department had imposed LD. Contractor not only resisted the LD before the Arbitral Tribunal but also made the claim for,

- a) Liquidated damages
- b) Overhead costs
- c) Loss of profit
- d) Extra costs incurred for completion beyond the period and
- e) Payment of interest.

Department pleaded that as contract is on BOQ basis and as contractor is paid for each item executed, it hardly matters under which name work is executed. Contractor argued that due to change in scope of work extra time was consumed and resources were idle. Instead of LD extra claims may be given. Arbitrator upheld the argument of contractor and allowed claims with interest. Court held the arbitrator's decision with some relief in rate of interest.

7. **Variation in quantities of existing items and its impact on rates:** The procedures of sanction and limits of quantity variations shall be specified in GCC.

### Case Law

#### **S. Harcharan Singh vs Union of India (1991), Supreme Court of India**

Harcharan Singh was awarded a contract for constructing approaches to the Bridge Structure B-2 on the North Sikkim Road in 1959-60. Under the agreement he was required to do hard rock cutting to the extent of 7,54,530 cft.

The rate fixed for the said work in the contract was Rs. 129 per thousand cft., although the final work done was an addition to the extent of 140% (total 18.15 lacs cft). Harcharan

Singh billed the extra item at the rate of Rs. 200 per thousand cft.

**ISSUE:** Can the employer vary the quantum of work at will?

**JUDGMENT:** No. There must be a reasonable limit on quantity of additional work which the contractor may be required to perform at the tendered rates.

**Hudson in Buildings and Engg. Contracts 8th Ed, p 294** has mentioned that the power to order extra work is to be inferred from contractual terms but it is limited to certain value so that variation beyond a certain percentage would be outside the

### CAG Report

#### **Irregular and unauthorized sanction Approving of irregular and unauthorized expenditure of Rs.81.04 crore on execution of additional works in contravention of financial rules.**

As per PWF&AR delegation, Chief Engineer (CE)/Additional Chief Engineer (ACE)/ Superintending Engineer (SE)/Executive Engineer (EE) could sanction additional quantity upto 5 per cent over the original quantity of each item. Additional quantity upto 25 per cent over the original quantity could be sanctioned by next higher authorities. Administrative Department could sanction additional quantity upto 50 per cent of original quantity of each item in schedule 'G'.

During test check (August 2015 to March 2016) of records of ten Divisions of Public Health Engineering Department (PHED) it was noticed that the executing authorities (Chief Engineer, Additional Chief Engineer and Superintending Engineer) approved annual rate contracts during the period 2011-14 and allotted works ranging between Rs.0.04 crore and Res.2.25 crore, to various contractors.

After exhausting the tendered/work order value of these works, the executing authorities, without inviting fresh tenders, continued to release work orders under these rate contracts. Though approval of higher authorities was obtained in these cases but against the total NIT value of Rs.34.71 crore, approvals for execution of additional works were granted for a value of Rs.78.79 crore, which were 43 to 768 per cent more than the permissible financial limit of Rs.8.67 crore (25 per cent). The replies of the EEs need to be viewed in the light of the facts that RTPP Rules, in the instant situation does not have overriding effect on PWF&ARs and item 24 of Appendix XIII of PWF&AR was relevant in these cases under which approving authorities were not competent to allow additional works of more than 25 per cent of the work order value. Moreover, clause 12(A) of contract agreement provides for sanctioning of additional work upto 50 per cent of each item limited to 20 per cent of the tendered value. This condition was also not followed in these cases.

Department failed to assess its annual requirement of TWs and by keeping the Bid value as low as Rs.0.04 crore and Rs.2.25 crore, the executing authorities not only deprived the Department from receiving competitive rates for high value works but also executed works beyond their financial limits. This resulted in irregular and unauthorized expenditure of Rs. 81.04 crore (Rs.78.79 crore +Rs. 2.25 crore)

**Source: Audit Report (G&SS) for the year ended 31 March 2018**

8. **Execution and rate determination of new items:** In order to sanction and execute the items which are not available in BOQ, provision needs to be provided in the GCC.

### Case Law

#### Quantum Meruit

On the direction of the Superintending Engineer, a contractor carried out emergency repairs of a public highway. The said officer sanctioned the cost of the work but the Government did not pay the petitioner. It was held that where there was no contract in the strict sense of the term but still a party has performed a part of the contract, the other party cannot escape by saying that there was no contract in existence. After the petitioner had performed his part of the contract, the State cannot escape by leaving the petitioner high and dry. The State must compensate the petitioner. If the work has been done then notwithstanding technicalities, payment has to be made. **(AIR 2007 Pat 26)**

9. **Price variations during the currency and extended contract period:** A price variation clause (PVC) containing procedures, limitations, and conditions under which price variation will be calculated and payable on account of general price variations due to inflation, to be incorporated in GCC.
- The provisions of price fluctuations and escalation shall also be added in the contract while calculating the price, to allow for the possible effects of the changes in the cost of commodities, labor, fuel and so on. Suitable mathematical formula may be appended in the conditions.

## Case Law

### **Food Corp of India vs AM Ahmed and Co.**

In absence of an escalation clause in contract, the arbitrator is within his jurisdiction to award escalation charges if the delay is not attributable to the contractor himself. This was dealt by Apex Court in case of **Food Corp of India vs AM Ahmed and Co.**

Escalation, in our view, is normal and routine incident arising out of gap of time in this inflationary age in performing any contract of any type. In this case, the arbitrator has found that there was escalation by way of statutory wage revision and, therefore, he came to the conclusion that it was reasonable to allow escalation under the claim. Once it was found that the arbitrator had jurisdiction to find that there was delay in execution of the contract due to the conduct of the FCI, the Corporation was liable for the consequences of the delay, namely, increase in statutory wages. Therefore, the arbitrator, in our opinion, had jurisdiction to go into this question.

## Case Law

### **Ssangyong Engineering and Construction Co Ltd v National Highway Authority of India (NHAI)**

The contractor had started construction one month later than the date provided in the notice to the contractor by NHAI. The contract was for construction of 4-lane by-pass on NH 26 in State of Madhya Pradesh. The escalation price was paid to the contractor by NHAI as per the Wholesale Price Index (WPI) with the base year price being 1993-1994 (old series) which the government revised in 2010 WPI of 100 with the base year being 2004-2005. Post this change, the contractor started raising bills according to the change, which was rejected by NHAI and made provisional payment as per Price Adjustment. Subsequently, appellant raised bills after 2010 by applying the base index without linking both the series. The court had granted interim injunction to the contractors restraining NHAI from implementing the government circular. The tribunal held that, since the new series was not available at the time of acceptance of the bid, the new series cannot be used now for the price adjustment. The dissenting opinion stated that, new series was applicable after 2010, and could be used for price determination after 2010. It was then brought before the High Court, for setting side the tribunal's award, wherein it was held that the views of the tribunal are plausible views.

The Court further held that, it cannot substitute the views of the Tribunal and that it is not permissible for a Court to examine the correctness of the Tribunal's findings. It is a well-established principle that, if a contract can be interpreted in 2 ways, it is not for the Court to interfere with an arbitral award just because the Court prefers one of other view. In finality, it was held that the Majority view of the Tribunal shall prevail.

10. **Process to handle unbalanced Bids** (abnormally low or too high): To ensure that bidders who quote very low overall rates as compared to estimated bid value, completes the entire scope of work and do not leave at fag end of incomplete project. Provisions regarding additional performance security are to be provided.

### Example

As per contract conditions, unbalanced bid is rates having quoted rates less than 85% of estimated rates, and additional PG of 50% of unbalanced amount is to be obtained.

Estimated bid value: Rs.10,00,00,000

Quoted bid value: Rs.6,00,00,000

Unbalanced bid amount:  $0.85 \times 10,00,00,000 - 6,00,00,000 = \text{Rs.}2,50,00,000$

Additional PG to be obtained=  $0.50 \times 2,50,00,000 = \text{Rs.}1,25,00,000$

Similarly, provisions to be made for front loaded rates of the items being initially executed vs lower quoted items being executed at the end of project like submission of detailed rate analysis of such items if demanded by PE at the time of evaluation of bids.

### Example

In item rate contracts, suitable provisions to deal with extra high rates for earth work items vs very low rates, for finishing items like slope protection in the road works; or very high rates for supply of DI pipes vs very low rates for laying of pipes should be there in the bid documents.

## CAG Report

### **CAG observations on unbalanced bids:**

Cases like award of work without additional performance guarantee for unbalanced bid and agreement not signed/ provided by the contractor were noticed. (Paragraph 2.1.13.1 to 2.1.13.2)

**Source: Audit Report (Economic Sector) for the year ended 31 March 2018; performance audit on Contract Management of Road Works in Public Works Department in Rajasthan.**

11. **Bid Security:** In order to ensure that a bidder who submits his bid, do not withdraw his offer before final decision of the bids (before bid validity date) is taken, a bid security (normally 2% of bid value) in prescribed form like cash, BG, e-GRAS, along with the bid. This security gets forfeited in case bidder withdraws his offer before bid validity date after bid opening. Necessary provision in this regard is made in GCC.
  
12. **Performance Security:** Once the contract is awarded to a bidder, in order to ensure that contractor completes the entire scope of work and do not leave the work halfway, performance security (normally 10% of bid value) in prescribed form like cash, BG, e-GRAS, or recoveries from running on account bills, is taken before the agreement is signed. This security gets forfeited in case contractor leaves the contract unfinished or contract gets terminated because of contractor's inability to perform as per terms of the contract. Necessary provision in this regard is made in GCC. Suitable provisions regarding release of performance security shall also be provided on conditions.

## Example

1. Tenders were floated in 2009-2010 for construction of a Cultural Centre, however, the work was awarded in the year 2012. The petitioner refused to undertake the work on the plea that the rates of the year 2012 were unworkable. Respondent threatened to execute the work at risk and cost of the petitioner. The petitioner filed a writ petition for restraining respondent from executing work on risk-cost basis. Held that the petitioner could not be asked to do work on old rates.

2. After the acceptance of the tender, a letter of acceptance was issued in favor of the petitioner. A contract was entered into between the parties. The work was not commenced by the petitioner. As per General Terms and Conditions of the Contract, failure of the bidder to furnish performance security shall constitute cancellation of contract and forfeiture of bid security and that the authorities had the right to get the work executed on risk-cost basis. Thus, the action of the department in cancelling the contract and execution of the same on risk-cost basis is justified.

## Case Law

### **Performance security forfeiture**

NHAI awarded toll collection contract to M/s A S Motors for a period of one year. There were complaints of overcharging against M/s A S Motors during this period. NHAI did discreet investigation and came to the conclusion that the complaints were true. NHAI terminated the contract, imposed penalty and forfeited the security deposit.

M/s A S Motors claimed that the total of amount he has paid to NHAI as toll collection plus the DD with NHAI were more than contracted amount of collection plus the penalty leviable by NHAI hence bank guarantee given towards PBG should not be invoked.

The questions to be decided were mainly as follows-

Whether the action for termination of the contract is done by the competent authority and whether cancellation of the contract is based on proof of breach committed by the petitioner?

Whether the provision of Section 74 of the Contract Act applies in the present case and forfeiture of the performance security and revocation of bank guarantee is arbitrary and unfair warranting interference by this Court?

A Single Judge of the High Court allowed the said petition in part and while upholding imposition of penalty and forfeiture of performance guarantee quashed the revocation of the bank guarantee by the respondent, as unfair and unreasonable having regard to the fact that the respondent had already received Rs.7,33,33,750/- towards collection charges, Rs.2,20,00,125/- towards forfeiture of the performance security and a penalty amount of Rs.2,41,097/- making a total of Rs.9,55,74,970/- which was more than Rs.8,80,00,500/- the amount contracted to be paid to the respondent.

The High Court held that the termination of the contract and the forfeiture of the performance security for the breaches committed by the appellant were perfectly justified in the light of the report submitted by the agency deployed by the respondent to collect material regarding overcharging of fee and other violations committed by the appellant. So, forfeiture of performance security was upheld but revocation of bank guarantee was considered unfair as sufficient amount had come to the employer already. Supreme court upheld the above decision.

### Case Law

#### **Encashment of Bank guarantees:**

The Bank Guarantee received from the Contractor must be unconditional and unequivocal and the decision of the Employer shall be final and binding on the Bank.

#### Leading Judgments

In case of, State Bank of Bikaner and Jaipur & Anr. Vs. Food Corporation of India AIR 2007 (NOC) 458 (Rajasthan), the Bank guarantee specifically contained the condition that Corporation shall be the sole judge to decide whether the contractor has committed any breach of the terms and conditions of the Agreement and the extent of loss, and the Bank agreed to pay the amount of bank guarantee on demand by the Corporation. That being so the Bank guarantee can well be said to be unconditional or unequivocal in terms, giving unfettered right to the plaintiff corporation to invoke that guarantee and demand immediate payment thereof from the Bank.

### Case Law

#### **Bank Guarantee when cannot be encashed**

In case of **Gangotri Enterprises Limited vs. Union of India** case it was held that where a clause in a contract provides:

"The amounts thus to be forfeited or recovered may be deducted from any monies then due or which at any time thereafter may become due to the contractor by the Railways under this or any other contract or otherwise, the same does not empower the employer to recover an unascertained amount from any other contract between the parties.

The bank guarantee being in the nature of a performance guarantee furnished for execution work of another contract and that work having been completed to the satisfaction of the respondents, it was held that they had no right to encash the bank guarantee."

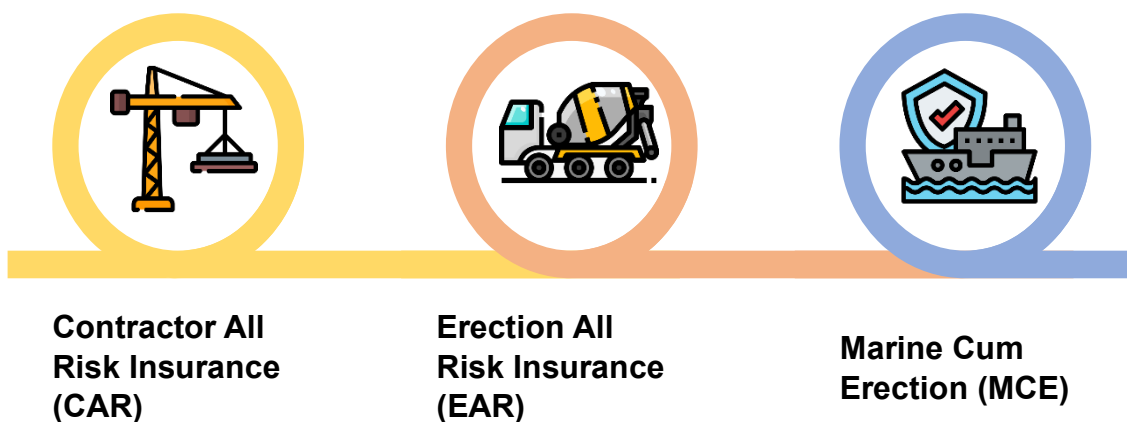
In the matter of **Hindustan Construction Co. Ltd. vs. State of Bihar AIR 1999 SC 3710** it was held that "a grant of injunction restraining invocation of bank guarantee what is important is that the Court should satisfy itself that the invocation is in terms of the conditions mentioned in the bank guarantee. Since the bank guarantee represents an independent contract between the Bank and the beneficiary, both the parties would be bound by the terms thereof. If the bank guarantee stipulates a condition in the event of which bank guarantee can be encashed, then till such time that condition is fulfilled the bank guarantee cannot be encashed."

- 13. Tax implications:** Normally bidders are required to quote their rates inclusive of all taxes/duties prevailing at the time of bidding. Suitable provisions in GCC are to be made for possible variation in the tax rates (of state/central) and its effect on accepted rates. Provision regarding payment/ recovery of royalty charges on aggregates/sand/ earth needs to be provided.
- 14. Foreign Exchange Risk:** In case of international contracts, bidders are required to quote the bid value, in certain ratio of Indian and foreign currency, at pre-determined currency exchange rates. Provisions are to be made in the special conditions of contract (SCC) for dealing with fluctuations in the currency rates during contract execution period.
- 15. Various types of insurance:** Insurance is a very important tool with which an employer and the contractors can pass on the risk to the insurance company. A contract of insurance is where in case of risk, one party, the insurer, undertakes, on payment of premium by the insured, to make a payment to another party, the policyholder or a third party. Some insurance contracts are defined as a "contract of indemnity". The insured is not supposed to make any profit out of the insurance but should only be compensated to the extent of the pecuniary loss.
- Another form of insurance contracts are ones which do not have indemnification as main objective. These are "contingent contracts" where the contingent event gives rise to the claim by the insured for the agreed sum. Example of such

insurance is life insurance where death of the insured is the contingent event. Thus, such contracts offer fixed payment to the insured on the happening of the contingent event. In contrast, under the indemnification contracts, liability of the insurer is limited by the actual loss of the insured also. Thus, the loss has to be established and certified by an independent surveyor before finalizing and accepting of claim by the insurer.

Therefore, for the safety of manpower (contractors, sub-contractors, departmental) working at site, T&P, structure under construction, third party or general public, insurance is most important, as the accidents due to human errors/negligence, climatic conditions are very common in case of execution of works.

Some insurance policies which are designed to insure loss or damage to insured property occurring during the Construction or Erection phase before final commissioning of the project are:



**Example**

**Insurance for Works and Contractor’s Equipment:** The insuring Party, the Contractor, shall insure the Works, Plant, Materials and Contractor’s Documents for not less than the full reinstatement cost including the costs of demolition, removal of debris and professional fees and profit. Contractors all risk (CAR) policy may be affected.

**Insurance against Injury to Persons and Damage to Property:** The insuring Party shall insure against each Party’s liability for any loss, damage, death or bodily injury which may occur to any physical property (except things insured under ‘Insurance for Works and Contractor’s Equipment’ or to any person (except persons insured under ‘Insurance for Contractor’s Personnel’, which may arise out of the Contractor’s performance of the Contract and occurring before the issue of the Performance Certificate.

**Insurance for Contractor's Personnel:** The Contractor shall affect and maintain insurance against liability for claims, damages, losses, and expenses (including legal fees and expenses) arising from injury, sickness, disease, or death of any person employed by the Contractor or any other of the Contractor's Personnel. Suitable group insurance policies, medical claim policies may be affected.

### CAG Report

Contractors were to provide insurance cover of Rs.7,535.78 crore for 2,953 contract bonds. However, insurance cover was neither provided by any contractor in test-checked districts, except one contractor nor department ensured the recovery of premium from contractor and getting insurance done. Therefore, contractors were benefitted to the tune of approximately Rs.1.71 crore. (Paragraph 8.11)

**Source: CAG performance audit report on contract management in road sector of UP govt. for the year ended 31 March 2016**

**16. Defect liability period (DLP) and maintenance:** Suitable provisions are made in SCC regarding defect liability period and obligations of the parties to contract during DLP, Payment and Quality issues during O&M, if it is a part of contract; Conditions at handing back; maintenance, warranties, spares, manpower and training for O&M

### Example

In a case where any bridge girder collapse after completion during DLP, the contractor is bound to replace the same, apart from paying any compensation of third-party losses, if failure is attributed to faulty design, sub-standard materials, or poor workmanship/negligence. On similar account, any road surface damaged during the DLP to be rectified by the contractor.

**17. Liquidated Damages:** Time is the essence of the contract. Sometimes, extension of time (EOT) is granted to the contract on account of default of contractor. An ascertained and agreed sum (not as penalty) named as liquidity damages (LD) is prescribed in the GCC as compensation to department for

defaults. Quantum of LD depends upon duration of extension granted vs original completion period. LD is normally recovered from running bills and maximum limit is normally capped at 10% of contract value.

## Case Law

### Liquidated damages-When to be construed as penalty

#### The House of Lords in Dunlop Pneumatic Tyre Company Ltd. vs. New Garage and Motor Co. Ltd. summed up the distinction between penalty and LD:

1. That the parties who use the expression “penalty” or “liquidated damages” may prima facie mean what they say, yet the expressions are not conclusive.
2. The essence of a penalty is a payment of money in-terrorem of an offending party; the essence of liquidated damages is a genuine pre-estimate of damages’
3. The question whether a sum is a penalty or liquidated damages is a matter of construction of the particular contract, to be judged at the time of its making, and not at the time of its breach.
4. To assist in this task of construction, various tests have been suggested, which if applicable to the case under construction may prove helpful or even conclusive. Such are:
  - held a penalty if sum stipulated for is extravagant and unconscionable in amount in comparison with greatest loss that could conceivably be proved to follow from breach.
  - held a penalty if breach consists only in not paying sum of money and sum stipulated is greater than sum which ought to have been paid.
  - presumption (but no more) that it is a penalty when single sum made payable by way of compensation, or occurrence of one or more or all of such events, which may occasion serious damage or trifling damage, on the other hand.
  - no obstacle to sum stipulated being a genuine pre-estimate of damage that consequences of breach are such as to make precise pre-estimation almost impossible. On the contrary, that is the situation when probably the pre- estimated damage was true bargain between parties.

## Case Law

### ***Liquidated damages treated as compensation for delay:***

Whenever there is a pre-determined amount for the damages the said amount can be deducted by way of liquidated damages. Thus, if compensation is named in the contract by way of penalty, consideration would be different, and the party is entitled to reasonable compensation for the loss suffered. But if the compensation named in the contract is genuine pre-estimate of loss which the parties knew when they made the contract to be likely to result from the breach of it, there is no question of proving such loss or such party is not required to lead evidence to prove actual loss caused to him. **(ONGC Ltd. Vs. SAW Pipes Ltd. AIR 2003 SC 2629)**

Where a contractor entered into a contract with the Government for supply of materials before a specified date for the repair and construction of road and the parties were aware that the construction work was a matter of extreme urgency and was to be completed with the help of materials to be supplied by the contractor before the specified date, otherwise the construction work would be held up and the Government would suffer loss and damages and also the parties knew beforehand that if the contract would not be performed to its completion, it would not be possible for the Government to lead evidence of actual loss and accordingly they assessed such loss on the basis of certain percentage of value of contract and where there is sufficient evidence to prove legal injury suffered by the Government by reason of the breach of the contract and also to show that if any other contractor had been employed at that stage, the Government would have suffered certain loss and damage thereby, then the amount assessed and mentioned in the contract cannot be said to have been assessed by way of penalty but was a genuine pre-estimate of the loss which was to be suffered by the Government in case of failure on the part of the contractor to deliver before the due date mentioned in the contract. Hence, the amount mentioned in the contract would be payable as liquidated damages. **(AIR 1973 Cal 550)**

## Case Law

### ***Liquidated damages-when cease to be payable***

**Liquidated damages cease to be payable where the employer has waived the right to insist upon them, e.g., where he has failed to deduct or retain them in cases where it is imperative on his part under the contract to do so.**

When the contractor had not finished the work by the date fixed in the agreement and the State allowed him to continue and complete it and final bill was prepared, without imposing any penalty in terms of contract soon after plaintiff's failure to complete by fixed date or rescinding the contract or getting work completed by other contractor, the state was not entitled to compensation as it must be deemed to have waived its right to fix it and recover the same from contractor. When a clause in the agreement provides that compensation shall be deducted from time to time as the delay would occur during the progress of the work, non-levy of the same by the Chief Engineer would amount to waiver of his right to fix the compensation and to recover the same from the plaintiff. **(State of Rajasthan vs. Chandra Mohan Chopra AIR 1971 Raj 229)**

### ***Liquidated damages recoverable only when legal injury suffered***

Section 74 undoubtedly says that the aggrieved party is entitled to receive compensation from the party who has broken the contract, whether or not actual damage or loss is proved to have been caused by the breach. Thereby it merely dispenses with proof of "actual loss or damage"; it does not justify the award of compensation when in consequence of the breach no legal injury at all has resulted, because compensation for breach of contract can be awarded to make good loss or damage which naturally arose in the usual course of things, or which the parties knew when they made the contract, to be likely to result from the breach. **(Fateh Chand vs. Bal Kishan Das AIR 1963 SC 1405)**

## Case Law

### ***Amount in excess of liquidated damages-Whether recoverable***

Under section 74, the plaintiff must prove his damages in a general sense. The contract made by the parties estimating their damage is in itself evident and if there is no other evidence of damage this evidence alone will be considered as sufficient. The sum named however is not conclusive evidence and if there is other evidence or circumstances showing that it was excessive, the Court will not consider itself bound by it. If, on the other hand, the other evidence and circumstances indicate that the damages equal or may equal, or is likely to exceed the amount named, the Court will abide by it. Where, however, the other evidence shows that it is unreasonable, the plaintiff will have to prove his damage irrespective of the figure. **(Fateh Chand vs. Bal Kishan Das AIR 1963 SC 1405, Mahadeoprasad vs. Siemens (India) Ltd. AIR 1934 Cal 285)**

**Case Law*****Procedure for levying liquidated damages*****Vishwanath Sood vs. Union of India AIR 1989 SC 952**

The levy of compensation under the clause cannot be said to be in the nature of automatic levy to be made by the engineer-in-charge based on the number of days of delay and the estimated amount of work. Firstly, the reference in the clause to the requirement that the work shall throughout the stipulated period of the contract be proceeded with due diligence and thereference in the later part of the clause that compensation has to be paid "in the event of the contractor failing to comply with" the prescribed time schedule make it clear that the levy of compensation is conditioned on some default or negligence on the part of the contractor. Secondly, while the clause fixes the rate of compensation at 1 per cent for every day of default it takes care to prescribe the maximum compensation of 10 per cent on this ground and it also provides for a discretion to the Superintending Engineer to reduce the rate of penalty from 1 per cent.

Though the clause does not specifically say so, it is clear that any moderation that may be done by the Superintending Engineer would depend upon the circumstances, the nature and period of default and the degree of negligence or default that could be attributed to the contractor. In practice, the amount of compensation will be initially levied by the engineer-in-charge and the Superintending Engineer comes into the picture only as some sort of reversioner or appellate authority to whom the contractor appeals for redress. The compensation clause contains a complete machinery for determination of the compensation which can be claimed by the Government on the ground of delay on the part of the contractor in completing the contract as per the time schedule agreed to between the parties. The decision of the Superintending Engineer is in the nature of a considered decision which he has to arrive at after considering the various mitigating circumstances that may be pleaded by the contractor or his plea that he is not liable to pay compensation at all under this clause. The question regarding the amount of compensation leviable has, therefore, to be decided by the Superintending Engineer and no one else.

## Case Law

### **Sikka Associates vs. Airport Authority of India, (2009) 2 RAJ 297 (Del)**

To attract the provisions of section 74, it is not necessary that the entire contract should come to an end; the breach of each term thereof can be visualized in advance and can be taken care of by providing an adequate clause of liquidated damages and in future settle the question of damages that have accrued on the basis of the damages so that the parties to the contract can proceed to work out the contract rate that has been put as a pre-estimate at the commencement of the contract. If the very purpose of putting a genuine pre-estimate is to avoid litigation and introduce certainty in computation of difficult question of assessment of damages, it seems to be in the highest degree unlikely that the intention would have been that the clause of liquidated damages will not come into till the entire contract has been broken. **(AIR 1985 Bom 186)**

Where the contractor abandons the work and the employer rescinds the contract, levy of liquidated damages by the employer in terms of condition of contract is perfectly justified and cannot be interfered with. The mere used the word "penalty" cannot be said to be harsh when the amount sought to be recovered does not exceed 10% of the value of the contract.

## Case Law

### ***Notice obligatory before claiming liquidated damages***

#### **SBI vs. S&S Technocrats Ltd. (2015) 6 RAJ 300 (Del)**

Where the petitioner failed to show that it had suffered any loss during the extended period of contract, more so when the finding of the arbitrator was that the delay was caused by the petitioner, claim for liquidated damages is unsustainable and the contractor would be entitled to escalation. Furthermore, it was held that levy of liquidated damages is otherwise unsustainable when the employer has not served any show cause notice proposing imposition of liquidated damages at any point of time.

### Case Law

#### **Claim for liquidated damages without annulling contract:**

Where in case of a contract with the Government to deliver goods on a certain date, the condition of contract itself provides for extension of time, then time is not the essence of the contract. The second paragraph of section 55 of the Contract Act would apply in such a case and the contract would not become voidable by the failure to deliver goods on the specified date. It follows that without annulling the contract, the Government can ask for compensation in terms of the conditions of the contract and at the same time allow the contract to be performed. The question of extension of time comes in for the purpose of claiming an exemption from liquidated damages imposed under the conditions of the contract. In such case, the third paragraph of section 55 is not applicable because time is not of the essence of the contract and accordingly, compensation provided under the conditions of the contract remain unaffected and valid in spite of the performance of the contract to some extent and becomes legally recoverable. **(AIR 1973 Cal 550)**

Where a sum is named in a contract as a liquidated amount pay by way of damages, the party complaining of a breach can receive as reasonable compensation such liquidated amount only if genuine pre-estimate of damages fixed by both parties and found to such by the Court. Similarly, in cases where the amount fixed is in the nature of penal only reasonable compensation can be awarded not exceeding penalty so stated. In both cases, the liquidated amount or penalty is the upper limit beyond which the court cannot grant reasonable compensation.

### Case Law

#### ***Proof of loss for recovery of liquidated damages:***

#### **Maula Bux v. Union of India (1969) 2 SCC 554**

On a conspectus of various authorities, the law on compensation for breach of contract under section 74 can be stated to be as follows:

“It is true that in every case of breach of contract the person aggrieved by the breach is not required to prove loss or damage suffered by him before he can claim a decree, and the court is competent to award reasonable compensation in case of breach even if no actual damage is proved to have been suffered in consequence of the breach of contract. But the expression “whether or not actual damage or loss is proved to have been caused there by” is intended to cover different classes of contracts which come before the courts. In case of breach of some contracts it may be impossible for the court to assess compensation arising from breach, while in other cases compensation can be calculated in accordance with established rules.

Where the court is unable to assess the compensation, the sum named by the parties if it be regarded as a genuine pre-estimate may be taken into consideration as the measure of reasonable compensation, but not if the sum named is in the nature of a penalty. Where loss in terms of money can be determined, the party claiming compensation must prove the loss suffered by him.”

## Case Law

### Liquidated Damages and Extension of Time

Sections 73 and 74 of the Indian Contract Act, 1872 deal with claims of damages. Section 73 provides for unliquidated damages, section 74 of the Contract Act takes into account the concept of liquidated damages which provides that a party complaining of the breach is entitled, whether or not actual damage or losses are proved to have been caused thereby, to receive from the party who has broken the contract reasonable compensation. **(AIR 2007 SC 509)**

Therefore, it is permissible under the statute that the persons who are affected by the contractual breach, is not required to prove any actual damage suffered or actual loss, yet the court is competent to award in his favour reasonable compensation. Liquidated damages are the amount which becomes payable by the Promisor to Promisee and the quantum of same is predetermined at the time of entering into the contract.

In contracts of construction, the Contractor furnishes a performance bank guarantee which can be forfeited by the Authority in case of breach of contract due to unjustified delay in completion of the project. The concerned authority may grant an extension of time without prejudice to its other contractual rights and right to claim liquidated damages under the contract.

In the case of ***United Engineers (Malaysia) v National Highways Authority of India 2008 ILR 2 Delhi 646*** where delays had been caused due to the petitioner's default and it had taken various extensions of time from the Respondent to complete the project, the Hon'ble High Court of Delhi has held dismissing the application filed by petitioner for interim injunction regarding invoking bank guarantee by the Respondent:

*The respondent has already incurred a huge expenditure by allowing extensions to the petitioner several times hitherto. By allowing an injunction against the invocation of the bank guarantees in the present case, this Court cannot allow the petitioner to take advantage of its own recalcitrance and complacency, especially as it will militate against the respondent's interest and rights in the contract.*

Construction contracts involve reciprocal promises by both the parties. In this case, NHAI failed to provide continuous stretches of land and the required land free from encumbrances to the Contractor for constructing roads till close to the date of completion of the project. As a consequence, the Contractor was forced to terminate the contract. "NHAI could not even perform its basic act/duties of providing land to the Claimant and thus committed fundamental breach of the agreement. A party which commits a fundamental breach of the contract is certainly not in a position to terminate the contract on alleged breaches of contract of the other party. **(2017 SCC Online Del 7908)**

Thus, applying the ratio of this case, it can be concurred that where there is a delay in completion of project due to alleged breaches of contract by the authority by not fulfilling its share of reciprocal promises, such as providing right of way, getting various approvals from concerned authorities, etc. the Promisor or the Contractor can terminate the contract and the Authority relinquishes its right to claim liquidated damages due to the delays caused attributed to it. This judgment also highlights the well-established prevention principle:

*The 'prevention principle is a long-established principle under English law whereby a party may not enforce a contractual obligation against the other party where it has prevented the other party from performing that obligation. The prevention principle is closely aligned to the principle that no party may benefit from its own breach of contract.*

Section 74, on the other hand, deals with the concept of liquidated damages, wherein, compensation for breach of the contract specified in the contract itself. Under this section, only genuine pre-estimates are awardable as damages and any sum that is in the nature of a penalty or intended to punish the breaching party is not awarded. Showing that a breach has occurred is sine qua non for damages to be awarded under this section and in situations where it is difficult to prove actual loss, the liquidated amount named in the contract, if it is a genuine pre-estimate of damage or loss, can be awarded.

### Case Law

The 2015 judgment of (**Kailash Nath Associates v Delhi Development Authority**) explains the difference between the scope of section 73 and section 74 in the following words:

*The expression "whether or not actual damage or loss is proved to have been caused thereby means that where it is possible to prove actual damage or loss, such proof is not dispensed with. It is only in cases where damage or loss is difficult or impossible to prove that the liquidated amount named in the contract, if a genuine pre-estimate of damage or loss, can be awarded."*

## Case Law

### **United Engineers (Malaysia) v National Highways Authority of India**

In contracts of construction, the Contractor furnishes a performance bank guarantee which can be forfeited by the Authority in case of breach of contract due to unjustified delay in completion of the project. The concerned authority may grant an extension of time without prejudice to its other contractual rights and right to claim liquidated damages under the contract.

In the case of **United Engineers (Malaysia) v National Highways Authority of India** where delays had been caused due to the petitioner's default and it had taken various extensions of time from the Respondent to complete the project, the Hon'ble High Court of Delhi has held dismissing the application filed by petitioner for interim injunction regarding invoking bank guarantee by the Respondent.

### **18. Environmental, Social, Health and Safety (ESHS):**

Obligations of the contractor are important part of the contract. The employer has the vicarious liability if the contractor fails to carry out his duties under the relevant laws. In order to ensure the compliance under these heads, some contracts have, apart from indemnifying the Employer against any loss occasioned from violation of ESHS obligations, a provision of imposition of penalty on Contractor for any violation of the ESHS obligations. Other contracts use Performance security for ensuring performance under this head as well.

- a. **Environmental & Social safeguards:** Works are being executed over various climatic/ topographical location, therefore suitable provisions regarding Environment management, social health and safety shall be made in special conditions.

## Example

Provisions regarding establishment and maintenance of contractor's labor camps, cleaning, and watering of approach roads, re-use of topsoil, washing of truck tyres, payment of wages and PF/gratuity are also prescribed in GCC. Also, provisions regarding sites and conditions for wastewater and cut spoils disposal, restoration of the site, development of green patches after completion of work need to be incorporated.

- b. **Health & Safety Considerations:** As large number of labor is deployed on construction sites, therefore, provisions regarding health, and other social conditions in the labor camps, or at work site to be provided in the GCC/SCC.

### Example

Provision for any non-accumulation of water at site, colony waste disposal, mosquito control or Covid restrictions. Provisions regarding personal safety of staff deployed at site (working at heights, use of safety slings, or under-water working, working inside tunnels and below ground level like in foundations, protection shoes, helmets, visible retro-reflective jackets), safe working of machinery, cranes, lifts, etc. are also made in bid documents. Similarly, provisions regarding barricading around the site (site protection from unauthorized entry), etc. shall be provided.

Various Environment, health, safety, and woman harassment (EHS) related law governing the contract are as below:

Following Laws need to be observed:

- a) **Workmen Compensation Act 1923:** - The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) **Payment of Gratuity Act 1972:** - Gratuity is payable to an employee under the act on satisfaction of certain conditions on separation if an employee has completed the prescribed minimum years (say, five years or as amended from time to time) of service or more or on death the rate of prescribed minimum days' (say, 15 days or as amended from time to time) wages for every completed year of service. The Act is applicable to all establishments employing the prescribed minimum number (say, 10 or as amended from time to time) or more employees.
- c) **Employees P.F. and Miscellaneous Provision Act 1952:** The Act Provides for monthly contributions by the plus workers at the rate prescribed (say, 10% or 8.33% or as amended from time to time). The benefits payable under the Act are of Pension or family pension on retirement or death as the case may be.
  - Deposit linked insurance on the death in harness of the worker.



- Payment of P.F. accumulation on retirement/death etc.
- d) **Maternity Benefit Act 1961:** - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) **Contract Labor (Regulation & Abolition) Act 1970:** - The Act provides for certain welfare measures to be provided by the Contractor to contract labor and in case the Contractor fails to provide, the same are required to be provided, by the Principal by Law. The principal is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal if they employ prescribed minimum (say 20 or as amended from time to time) or more contract labor.
- f) **Minimum Wages Act 1948:** - The is to pay not less than the Minimum Wages fixed by appropriate Government as per the provisions of the Act if the employment is a scheduled employment. Construction of buildings, roads, runways are scheduled employment.
- g) **Labor (Prohibition & Regulation) Act 1986:** - The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulations of employment of children in all other occupations and processes. Employment of child labor is prohibited in building and construction industry.
- h) **The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996:** - All the establishments who carry on any building or other construction work and employs the prescribed minimum (say, 10 or as amended from time to time) or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% (or as amended from time to time) of the cost of construction as may be notified by the Government. The establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodations for workers near the workplace etc. To whom the Act applies, has to obtain a registration certificate from the Registering Officer appointed by the Government.
- i) **Environment (Protection) Act, 1986-** The Supplier/Contractor shall comply with the provision of the said Act.as modified from time to time and conduct its

activities in accordance with the Contract Agreement in such a manner so as to comply with the environmental requirements which includes, inter alia, all the conditions required to be satisfied under the environmental clearances and applicable law. The violation of the act can be criminally with fines assessed and individuals imprisoned. The contractor shall assume full responsibility for measures which are required to be taken to ensure such compliance.

- j) **Water (Prevention and Control of Pollution) Act, 1974** The Contractor shall comply with the provisions of the Water Act and the amendments time to time and prevent discharge of effluents into the water bodies beyond a permissible limit. Noncompliance or violation of the said Act leads to Penal consequences. The contractor assumes full responsibility for measures to be taken as prescribed by the Boards.
- k) **Air (Prevention and Control of Pollution) Act, 1981.** The Contractor shall adhere and comply with the provisions of the Air Act and as amended from time to time prohibiting the use of polluting fuels and substances and regulating appliances that give rise to air pollution. All compliances have to be undertaken before setting up an industrial unit/plant in the pollution control area from the authorized Boards.
- l) **The Hazardous and other wastes (Management & Trans-boundary Movement) Rules, 2016** The Supplier/Contractor shall comply with the rules for storage and import of hazardous goods and management of wastes. The Supplier and or contractor assumes full responsibility for the upkeep and storage of the hazardous items which is likely to cause danger to health or environment.
- m) **The Public Liability Insurance Act, 1991** The Supplier/Contractor have to provide for damages to victims of an accident which occurs as a result of handling any hazardous substance associated with the production or handling of any hazardous chemicals.
- n) **Harassment of Women at Workplace Act, 2013-** The Supplier/Contractor shall comply with the provision of the said act as modified from time to time wherever applicable and shall also indemnify the from and against any claims the aforesaid Act and the Rules.

The Supplier/Contractor/Consultant shall keep the indemnified in case any action is taken against the competent authority on account of contravention of any of the

provisions of any Act or rules made there under, regulations or notifications including amendments. If is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer shall have the right to recover from the Contractor.

### **Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks**

The Bidder shall submit Management Strategies and Implementation Plans (MSIPs) to manage the key Environmental and Social (ES) risks: [e.g., Sexual Exploitation and Abuse (SEA) *prevention and response action plan*].

19. **Resettlement/Livelihood Restoration Plan:** Some of the construction projects like dams, power plants or mega highway projects, etc. requires very large contiguous parcels of land requiring existing landowners/occupants to be displaced beyond the project area. Land acquisition and resettlement Act (LARR-2013) prescribes ways and means for resettlement and lively restoration plans of such displaced/Project affected persons (PAP). DPR of the project should provide details of such plans.

#### Example

In case of a dam project, occupants affected by the project, need to be given alternate sites for residences, well connected with necessary amenities of the villages got submerged/ acquired, agriculture, vocational training to earn livelihood or govt. jobs apart from shifting charges and other compensation for compulsory land acquisition including of land developments.

20. **Coordination with other stakeholders:** During execution of project, diversion of various utility services like communications, power lines, water supply and sewer lines, roads as well as crossings of rivers, railways, highways, canals, etc., is required. Similarly, there may be more than one contractor working at the site. Suitable provisions for coordination, payments, etc. with third parties are to be made in SCC.
21. **Various timelines:** In public procurement of works, RTPP act/rules prescribe timelines of various activities like Bid notice period (submission period), issue of bid documents, bid validity period, bid evaluation, acceptance of bids, appeals,

issue of LOA, signing of agreement, publication on SPPP portal, etc. these timelines; are required to be observed strictly.

- 22. Standards & Specifications:** Requisite specifications may be reproduced in bid documents or may be referred to, for the material, methods, testing, and acceptance criteria including order of preference of different specifications/standards (Departmental, industry, national, international standards/specifications). Due care shall be taken while referring the specifications about applicability of options, wherever applicable. Some responsible officers should go through the proposed referred to be specification(s) in detail and only relevant portion of specifications shall be reproduced/referred. Sometimes, specifications provide multiple choices/class for some items/tests, appropriate selection shall be indicated in the SCC

#### Example

BIS, UIC, Indian Railways, ASTM, etc., any foreign Railway specification for design of bridges, tunnels, track, rolling stock, air-conditioning, signaling, etc. for metro rail.

- 23. Delays in work execution:** If everything is well planned, the contract comes to an end on date of completion. However, due to reasons attributable to contractor, department, third parties or climate conditions, completion time, need to be extended. Department to ensure site availability, statutory approvals, design and drawing approvals and payments in time. Contractor to arrange adequate resources in time. Provisions are made in GCC to address the issue of time extension.
- 24. Suspension/Termination of Work:** Contracts may also allow suspension of performance. The circumstances allowing suspension are generally similar to those allowing termination. Suspension can be useful, for example, if the client has difficulty in raising funds to pay for the work to proceed at the speed anticipated by the contract.
- Either party may have the right to terminate at the end of a suspension period, if a suspension becomes prolonged with no prospect of work re-commencing. When suspension is ordered, the conditions for the same, its effect on time extension and payments, need to be specified in GCC/SCC.
- Conditions under which the contract could be terminated on contractor's fault to be defined and liability and responsibilities of parties under such circumstances need to be specified.

### Example

The Contractor shall not be entitled to an extension of time for, or to payment of the Cost incurred in making good the consequences of the Contractor's faulty design, workmanship, or Materials, or of the Contractor's failure to protect, store or secure the work.

### Case Law

#### **Termination of contract: Execution of work on risk-cost basis inference can be drawn from Illustration 'o' to Section 73 of Contract Act, 1872**

"A Contract to deliver 50 maunds of saltpeter to B on the 1<sup>st</sup> of January, at a certain price. B, afterwards, before the 1<sup>st</sup> of January, contracts to sell the saltpeter to C at a price higher than the market price of the 1<sup>st</sup> of January. A break his promise. In estimating the compensation payable by A to B, the market price on the 1<sup>st</sup> of January, and not the profit which would have arisen to B from the sale to C, is to be taken"

### Case Law

#### **Flawmore Private Limited vs. NTPC Limited 2010 (3) RAJ 473 (Del)**

It has to be noted that before risk and cost purchases can be granted to a party who is aggrieved and against a party in breach, it is necessary that what is purchased should be the same item as what was contracted for and not otherwise. Where the contract in question was for supply of S.S. Impellers but instead what were purchased from Johnston Pump Ltd., were not S.S. Impellers but bronze impellers, it was held that it was unilateral novation of contract qua the Impellers and thus the risk and purchase cost of a different item cannot be fastened on the petitioner.

It is, therefore, clear that where the plaintiff gets the work done by another, the measure of compensation is the increased cost of work on account of having got the work done. **AIR 1958 AP 533**

### Case Law

**(Union of India vs. Tania Construction Private Limited (2011) 5 SCC 697)**

The scope of work entrusted to the respondent did not cover the extended work which occasioned on account of alteration of design but was confined to the work originally contracted for. The respondent expressed its unwillingness to take up the extended work but agreed to do the balance work under the original contract at the same rates and terms even though contract had over-stepped schedule of time. The appellant understood it as respondent's willingness to do even the extended work. On refusal of respondent to execute extended work, the appellant terminated the contract. It was held that the appellant totally misunderstood the intent of respondent's letter and hence termination being illegal, work on risk and cost basis could not be done by the appellant.

**(K.C. Sakaria vs. State of Kerala AIR 2006 SC 811)**

In a works contract, time stipulated for completion of work was 18 months. As per the contractor, the department was under an obligation to supply cement and steel for the work. It was stated that the department failed to supply cement for 15 months and steel for 6 months. It was held that the department was in breach of contract and the contractor was justified in refusing to execute the work and the contractor was thus entitled to get a declaration that the department was not entitled to recover from the contractor any extra cost involved in getting the balance work executed.

### Example

A letter of acceptance of work was issued which was not absolute but subject to petitioner furnishing performance security. The consequence of the failure of non-deposit of the amount by way of performance security as provided in the Notice Inviting Tenders was cancellation of the letter of award and not the contract. It was held that since no contract had come into existence till the pre-requisite of deposit of performance security was satisfied, it was not permissible to the respondent to carry out the work at the risk and cost of the petitioner and at best the security deposit of the petitioner could be forfeited.

*Tenders were floated in 2002-2003 for construction of a Cultural Centre, however, the work was awarded in the year 2004. The petitioner refused to undertake the work on the plea that the rates of the year 2002 were unworkable. Respondent threatened to execute the work at risk and cost of the petitioner.*

### Example

*The petitioner filed a writ petition for restraining respondent from executing work on risk-cost basis. Held that the petitioner could not be asked to do work on old rates.*

After the acceptance of the tender, a letter of intent was issued in favor of the petitioner. A contract was entered into between the parties. The work was not commenced by the petitioner. As per General Terms and Conditions of the Contract, failure of the bidder to furnish performance security shall constitute cancellation of contract and forfeiture of bid security and that the authorities had the right to get the work executed on risk-cost basis. Thus, the action of the department in cancelling the contract and execution of the same on risk-cost basis is justified.

- 25. Measurement:** The methods and frequency of measurements, witnessing of measurements and test checking by higher officials, measurements of hidden works, record keeping, etc. need to be specified in GCC/SCC.

### Example

Measurement of actual work done as per specifications including quality tests, frequency of measurement like monthly/milestone based, authority to record/witness the measurements, notice for covering up hidden measurements like foundations, reinforcements quantity in concrete, acceptance of various tests to be conducted at what frequency, test check of measurements before billing, procedure of rejection and re-doing the work, maintenance of MBs.

Items and units of measurements shall be the same as given in BOQ like if a super structure of bridge is given on per span basis, then no need of detailed measurement of girder, certification of that girder/span as per drawing has been casted/launched will be sufficient.

- 26. Payments:** Advance payments and recoveries, criteria for payment, frequency, part/running payments, final payments, stage payments, reduced payments, cost audits, recoveries/retentions, interest on delayed payments, etc. need to be specified in SCC.

### Example

- Advance payments for Plant and machinery (approximate 10%) and recoveries, criteria for payment, interest charges, means of recovery, security against advance
- Interim/running payments: Monthly payments for the work done, final payments, stage payments against achievement of pre-specified milestones
- Reduced payments for acceptable sub-standard quality of work,
- Part payment for incomplete item like casting of Girder (where rates are inclusive of launching also)
- Cost audits for Cost plus fee works,
- Recoveries/retentions towards SD, GST, I. Tax, Royalties for mine department, water and electricity charges, cost/hire charges of departmental machinery/materials, insurance charges and any third-party claims
- Interest on delayed payments by department, etc. to be specified in SCC

### CAG Report

#### **Advances, Recoveries and Payments:**

Test-check revealed that EEs paid Rs.36.14 crore to 23 contractors during 2011-16 as interest-free secured advance against the material brought to site though, there was no provision of payment of such advance in the tender conditions. (Paragraph 9.1)

During 2011-16, eleven divisions irregularly paid advance of Rs.67.10 crore to contractors against 17 contracts on the grounds of collection of material and works done but not measured, though there was no provision in the contracts for making such advance payments. (Paragraph 9.2)

Equipment advances of Rs.204.97 crore was paid to contractors during 2011-16 without obtaining any proof of purchase of new equipment and their utilization by the contractors for the awarded works. (Paragraph 9.3)

Deduction of Rs.55.11 crore on account of retention money (at the rate of five per cent of the amount due to the contractor), was not made from the bills thus giving undue aid to the contractors. To check loss of revenue from sale of minor minerals and also control illegal mining, the contractors are required to submit

copies of treasury challans to PWD divisions as proof of pre-payment of royalty and purchase of construction materials from authorized quarries. None of the divisions in test-checked districts ensured receipt of copies of treasury challans from contractors in support of royalty payments. (Paragraph 9.7.1)

Divisions failed to recover penalty of Rs.28.16 crore in cases of not submitting the MM-11 forms in support of payment of royalty and procurement of materials from authorized sources were not submitted. (Paragraph 9.7.3)

**Source: CAG performance audit report on contract management in road sector of UP govt. for the year ended 31 March 2016**

**27. Claims & Disputes Management:** The method of raising claims and frequency thereof, dispute resolution mechanism, claim statements, bilateral, conciliation, ADR board, Arbitration provisions in the agreement are to be provided in GCC/SCC.

**28. Arbitration & Conciliation:** Adequate provisions about the kind of disputes to be referred to in case of Arbitration, qualification, fee, and procedure for appointment of arbitrators, language, place of arbitration, etc. need to be made in contract conditions either through GCC or in SCC.

Arbitration and Conciliation Act, 1996 provides lot of flexibility to the parties to decide certain issues related to the arbitration; all such issues may be addressed in the arbitration clauses of the agreement.

### Example

The contractor wrote a letter for arbitration, thereby seeking resolution of certain disputes. The client refused to entertain the Contractor's claims by stating that these are not arbitrable as per the Contract's provisions. Subsequently, Contractor approached the Court where Client took a plea that the claims are subject to Arbitration and not maintainable before Court. Is this permissible? It is a wonderful case of Approbate and Reprobate. Once a stand is taken by the Client, it cannot back track as it is barred by "principle for Estoppel".

Can the venue of arbitration be different from the place of jurisdiction?

Yes. Venue doesn't determine jurisdiction when specifically provided in the Contract.

**29. Representations:** Representation means statement of facts by employer or bidder. Any declaration about composition of firm, qualification criteria or other

quality/IPR issues regarding technique/materials is considered a representation. Any misrepresentation of such facts entitles the employer to terminate the contract and claim damages. It is different from warranty, where only compensation can be claimed, and no contract termination is permitted.

30. **Quality Assurance & Control:** Provisions regarding quality assurance plan for materials, workmanship and finished product, quality control measure to be adopted by the department, types of tests and their frequency and acceptance criteria, accepting authority and provisions regarding re-testing, if any to be incorporated in SCC.

### CAG Report

Quality control testing in the road works was not being carried out properly in many divisions. Payments to the contractors were made without ensuring receipt of quality control test reports. (Paragraph 2.1,16.2)

**Source: Audit Report (Economic Sector) for the year ended 31 March 2018; performance audit on Contract Management of Road Works in Public Works Department in Rajasthan**

31. **Hindrances and Hazards (surprises) in Work execution:** Suitable provisions in the bid conditions shall be made to deal with the unforeseen conditions/features (both natural and man-made) that possess a lot of risk to safety, project schedule and costing, which requires a lot of energy without yielding additional benefits, who will tackle with the situation, payment issues due to extra work, delays, etc.

### Example

1. Alignment of surface Metro line needs to be diverted away from aircraft landing/taking off path or taken below the ground, if planned near the runway threshold, which not only will be costly, but cause huge delays if not anticipated during planning.
2. Similarly, if unexpected underground sewer line is met with, it can disrupt entire project costing and scheduling in order to re-align the sewer.
3. Washing away of under construction bridge due to high floods/cyclonic conditions.
4. Falling of Girders from under construction Road over bridge.

### Example

Delays and extra payment due to excessive flooding of underground/tunneling sites, soil caving in metro line, collapse of under erection overhead girder of a bridge, etc.

### Things to remember / Important points

**Hindrances:** Lack of proper information about existing road network, railway lines, airport, water bodies, underground communication cables, pipelines, labor laws, explosive laws, taxation, municipal byelaws, heritage & religious structure, environment & forest clearances, other ongoing contracts, material supplies, etc. and lack of coordination with concerned authorities may materially affect the project design, scheduling, cost, etc. A hindrance register shall be maintained at site



**Hazards:** As works are being executed on ground & geological conditions sometimes create natural disasters like avalanches, cyclone, change of soil strata, soil collapse, water caverns, which may need not only restoration/relief works, but may also need change of designs during the execution of works. Suitable provisions to deal with such situations need to be kept. A hazard register needs to be maintained too.

- 32. **Records Management:** Quality assurance and quality control documents, hidden measurements, measurement books (MBs), site order book, steel, cement, sand, aggregates, special steel registers, Completion (as build) designs, drawings, measurements, and Photo/video evidence, etc.
- 33. **Intellectual Property Rights (IPR):** Provisions regarding bidders' responsibility and indemnifying about any possible infringement to IPR/copy right issues,

protection, and ownership of department about any IPR developed during the contract shall be made into the SCC

**Example**

The contractor uses some patented pre-stressing system or wants to use some patented software for design of structure he needs to pay for the royalty charges to patent holder.

- 34. **Confidentiality of Information:** Provisions shall be made about maintaining confidentiality of procurement related information as per RTPP Act in the bid documents.
- 35. **Indemnity:** Provisions regarding contractor indemnifying the department for any third-party damages, legal suits shall be made in GCC/SCC.
- 36. **Limitation of Liability:** In case of damages occur due to faulty material, workmanship, or any action/omission/negligence by contractor's employee/sub-contractors', limit on liability (not exceeding the bid value) shall be provided in the SCC. Third party claims which are separately indemnify by the contractor, are not restricted by such limitation.

**Example**

In an EPC contract, a contractor with INR 10cr. whereas due to fatal accident at site, 15 persons died. The court ordered for interim compensation of INR 15cr. to be payable by the Client/Procuring Entity to the kin of deceased. The Client raised a demand of INR 15cr on the Contractor. In reply, the Contractor quoted "Limitation of Liability" Clause and told that it is responsible to pay only INR 10Cr., not INR 15Cr. Whether this is Justified?

**Answer:** No, the Contractor has taken wrong plea. Limitation of Liability is attracted with regards to the works and not any third-party claims. So, if the works are defective or unsustainable, then Contractor would be liable to pay amount equal to the works done and amount received. The accident being a Third-Party claim, indemnity clause will be attracted and invoked, and Contractor shall pay INR 15Cr. If Contractor refuses, then Client can encash Performance Bank Guarantee.

- 37. **Escrow:** Provisions regarding maintenance of escrow account when advance payments are given to the contractors or finances are being extended by

banks/FIs shall be made in the SCC to prevent diversion of funds away from contract related activities by the contractor.

- 38. Force Majeure:** "Force Majeure" means an exceptional event or circumstance,
- Which is beyond a Party's control,
  - Which such Party could not reasonably have provided against before entering into the Contract,
  - Which, having arisen, such Party could not reasonably have avoided or overcome, and
  - Which is not substantially attributable to the other Party.

Event being classified as 'force majeure' and its repercussion on completion period, termination of contract or compensation, if any, should be provided in GCC/SCC. Some organizations further classify force majeure events as 'political', 'non-political' and 'act of God' to determine extent of time extension.

### Case Law

#### **M/s Halliburton Offshore Services Inc. v. Vedanta Limited**

Delhi High Court observed that the lock down done by the Government in view of the outbreak of corona virus was prima facie in the nature of a force majeure. In this case, the contract entered into between the parties contained the force majeure clause which was allegedly invoked by the petitioner. The Court therefore stayed the invocation of bank guarantees by Vedanta Ltd.

***The relevant portions of this interim order read as follows:***

"The country wide lockdown, which came into place on 24th March 2020, was, in my opinion, prima facie in the nature of force majeure. Such a lockdown is unprecedented, and was incapable of having been predicted, either by the respondent or the petitioner. .... Prima facie, in my view, special equities do exist, as would justify grant of the prayer, of the petitioner, to injunct the respondent from invoking the bank guarantees of the petitioner, forming subject matter of these proceedings, till the expiry of a period of one week from 3rd May 2020, till which date the lockdown has been imposed."

"There shall be an ad interim stay on invocation and encashment of the eight bank guarantees....."

- 39. Commercial Operation Date (COD):** In case of PPP contracts, a date is fixed/certified when project is fully commissioned at full capacity. This date remarkets the CAPEX limit where all expenditure incurred over the projects are

considered as investment over the project which is considered for tariff fixation for operations.

### Example

COD means the date certified by the DISCOM's committee upon successful commissioning (as per provisions of the PPA) of the project when all equipment as per rated capacity have been installed and energy has flown into the grid.

Commercial Operation Date (COD) in a sentence Commercial Operation Date (COD) of a unit shall mean the date on which the Generating Facility commences Commercial Operation as agreed to by the Parties pursuant GIA.

Commercial Operation Date (COD) shall be the date on which the commissioning certificate is issued upon successful commissioning of the full capacity of the Project. The duration of PPA will be 25 years from Commercial Operation Date (COD) of the project.

### Things to remember / Important points

#### Variation Provisions

##### Quantity/items variations

(R-73) Additional quantities up to max. 50% of existing individual item subject to Max. up to 50% of contract value\*. Individual items quantities beyond these limits by obtaining revised AS/FS/TS prior to execution subject to max. of 50% of total contract value.

(\*% varies as per level of sanctioning authority)

As per Appendix XIII of PWFAR

1. AD/ FC of RWSSMB up to 50% of the original contract amount
2. CE up to 25% of the original contract amount
3. ACE up to 10% of the original contract amount
4. SE up to 8% of the original contract amount
5. EE up to 5% of the original contract amount.

**Variation Provisions:** New Extra item total max. 5% of contract value by bid sanctioning authority subject to competency of bid sanction limit does not exceed, otherwise next higher authority and total amount of the work including additional quantities and extra items (BSR +Non BSR) shall not exceed the administrative and financial sanction for the work.

**Time extensions (EOT):** to be granted by competent authority (depending upon %age of original time extra needed) as per laid down SOP.

To grant, for recorded reasons, final extension of time for the execution of works or supply of materials or other performances of the contract without price variation clause (PVC)\* and levy of final liquidated damages (LD):

- (i) For a final extension of time which results in slippage up to 1.5 times of the stipulated work order duration- By Bid Sanctioning Authority
- (ii) For a final extension of time which results in slippage up to two times of the stipulated work order duration - by Next Higher Authority of the Bid Sanctioning Authority.

**Variation Provisions...**

- (iii) For a final extension of time which results in slippage more than two times of the stipulated work order duration- by AD/FC of RWSSMB.

(\*In case, extension of time involves payment of price escalation, approval of Administrative Department (up to Secretary in charge)/ FC of RWSSMB for PHED shall be obtained.)

**40. In-vit Financing in PPPs:** At present, apart from PPP, Infrastructure Investments are used as tool to pool money from investors. Infrastructure investments also called ‘In-vits” and are investment instruments listed on different trading platforms like stock exchanges and work like mutual funds. These are a wholesome combination of both equity and debt instrument and are regulated by the Securities and Exchange Board of India (SEBI). These are also listed on exchanges through IPO, attracting high net worth institutions, individuals, etc., to invest due to their capacity to invest and its return prospects.

**41. Special Purpose Vehicle (SPV)**

In a PPP project structure where SPV is created, a private partner forms a special company called a “Special Purpose Vehicle” (SPV) which contract with Government. The SPV is entrusted the responsibility to develop, build, maintain and operate the asset for the contracted period. In cases where the Government has invested in the project, it may be allotted an equity share in the SPV. The consortium is usually made up of a Developer, Operator, and bank lender(s). It is the SPV that signs the contract with the Government and with subcontractors to build the facility and then maintain it.

## 7.2 Important consideration during Techno-Commercial Evaluation

### Technical Evaluation of Bids

Apart from evaluation of normal responsiveness, qualification of bidders and his proposed working methodology plays a crucial role in works procurement as halfway abandoning of work under execution by the contractor poses lot of problem for PE regarding cost and time overruns, inconvenience, and safety hazards to general public with the partly complete structure.

Past experience of execution of specified quantities of major items like concrete work, laying of bituminous mix, canal lining, etc. in certain specified preceding financial years (FYs); Completion of similar nature of works of certain percentage of bid value like multi story framed construction, laying of pipelines above certain diameter in certain preceding FY; Bid capacity accounting for orders in hand and turnover capacity of bidders.

The key techno-commercial criteria would include:

1. Technical Experience – Overall works execution experience, number of works completed, specific construction experience in key items of work, completion of similar work, etc. in specified FYs
2. Assessment of Financial Capacity - Annual Turnover, Net Worth, Financial Resources, Access to Credit Facility, etc. in specified FYs
3. Bidder's Capacity - Current Contract Commitments / Work in progress, available bid capacity, etc.

### Things to remember / Important points

#### Bid Capacity

Bidders who meet the minimum qualification criteria will be qualified only if their acceptable bid capacity, as prime contractor, or/and a sub-contractor\*, is more than the cost of the work (Bid Cost). The bid capacity will be calculated as under:

#### **Bid Capacity = (A x N x f - B), where**

**A** = Maximum value of civil engineering works executed in any one year during the preceding five years (updated to present value) considering the completed as well as works in progress. However, the bidder may opt. the current year in the five years assessment period. Information to be taken from audited balance sheets.

**N** = Number of years prescribed for completion of the works for which bids are

invited (If completion period is less than 1 year, it should be treated as 1 year, if it is less than 1.5 years but more than 1 year, it should be treated as 1.5 years, if it is more than 1.5 years but less than 2 years it should be treated as 2 years, and so on.);

**B** = Value, at present value, of existing commitments and on-going works (at hand) to be executed during 'N' (period prescribed for completion of the works for which the bids are invited).

**f** = Multiplying factor of 2 shall be used.

**X** represents multiplication sign.

4. Deployment of machinery, equipment, personnel
5. Historical contract non-performance
6. Work Methodology
7. Net worth, etc. are specified as qualification criteria.
8. For major works,
  - proposed work methodology (viz. use of pre-cast structural elements Vs cast in situ, steel bridges Vs concrete bridges.
  - Deployment of critical machinery like pile driving machinery, tunnel boring machine (TBM)), and
  - Deployment of specialized qualified staff at site is also insisted in prescribed formats.

### Things to remember / Important points

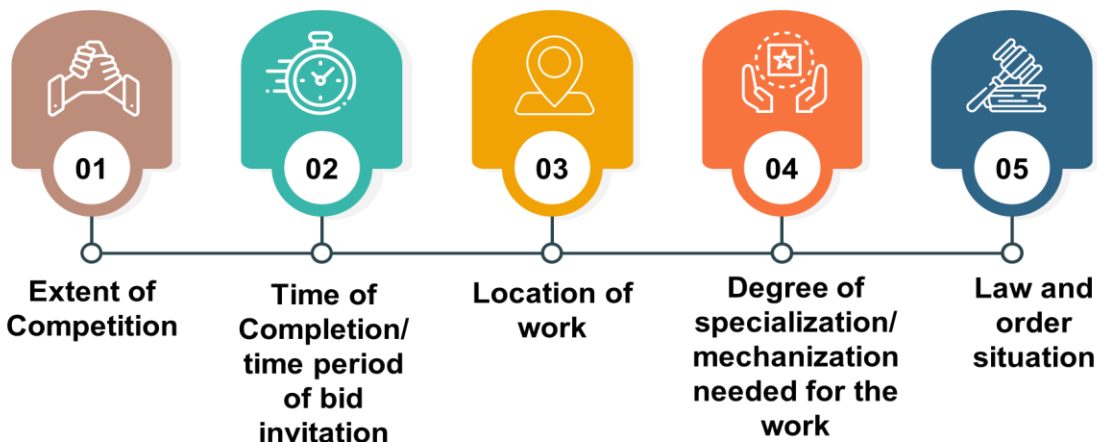
Bid evaluation shall be carried out strictly as per laid down qualification and evaluation criteria in impartial and unbiased manner. Proper care shall be exercised while interpretation of experience certificates about work in progress Vs completed works; work order value Vs actual executed value, turnover including/excluding other income, etc. Any document in support of qualifying criteria, which is not referred in the bid documents, shall not be allowed to be submitted post opening and shall not be considered by the bid evaluation committee. For any financial information, reliance should be placed on audited balance sheets and profit and loss account and not on CAs certificates. Proper indexing/docketing of submitted bid documents shall be done and referred to by the bid evaluation committee in support of each and every qualifying criterion.

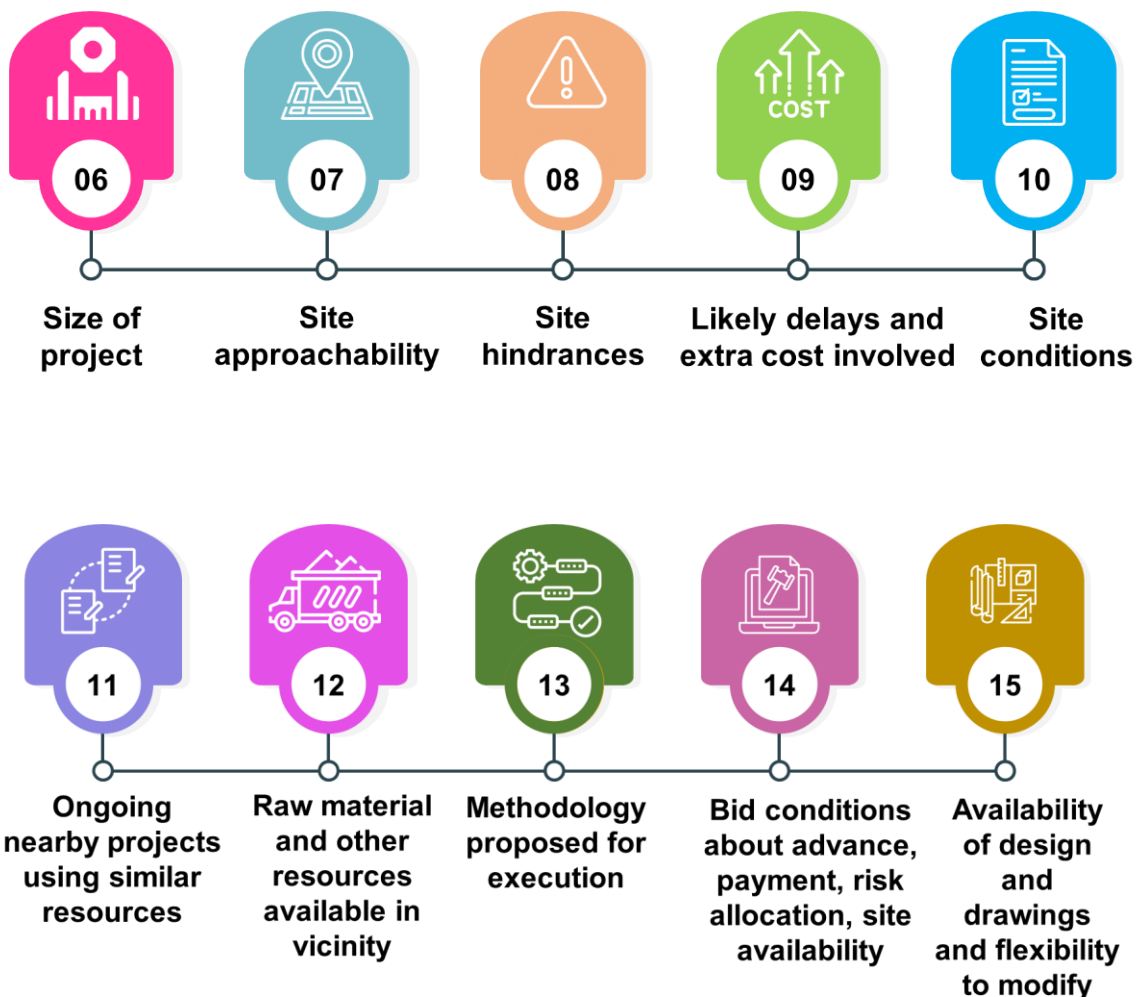
**Important Dos and Don'ts for bid evaluation committee:**

- To establish that the Bidder continues to meet the criteria used at the time of prequalification/registration, the bidder should provide updated information on any assessed aspect that changed from that time with appropriate documentary support.
- Carefully define the similar nature of work
- Bid evaluation should be carried out strictly as per laid down qualification and evaluation criteria in impartial and unbiased manner. No post bid opening path corrections should be made
- Proper care should be exercised while interpretation of experience certificates about work in progress Vs completed works; work order value Vs actual executed value, turnover including/excluding other income, scope of work, executing authority, etc.
- Verification of various documents and clarifications, if any, from issuing authority should be carried out.
- Any document in support of qualifying criteria, which is not referred in the bid documents, should not be allowed to be submitted post opening (even if it is available with the department itself) and should not be considered by the bid evaluation committee.
- For any financial information, reliance should be placed on 'audited balance sheets and profit and loss account' and not on CAs certificates.
- Proper indexing/docketing of submitted bid documents should be done and referred to by the bid evaluation committee in support of each and every qualifying criterion.
- Any clarification or arithmetical correction should not materially alter the bids.

**Price reasonability during bid Evaluation:** Normally basis the rates adopted for preparation of estimate like BSR or last accepted rates, is adopted for bid evaluation. But there may be a difference between quoted prices and estimated rates. Committee needs to analyze the reasons of variation and justify rate reasonability.

Few of the reasons for difference between quoted rates & estimated rates may be-





For percentage rate contracts and Lump sum contracts, reasonability of overall bid value to be ascertained and certified, whereas in case of item rate contracts, rate reasonableness of individual items having value more than 1% of total bid value may be carried out apart from overall value to assess front loading issues.

### CAG Report

#### **CAG observations regarding bid finalization:**

As per instructions, tenders should be finalized within 15 days of opening of bids. PWD authorities, however, took unduly long time and delays in finalization of tenders in 461 contracts valuing Rs.3,017.35 crore ranged from one to 6 months or more. (Paragraph 8.1)

As government did not indicate time-schedule for completion of works while issuing AA/FS, SEs, at the time of signing contracts, decided project completion time arbitrarily, benefitting certain contractors by allowing excess completion time. (Paragraph 8.4)

**Source: CAG performance audit report on contract management in road sector of UP govt. for the year ended 31 March 2016**

### **Evaluation of Bids and Selection of Contractor:**

1. Tendering in road works was largely not competitive and the number of such tenders (having one or two bids) increased steeply from 63 per cent in 2011-12 to 77 per cent in 2015-16. Despite large number of registered contractors in each district, Audit found that 598 contracts (75 per cent) costing Rs.3,300.79 crore were awarded based on one or two bids only during 2011-16, without resorting to retendering. Receipt of only one or two bids in majority of tenders in a district despite existence of many registered contractors indicates large scale collusive bidding across the State. (Paragraph 7.1)

2. Rules provide those negotiations would be held only in exceptional cases. Audit noticed that out of 331 contracts test-checked (executed by SEs), negotiations were held in 234 contracts costing Rs.3,886.87 crore (71 per cent). This indicated that negotiations had become a rule rather than exception, which vitiates the sanctity of the tendering processes. (Paragraph 7.2)

3. In 331 contracts test-checked, audit found that most of the contractors had either not submitted the necessary qualifying documents (such as solvency, character, experience, turnover and/or clearance certificate, bid capacity statement, proof of machinery and technical staff, registration with labor department etc.) or documents submitted by them were deficient. Despite this, they were declared technically qualified, and contracts were awarded to them. (Paragraph 7.3)

4. Cartel formation/collusive bidding were noticed in large number of cases. In 128 contracts worth Rs.101.70 crore concluded by SE, Gorakhpur circle during 2011-16, only two bidders participated and quoted same rates in the tenders and even after negotiations. Similarly, in 62 contracts amounting to Rs.22.41 crore finalized by SE, Basti circle, similar pattern of bidding was noticed, and contracts were awarded to both bidders. In 22 contracts valuing Rs.155.50 crore pertaining **Evaluation of Bids and Selection of Contractor:** to seven districts, the bidders were related as partner(s) of firms. (Paragraph 7.5)

5. As per instructions, tenders should be finalized within 15 days of opening of bids. PWD authorities, however, took unduly long time and delays in finalization of tenders in 461 contracts valuing Rs.3,017.35 crore ranged from one to 6 months or more. (Paragraph 8.1) **(Source: CAG performance audit report on contract management in road sector of UP govt. for the year ended 31 March 2016) agreements)**

**Undue benefits to contractors Extending undue financial benefits of Rs.2.97 crore to the contractors by deletion of defect liability clause in the contract.**

Public Health Engineering Department (PHED) Rajasthan issued (during 2011-14) notice inviting tenders (NITs) for Rate Contracts (RCs) for works of providing, laying, and jointing of pipelines, raw water harvesting and construction and commissioning of 125 mm tube wells with single phase power connection. As per Special Condition No. 14.1 of NITs, 90 per cent payment should be made after successful completion, commissioning and testing of the system. Further, 10 per cent payment other than Security Deposit (SD) should be withheld by the Department against defect liability. Defect liability period for these works ranged between one and five years. **EE proposed deletion of relevant clause (special condition No. 14.1) of contract for recovery of defect liability and got the same approved (September to November 2013) by ACE.**

On this basis, EE refunded Rs.0.41 crore (of Rs.0.66 crore recovered from ten contractors) and stopped recovery of defect liability of Rs.2.56 crore from contractors in remaining cases. **No change in tender conditions was permissible after finalization of tendering process or allotment of work and therefore ACE was not authorized to delete clause of recovery of defect liability at a later stage.** This not only resulted in non-recovery/failure to withhold Rs.2.97 crore, but also in extending undue financial benefits to contractors.

Public Health Engineering Department (PHED) Rajasthan, issued (during 2011-14) notice inviting tenders (NITs) for Rate Contracts (RCs) for works of providing, laying and jointing of pipelines, raw water harvesting and construction and commissioning of 125 mm tube wells with single phase power connection. As per Special Condition No. 14.1 of NITs, 90 per cent payment should be made after successful completion, commissioning and testing of the system. Further, 10 per cent payment other than Security Deposit (SD) should be withheld by the Department against defect liability. Defect liability period for these works ranged between one and five years.

**EE proposed deletion of relevant clause Undue benefits to contractors Extending undue financial benefits of Rs.2.97 crore to the contractors by deletion of defect liability clause in the contract (special condition No. 14.1) of contract for recovery of defect liability and got the same approved (September to November 2013) by ACE.** On this basis, EE refunded Rs.0.41 crore (of Rs.0.66 crore recovered from ten contractors) and stopped recovery of defect liability of Rs.2.56 crore from contractors in remaining cases. **No change in tender conditions was permissible after finalization of tendering process or allotment of work and therefore ACE was not authorized to delete clause of recovery of defect liability at a later stage.** This not only resulted in non-recovery/failure to withhold Rs.2.97 crore, but also in extending undue financial benefits to *(Source: CAG compliance Audit Report (G&SS) for the year ended 31 March 2018)*

**Execution of Works:**

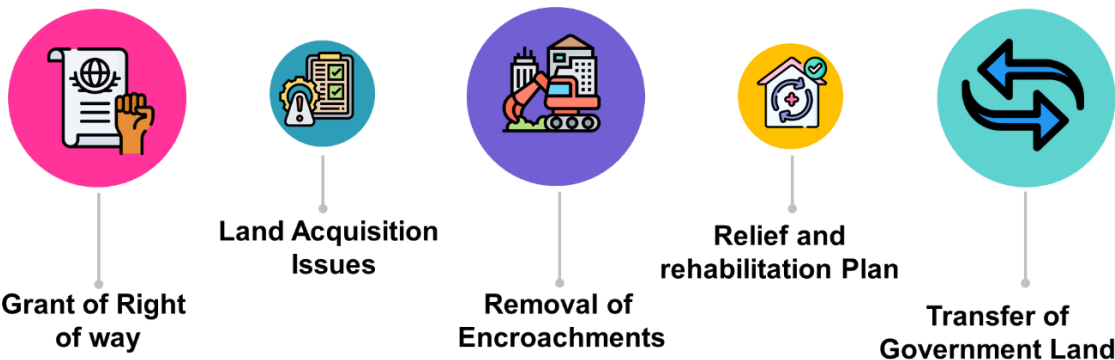
Execution means monitoring the progress, quality, quantity, time of completion, approved/accepted rates and their variations, hindrances and delays, payments, post completion audits/record maintenance and completion of work on the terms and condition as specified in contract documents. Proactive action on part of the PE should be taken to foresee and sort out following issues, common for project delays and cost over runs, to complete the projects in targeted cost and duration.

**7.3 Reasons of time and cost overrun in major infrastructure projects**

**Environment & Forest issues**

- Diversion of forest land Delay in land acquisition
- Delay in obtaining forest/environment clearances
- Eco Sensitive Zone Clearance
- Tree Cutting Permission
- Consent to establish and operate from State Pollution Control Board.
- Grant of Working Permission
- Diversion of forest land.
- No Objection Certificate under Forest Rights Act

**Land acquisition issues**

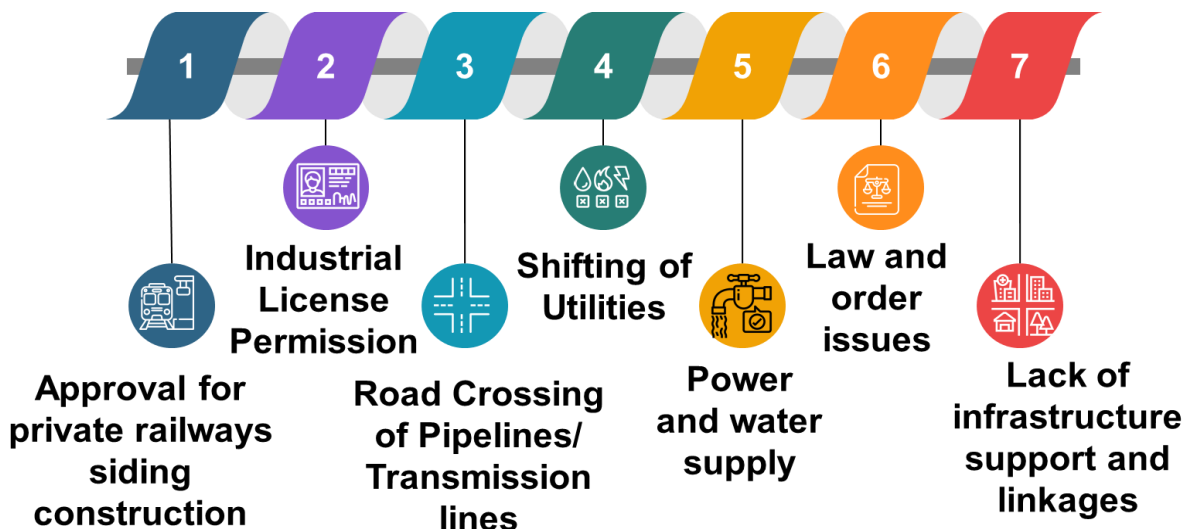


**Tendering and contractual issues**

- Delay in tie-up of project financing
- Delay in finalization of detailed engineering
- Changes in scope
- Delay in tendering, ordering and equipment supply
- Pre-commissioning teething troubles
- Contractual issues

- Delay in technical approval.
- Inadequate manpower

**Third party (other departments) issues**



**Natural causes**

- Geological surprises/Hazards.
- State wise lockdown due to COVID-19

**Causes of Cost Escalation:**

- Changes in rates of foreign exchange and statutory duties
- General Price Rise / Inflation
- Spiraling land acquisition costs
- High cost of environmental safeguards and rehabilitation measures
- Monopolistic pricing by vendors of equipment services
- Changes in scope of projects
- Disturbed conditions
- Under-estimation of original cost
- Time Overrun (**source: MOSPI Annual reports**)

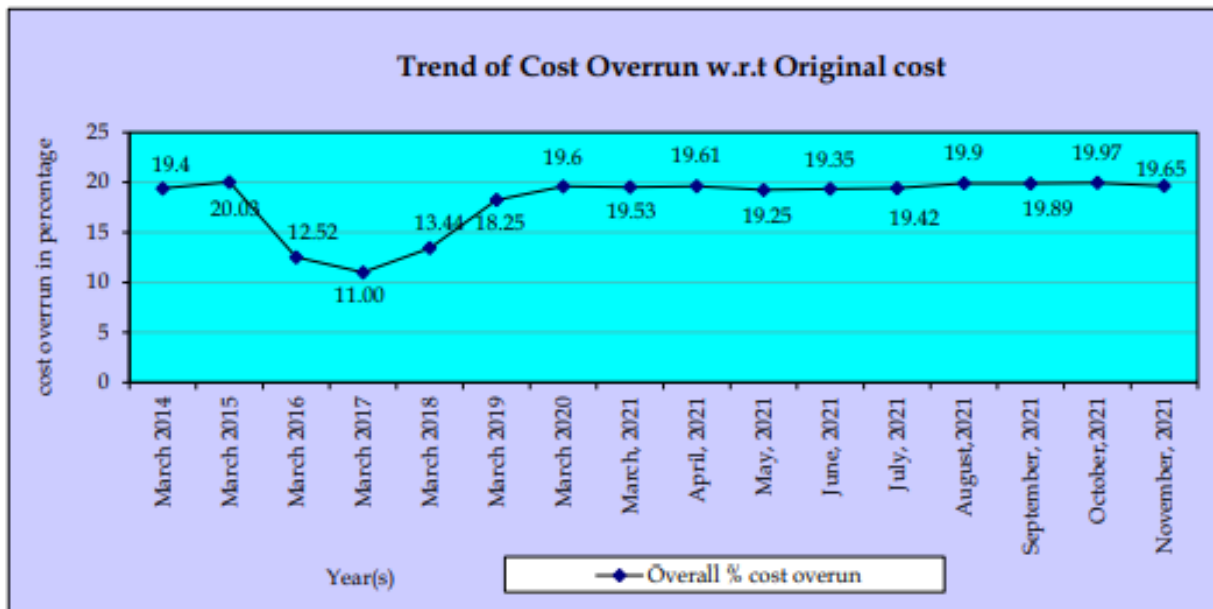
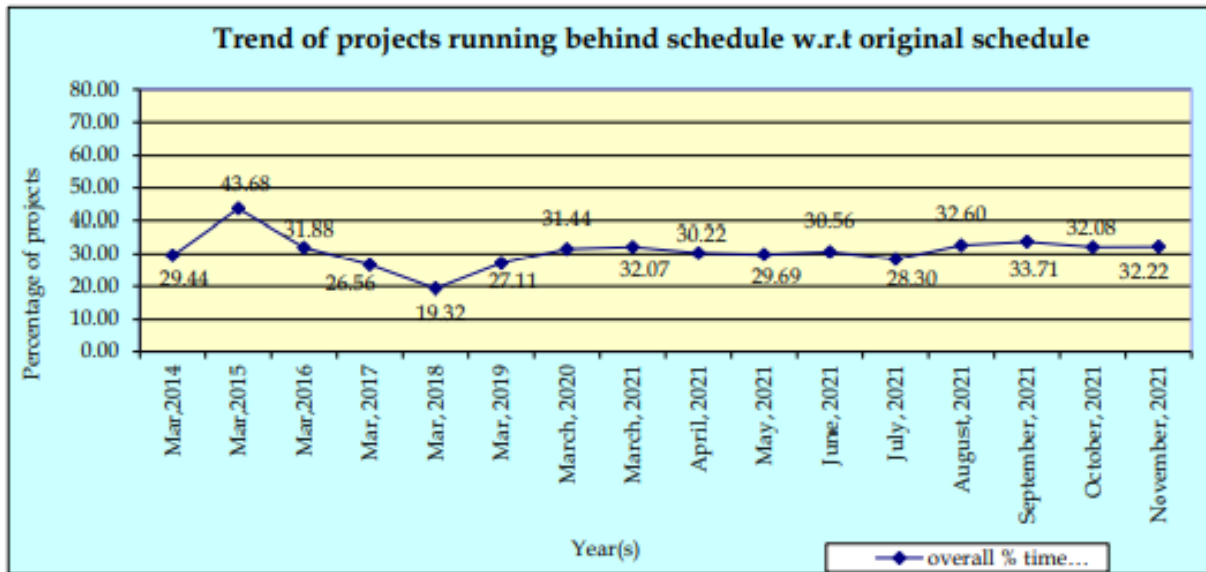
**Cost escalation in Central Sector Projects in Rajasthan as on 1<sup>st</sup> December 2021**

State	No. of Projects	Cost Original Rs. In Cr	Cost Anticipated Rs.in Cr	Cumulative Expenditure Rs. In Cr
Rajasthan	55	51,403.28	58,056.27	37,814.80
Total (INDIA)	1,679	22,29,544.27	26,67,593.85	12,88,558.49

(Source: MOSPI Annual report 2021-22)

<b>Extent of time overrun in projects with respect to original schedule ₹150 Crore and above (All Cost/ Expenditure in ₹ crore)</b>									
Sl. No.	Sector	No. of Projects	Original Cost	Anti-cipated Cost	Cost overrun (%)	Projects with time overruns			
						No.	Original Cost	Anti-cipated Cost	Range of T.O.R (in months)
1	Atomic Energy	5	1,16,741.00	1,29,969.00	11.33	4	67,120.00	80,348.00	36 - 145
2	Civil Aviation	20	14,431.97	15,510.25	7.47	19	13,820.17	14,898.45	3 - 45
3	Coal	106	1,49,328.98	1,53,892.56	3.06	56	76,403.65	79,358.71	12 - 228
4	Finance	2	557.77	557.73	-0.01	0	0.00	0.00	-
5	Fertilisers	4	1,101.28	1,101.28	0.00	1	426.72	426.72	20 - 20
6	Mines	6	7,333.99	7,330.54	-0.05	4	6,633.37	6,633.37	32 - 37
7	Steel	8	25,189.15	32,021.30	27.12	5	21,362.73	28,194.88	32 - 80
8	Petroleum	152	3,42,110.60	3,53,692.53	3.39	86	1,49,587.49	1,55,929.76	1 - 110
9	Power	62	2,07,257.24	2,68,103.37	29.36	42	1,53,355.91	2,12,921.51	6 - 162
10	Heavy Industry	2	3,272.00	4,627.30	41.42	0	0.00	0.00	-
11	Health and Family Welfare	29	15,273.26	15,715.78	2.90	5	2,320.28	2,440.28	9 - 46
12	Railways	285	4,43,040.10	6,84,594.10	54.52	141	1,84,834.66	3,18,718.46	2 - 324
13	Road Transport and Highways	889	5,38,057.49	5,54,035.02	2.97	134	67,512.06	69,214.67	5 - 134
14	Shipping and Ports	1	5,369.18	4,633.81	-13.70	0	0.00	0.00	-
15	Telecommuni-cations	3	14,013.36	25,335.07	80.79	3	14,013.36	25,335.07	9 - 80
16	Urban Development	29	2,91,275.10	3,13,165.63	7.52	14	1,03,728.10	1,20,242.55	12 - 73
17	Water Resources	43	24,702.19	70,243.27	184.36	8	11,797.25	57,131.86	4 - 25
18	Defence Production	1	246.31	210.00	-14.74	1	246.31	210.00	22 - 22
19	Commerce	1	302.64	302.64	0.00	0	0.00	0.00	-
20	Department of Higher Education	22	10,139.61	10,244.52	1.03	14	6,947.65	6,881.46	3 - 84
21	Home Affairs	5	2,025.73	2,894.62	42.89	3	1,659.44	2,528.33	3 - 44
22	DPIIT	2	17,352.09	18,990.30	9.44	1	4,773.00	5,178.00	29 - 29
23	DONER	1	151.33	151.33	0.00	0	0.00	0.00	-
24	Renewable Energy	1	271.90	271.90	0.00	0	0.00	0.00	-
	<b>Total</b>	<b>1679</b>	<b>22,29,544.27</b>	<b>26,67,593.85</b>	<b>19.65</b>	<b>541</b>	<b>8,86,542.15</b>	<b>11,86,592.08</b>	

<b>Extent of cost overrun in projects with respect to original cost (Sector Wise) ₹150 Crore and above (All Cost/ Expenditure in ₹ crore)</b>									
Sl. No.	Sector	No. of Projects	Original Cost	Anti-cipated Cost	Cost overrun (%)	Projects with cost overrun			
						No.	Original Cost	Anti-cipated Cost	Cost overrun (%)
1	Atomic Energy	5	1,16,741.00	1,29,969.00	11.33	3	27,271.00	40,499.00	48.51
2	Civil Aviation	20	14,431.97	15,510.25	7.47	4	3,288.50	4,403.06	33.89
3	Coal	106	1,49,328.98	1,53,892.56	3.06	19	37,788.39	44,026.48	16.51
4	Finance	2	557.77	557.73	-0.01	0	0.00	0.00	0.00
5	Fertilisers	4	1,101.28	1,101.28	0.00	0	0.00	0.00	0.00
6	Mines	6	7,333.99	7,330.54	-0.05	0	0.00	0.00	0.00
7	Steel	8	25,189.15	32,021.30	27.12	2	17,207.85	24,040.00	39.70
8	Petroleum	152	3,42,110.60	3,53,692.53	3.39	29	66,399.38	90,818.23	36.78
9	Power	62	2,07,257.24	2,68,103.37	29.36	22	1,03,919.23	1,66,878.72	60.59
10	Heavy Industry	2	3,272.00	4,627.30	41.42	1	1,718.00	3,727.30	116.96
11	Health and Family Welfare	29	15,273.26	15,715.78	2.90	12	5,589.39	6,374.57	14.05
12	Railways	285	4,43,040.10	6,84,594.10	54.52	202	2,35,845.84	4,84,636.84	105.49
13	Road Transport and Highways	889	5,38,057.49	5,54,035.02	2.97	120	88,613.94	1,10,923.62	25.18
14	Shipping and Ports	1	5,369.18	4,633.81	-13.70	0	0.00	0.00	0.00
15	Tele-Communica-Tions	3	14,013.36	25,335.07	80.79	1	13,334.00	24,664.00	84.97
16	Urban Development	29	2,91,275.10	3,13,165.63	7.52	7	93,659.03	1,15,628.76	23.46
17	Water Resources	43	24,702.19	70,243.27	184.36	8	12,236.47	58,101.66	374.82
18	Defence Production	1	246.31	210.00	-14.74	0	0.00	0.00	0.00
19	Commerce	1	302.64	302.64	0.00	0	0.00	0.00	0.00
20	Department of Higher Education	22	10,139.61	10,244.52	1.03	4	1,715.81	1,889.72	10.14
21	Home Affairs	5	2,025.73	2,894.62	42.89	3	1,659.44	2,528.33	52.36
22	DPIIT	2	17,352.09	18,990.30	9.44	2	17,352.09	18,990.30	9.44
23	DONER	1	151.33	151.33	0.00	0	0.00	0.00	0.00
24	Renewable Energy	1	271.90	271.90	0.00	0	0.00	0.00	0.00
	<b>Total</b>	<b>1679</b>	<b>22,29,544.27</b>	<b>26,67,593.85</b>	<b>19.65</b>	<b>439</b>	<b>7,27,598.36</b>	<b>11,98,130.59</b>	<b>64.67</b>



### Appeal

**Armour Security India Pvt. Ltd. Vs Superintendent, Sardar Patel, Medical Colleges & associated Groups of Hospitals, Bikaner,, Sardar Patel, Medical Colleges & associated Groups of Hospitals, Bikaner, Government of Rajasthan**

The bidder filed an appeal as it was technically disqualified from the bidding process on the ground that its present work was unsatisfactory.

The appellate authority accepted the appeal on the ground that the appellant accepted that there were some irregularities during the implementation of works and assured that no such irregularities would be committed in the future. It was further decided that if the appellant fails to adhere to its words and the implementation of works is found to be unsatisfactory, PE can take legal action as per the rules. The PE on the above grounds, granted an opportunity to the appellant to be in competition by accepting the technical bid and by repulsing the stay imposed by the PE.

### Appeal

**M/s Faujdar Construction Company, vs Chief Engineer S.N.V. Division, Bharatpur, Public Works Department, Government of Rajasthan**

The bidder was disqualified in the technical evaluation citing that he has not met with minimum work experience of 50% as lead partner in the JV. The bidder had filed the appeal for getting declared successful in the technical bid for work as he had executed a work of 1147.91 lakhs at updated prices.

The appellate authority had found that PE had wrongly applied the present JV share (70%) discount and arrived at the value of Rs. 803.537 against the requirement of 805.196 lakhs which is wrongly, hence the appeal was accepted.

### Appeal

**M/s Om Jyoti Cons Company, AA Clause, PWD Senson vs Addl. Chief Engineer, S.N.V Division- Bharatpur, S.N.V Rajasthan Govt.**

As per the Criteria, Work Completion Certificate was required for evaluating the capability of the firm. Om jyoti Cons Company submitted an appeal as the evaluation committee did not consider the bid responsive, considering the fact that the Work Completion Certificate indicates only the amount of work order but not the work executed by the firm.

The appellate authority rejected the appeal on grounds that as per the desired detail of the tender form, appellants are required to include the amount of expenditure incurred on the completed work in the work completion certificate.

### Things to remember / Important points

#### **GIS based Works Management System (GWMS)**

Need for establishment of a suitable software application platform which would help various procurement agencies (like Urban Local Bodies, Watershed and Soil conservation, RUIDP, Rural Development and Panchayat Raj, RUDSICO, PWD, PHED, Water Resources, RIICO, Urban Development Authorities etc.) in management of the entire project lifecycle more effectively and efficiently i.e. from feasibility phase of project conceptualization till the project closing including administration approval, technical approval, financial approval, project planning, vendor selection, work allocation, works management & monitoring, geo-tagging of assets and tracking of physical as well as financial progress of various infrastructure / assets being constructed on ground. The application is integrated with the State-wide GIS initiative of Rajasthan i.e., "Rajdharaa", which would enable seamless exchange of GIS information / data between Infrastructure development departments.

The application is integrated with the State-wide GIS initiative of Rajasthan i.e., "Rajdharaa", which would enable seamless exchange of GIS information / data between Infrastructure development departments. This would enable senior decision makers to identify and avoid duplicity of work, monitor physical as well as financial progress of various approved works being executed by respective line departments. This solution provides facilities to respective project stakeholders in creation and publishing of work items using web interface and regular status update can be captured using Mobile devices from project sites along-with geo-tagged photographs and shall provide a user-friendly GIS based Dashboard to the Senior Decision makers for effective planning and works management. The Solution would also facilitate visualization of various ongoing projects / works directly on Rajdharaa Map on the fly which helps in standardization of entire workflow process across multiple applications, and therefore enable significant savings on application development time & efforts.

## Chapter-8: Post Award Monitoring



**Allotment vs  
Utilization of Funds  
(FUC)**



**Completion  
Certificate/  
Completion Report**

### 8.1 Allotment Vs utilization of funds (FUC):

It is a periodical account of utilization of sanctioned and allotted funds for the work before asking further sanction/allotment of additional funds, giving detailed break up of expenditure under various accounting heads/sub-heads/minor heads. This is required by administrative department to ascertain proper utilization of funds on sanctioned project and to check any un-authorized diversion of allotted funds to any other work.

### 8.2 Completion Certificate/Completion Report:

**As planned Vs As Executed:** On completion of work, a detailed account of funds allotted, expenditure incurred accounting head/sub-head wise, including classification of expenditure incurred on various contracts, over heads, etc., as executed completion drawings, details of deviations from originals and approval of appropriate competent authority for such deviations, additional sanctions received, etc. to be given to administrative department by procuring agency who should satisfy itself with respect to subject matter of procurement as envisaged Vs as executed, correctness of funds booking, reasonability of overhead charges, etc. before accepting the completion report. GIS tagging and photographic evidence are also to be maintained.

Completion certificates issued to contractors invariably should mention name of work, actual value of work done, any extended time on contractors account, whether complete scope of work, as specified in the contract documents has been executed or not, and unsuccessful litigation if any, during the contract.

### **8.3 Post Construction Audits**

To ascertain the planned Vs accrued project objectives, costing, quality, timelines, etc.

### **8.4 Documentation for Works Procurement**

As Public procurements are done using public money, therefore, in order to have transparency, accountability and scrutiny by various public authorities (viz. Legislature, CAG, local funds audit, Vigilance, anti-corruption, RTI, compliance to statutory/legal requirements, media, etc.) a trail of every action is required to be left for 'post facto' assessment/scrutiny/audit and maintenance and publication of various documents, so created.

## Summary

In order to have smooth procurement of works and to avoid cost and time over-runs during execution there is a need of having good -

- **Executives** who are willing to complete the work
- **Contract documents** at mutually acceptable conditions and rates; and
- **Contractor** technically, managerially, and financially capable can never be over emphasized.

### Willing executive (Responsive department) means:

- Proper need assessment
- Availability of departmental resources
- Availability of funds,
- Staff for supervision,
- Availability of machines,
- Site/land availability
- Third party obstructions/utilities
- Drawings, specifications
- Block for running utilities/services,
- Underground utilities
- Other necessary departmental materials
- Well-defined acceptance criteria of deliverables work/product/services
- changed political situation
- Appropriate type of contract and method of bidding

### Unconditional Acceptance of bid

- Technically responsive valid bid
- At acceptable rates (lowest/most advantageous)
- At acceptable conditions

### Capable contractor means:

- Bidder's technical credentials
- Experience on similar works
- Plants & machinery
- Manpower
- Management
- Unsuccessful litigation and arbitration
- Method of execution
- Workload and other commitments
- Bidder's financial credentials
- Bid security and security deposit
- Average turnover, working capital
- Bid capacity
- Performance guarantee

### Acceptable Special conditions

- Method of execution
- Payments terms
- Technical conditions
- Spares/standby/redundancy
- Non-technical conditions
- Financial credentials
- Special conditions
- Rate analysis
- Conditional offer, if any

## Major Laws applicable for Public Procurement

#	Name of the Law
1	Air (Prevention and Control of Pollution) Act, 1981
2	Apprentices Act, 1961
3	Arbitration and Conciliation Act, 1996
4	Article 299 of Indian Constitution
5	Article Co-operative Societies Act, 1912
6	Bio Medical Waste Management Rules, 2016
7	Bonded Labor System (Abolition) Act, 1976
8	Building and Other Construction Workers Act, 1996
9	Central Excise Act, 1944
10	Child Labor (Prohibition and Regulation) Act, 1986
11	Code of Civil Procedure, 1908
12	Commercial Court Act, 2015
13	Construction and Demolition Waste Management Rules, 2016
14	Contract Labor (Regulation & Abolition) Act, 1970
15	Customs Act, 1962
16	Drugs Control Act, 1950
17	Easement Act, 1882
18	Electricity Act and Rules & Regulations, 2003
19	Employees State Insurance Act, 1948
20	Environment (Protection) Act, 1986
21	Explosives Act, 1884
22	Fatal Accident Act, 1855
23	Goods and Service Tax Act, 2017
24	Hazardous Waste Management Act, 1989
25	Income Tax Act, 1961
26	Indian Boilers Act, 1923

#	Name of the Law
27	Indian Contract Act, 1872
28	Indian fisheries Act, 1897
29	Indian Pollution Act, 1981
30	Indian Tolls Act
31	Information Technology Act, 2000
32	Inland Waterways Authority Act, 1985
33	Insurance Act, 1938
34	Interest Act, 1993
35	Inter-State Migrant Workmen Act, 1979
36	Land Acquisition Act, 2013
37	Limitation Act, 1963
38	Mines Act, 1952
39	Minimum Wages Act, 1948
40	Motor Vehicle Act, 1988
41	MSME Act, 2006
42	Municipal Bylaws & Rules, 1964
43	National Building Codes of India, 2005
44	National Highway Act, 1956
45	Negotiable Instrument Act, 1881
46	Noise Pollution (Control and Regulation) Rules, 2000
47	Official Secret Act, 1923
48	Patents Act, 1970
49	Payment of Gratuity Act, 1972
50	Payment of Wages Act, 1936
51	Press and Registration of Books Act, 1867
52	Prevention of Corruption Act, 1988
53	Prevention of Money Laundering Act, 2002
54	Provident Fund Act, 1925

#	Name of the Law
55	Public Liability Insurance Act, 1991
56	Rajasthan Stamp Act, 1998
57	Rajasthan Transparency in Public Procurement Act, 2012
58	Rajasthan Value Added Tax Act, 2003
59	Registration Act, 1908
60	Rehabilitation and Resettlement Act, 2013
61	Right to Information Act, 2005
62	Sale of Goods Act, 1930
63	Sexual Harassment of Women at the Workplace (Prevention, Prohibition and Redressal) Act, 2013
64	State Rules u/s 68 of Mines Act (applicable on Minor Minerals), 1952
65	State Tree Preservation Acts, 1969
66	The Ancient Monument and Archaeological Sites and Remains Act, 1958
67	The Code of Criminal Procedure Act, 1973
68	The Factories Act, 1948
69	The Forest Conservation Act, 1980
70	The National Security Act, 1980
71	Transfer of Property Act, 1882
72	Urban Development Acts, 1973
73	Warehousing Corporations Act, 1867
74	Water (Prevention and Control of Pollution) Act, 1974
75	Workmen Compensation Act, 1923

## Glossary

### List of useful key terms and its meaning/ definition

Sl. No.	Term	Meaning/ Definition
1.	Act	Act means the Rajasthan Transparency in Public Procurement Act, 2012 (Act No. 21 of 2012).
2.	Administrative Department	Administrative Department of the Government of Rajasthan to which the Procuring Entity directly or indirectly reports.
3.	Advance Payment	An advance payment, or simply an advance, is the part of a contractually due sum that is paid or received in advance for goods or services, while the balance included in the invoice will only follow the delivery.
4.	Amendment	A document that modifies an existing Act or Rules which is binding on all the stakeholders
5.	Applicant	An Applicant is a prospective bidder interested in submitting applications for Pre-qualification to bid for the given subject matter of procurement.
6.	Appropriation	Appropriation means the assignment, to meet specified expenditure, of funds included in a primary unit of appropriation.
7.	Arbitration	Settlement of a dispute (whether of fact, law, or procedure) between parties to a contract by a neutral third party called the Arbitrator, without resorting to court action. Arbitration is usually voluntary but sometimes it is required by law. If both sides agree to be bound by the Arbitrator's decision, the 'award' becomes a binding arbitration.
8.	Bank Guarantee	A guarantee from a lending institution (bank) ensuring that the liabilities of a party will be met. In other words, if the party fails to perform a contract as per terms or supply of goods or services as per terms or settle a debt, the bank will cover it.
9.	Bank Rate	Bank Rate means the minimum rate of interest, which Reserve Bank of India charges, while lending loans to domestic banks.
10.	Bid	Bid means a formal offer made in pursuance of an invitation by a procuring entity and includes any tender, proposal or quotation.
11.	Bid Reserve Price	A minimum price set by Procuring Entity/ Authority/ Employer for the Project below which the financial bid is not accepted. The term is used mainly in PPP project where revenue sharing model is

Sl. No.	Term	Meaning/ Definition
		possible and capital funding support in form of Grant is provided by the Procuring Entity/ Authority/ Employer.
12.	Bid security	Bid security means a security provided to the procuring entity by a bidder for securing the fulfilment of any obligation in terms of the provisions of the bidding documents.
13.	Bidder	Bidder (including the term 'tenderer', 'consultant' or 'service provider') means any person, company, firm, agency, institution, etc. participating in a procurement process of a procuring entity.
14.	Bidder registration documents	Bidder registration documents means the documents issued by a procuring entity, including any amendments thereto, that set out the terms and conditions of registration proceedings and includes the invitation to register.
15.	Bidding documents	Bidding documents means documents issued by the procuring entity, including any amendments thereto, that set out the terms and conditions of the given procurement and includes the invitation to bid.
16.	Bill of Quantities (BoQ)	BoQ is a document used in bidding in which materials, parts, and labor are itemized which is multiplied with unit to arrive at cost of the project or procurement. It may also include insurance, transportation costs, or any relevant costs which influence the price of subject matter of procurement. BoQ is used to rank financial bid of bidders.
17.	Category	Category means category of works in which the prospective bidder may be registered as per procedure detailed in these guidelines.
18.	Circle	Circle of an Engineering Department as designated by the Government.
19.	Class	Class means class within a category of work in which the prospective bidder may be registered as per procedure detailed in these guidelines.
20.	Competent Authority	Competent Authority means an authority or officer to whom the relevant administrative or financial powers have been delegated for taking decision in a matter relating to procurement.
21.	Completion Certificate	A certificate issued by the contracting authority after the work has been executed and the assets created are commissioned to the satisfaction of contracting authority.

Sl. No.	Term	Meaning/ Definition
22.	Conflict of interest	Conflict of interest for Procuring Entity or its personnel and bidders is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations.
23.	Consultancy Services	Such services where specific outcome is dependent upon intellectual inputs and are primarily of non-physical nature. Consultancy services may also have some element of non-consultancy services, works or goods which are incidental or consequential to such consultancy services.
24.	Consultant	A variety of private and public entities, joint ventures, or individuals that provide services of an intellectual or professional nature.
25.	Contract	A formal legal agreement in writing relating to the subject matter of procurement, entered between the Contracting Entity and the contractor on mutually acceptance terms and conditions, which are in compliance with all the relevant provisions of the law of the land.
26.	Contract Management	The process undertaken during the period from the signing of contract-to-contract closure that enables both the Contracting Entity and the contractor to meet their obligations within the contract to deliver the objectives set by the contract. Contract Management is a continuous process that ensures compliance to contract terms and conditions, managing risks to contract completion, and includes relationship management, contract monitoring, contract administration, payment and so on.
27.	Contractor	The entity named in the respective contracts to execute the contract. It may be referred as Supplier/ Consultant/ Service Provider/ Contractor in different contexts.
28.	Controlling Officer	Controlling Officer means a Head of a Department or other departmental officer who is entrusted with the responsibility of controlling the expenditure and/or the collection of revenue by the authorities subordinate to the department.
29.	Department for works	Department includes all Engineering Departments, including Public Works Department (PWD), Irrigation Department including irrigation and multipurpose river valley projects, Water Resource Department (WRD), Indira Gandhi Nahar Department (IGND), Public Health Engineering Department (PHED), Ground Water Department and Command Area Department (CAD) and any other department as may be notified by the Government.

Sl. No.	Term	Meaning/ Definition
30.	Division / Works Division	Division / Works Division means divisions as constituted by the department which is headed by an Executive Engineer.
31.	Earnest Security or Earnest Security Deposit	Same as Bid Security
32.	Effective Date	The date of commencement of the obligations under the contract on the parties to a contract.
33.	Electronic Government Receipt Accounting System (e-GRAS)	Electronic Government Receipt Accounting System (e-GRAS) means an electronic system in which the State Government receipts (Tax and Non-tax) will be deposited on-line as provided in the procedure to be issued time to time by the State Government.
34.	Electronic procurement	Electronic procurement means the procurement through electronic process, wherein the physical bidding activity is carried out online using the internet and associated technologies. The electronic processes means such processes as specified in the IT Act 2000.
35.	Engineer-in Charge	Engineer-in Charge means Engineer-in-Charge as defined in the Works Contract.
36.	Engineering Department	Engineering Department means a department of the Government designated as such and shall include the Public Works Department, the Water Resources Department including Irrigation and Multipurpose River Valley Projects, the Public Health Engineering Department, Indira Gandhi Nahar Department unless specifically stated otherwise.
37.	E-Payment	E-Payment means payment of the taxes levied by or any other amount due to State Government using electronic funds transfer services of a Bank by instant debit to payee's account with Bank and credit to the State Government account.
38.	Expression of Interest	In certain cases when the exact specifications of the requirement are not known or when the likely sources of supply are not known, Expression of Interest (EOI) Bids may be invited. Once the specifications or list of the likely suppliers are finalised based on inputs from EOI, normal procurement bidding can be done.
39.	Force Majeure Clause	It exempts the contracting parties from fulfilling their contractual obligations for causes that could not be anticipated and/or are beyond their control. These causes usually include acts of God, acts of humans, acts of Parliament, and other impersonal events or occurrences, wars. In French, it translates to 'superior force'.

Sl. No.	Term	Meaning/ Definition
40.	Goods	This includes all articles, material, commodities, electricity, livestock, furniture, fixtures, raw material, spares, instruments, software, machinery, equipment, industrial plant, vehicles, aircraft, ships, railway rolling stock and any other category of goods, whether in solid, liquid or gaseous form, purchased or otherwise acquired for the use of a procuring entity as well as services or works incidental to the supply of the goods if the value of services or works or both does not exceed that of the goods themselves.
41.	Head of a Department	Head of a Department means any authority declared to be such by the State Government for the purposes of delegations and exercise of administrative and financial powers.
42.	Head of Office	Head of Office means a Gazetted Officer declared as such by the Head of the Department as per Rule
43.	Instructions to Bidders	This section in bid document provides comprehensive information to prospective bidders on preparing and submitting the bid.
44.	Intellectual Property Rights (IPRs)	The legal rights granted with the aim to protect the creations of the intellect. These rights include Industrial Property Rights (e.g. patents, industrial designs and trademarks) and Copyright (right of the author or creator) and Related Rights (rights of performers, producers and broadcasting organisations).
45.	Invitation to Bid	Invitation to Bid means a document published by the Procuring Entity inviting bids relating to the subject matter of procurement and any amendment thereto and includes notice inviting tender and request for proposal.
46.	Invitation to register	Invitation to register means a document including any amendment thereto published by the Procuring Entity inviting offers for bidder registration from prospective bidders.
47.	IRR	Internal Rate of Return (IRR) is a discount rate that makes the net present value of all cash flows equal to zero in a discounted cash flow analysis. In other words, it is the expected compound annual rate of return that will be earned on a project or investment.
48.	Irrevocable letter of credit or bank guarantee	When the issuing bank gives a definite, absolute and irrevocable undertaking to honour its obligations, provided the beneficiary complies with all the terms and conditions, such a credit is known as an irrevocable Letter of Credit or bank guarantee.
49.	Joint Venture	As per Companies Act, 2013, a Joint Venture means a joint arrangement, whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. In other words, a combination of two or more parties that seek the

Sl. No.	Term	Meaning/ Definition
		development of a single enterprise or project for profit and sharing the risks associated with its development.
50.	Law	It shall mean any law, Act, Ordinance, regulation, rule, notification, order, byelaw, scheme, or other instrument having for the time being the force of law.
51.	Letter of Credit	Letter of credit is a written understanding given by the buyer's bank (the issuing bank) on behalf of and at the request of its customer (the applicant). It is routed through the agency of a bank in the seller's country (advising bank) to the seller that it (issuing bank) guarantees to pay the seller for the goods within a specified time, provided the conditions laid down in documentary credit are fully satisfied.
52.	Liquidated Damages	A sum of money (agreed-to and written into a contract) specified as the total amount of compensation an aggrieved party should get, if the other party breaches certain part(s) of the contract. The contract also establishes what actions or failures to act constitute a breach. For the agreement to be legally enforceable, the nature of the contract should be such that it is difficult to determine actual damages, and the amount of damages should be reasonable under the circumstances. Otherwise, the law may regard the specified amount as a fine (included in the contract primarily to force its proper performance) and not as compensation for injury. In such cases, the damages are deemed 'not liquidated damages' and are assessed by a court according to the merits of the case.
53.	Litigation	An adversarial formal process whereby claims regarding contractual disputes are taken through the civil courts and conducted in public. It provides binding resolution that may result in damages for one or more the parties.
54.	Local Body	Local body means an authority legally entitled or specially empowered by Government to administer a local fund.
55.	Major Work	Major Work means an original work, costing Rs 25.00 Crore or as may be specified by the Engineering Department depending on nature and estimated cost of work.
56.	Method of procurement	It is the procedure through which the Procuring Entity procures goods, works and services to satisfy the required need to benefit the community at large. In other words, methods of procurement are the ways-and-means to fulfil requirement of subject matter of procurement by any Procuring Entity.

Sl. No.	Term	Meaning/ Definition
57.	National Competitive bidding	National Competitive bidding means a bidding process in which qualified bidders only from within India are allowed to participate.
58.	Need Assessment	Need Assessment is the process of identifying short-term or long-term requirements of procurement. The outcome of need assessment exercise is the input for determination of the requirement of subject matter of procurement i.e., goods, works and services to be procured.
59.	Notice Inviting Bids	It is a notification to prospective bidders informing them about the procurement and invites them to submit bids against the bid invitation.
60.	Notification	It means a notification published in the Official Gazette
61.	Original Works	Original Works means new construction, whether of entirely new works or of additions and alterations to existing works, also all repairs to newly purchased or previously abandoned works required for bringing them into use. Original Work may be further classified as Petty Works, Small Works and Major Works depending on nature and estimated cost of work, as may be specified by the Engineering Department.
62.	Performance Security	Performance security is an upfront amount paid by winning bidder which is subject to be forfeited if the project commitments are not honoured. This shows the intention of the contractor that they are committed to execute the contract on time.
63.	Petty Works	Petty Works means an original work, costing Rs 5.00 Lakh, or as may be specified by the Engineering Department depending on nature and estimated cost of work.
64.	PPP contract	means the mutually binding contract or contracts between the Procuring Entity and the private partner that set forth the terms and conditions for the implementation of a Public Private Partnership.
65.	Pre bid Meeting/ conference	Meeting/ conference is conducted to fine-tune the techno-commercial stipulations in the bid documents and also to ensure that the technical requirements provide a level playing field. Bidders are often asked to submit written queries before the conference.
66.	Preliminary Inspection	This inspection is conducted by the storekeeper soon after the receipt of goods at Stores and before the issuance of the goods receipt note. This is basically a quantitative inspection and does not certify the quality of goods received.

Sl. No.	Term	Meaning/ Definition
67.	Pre-qualification	Pre-qualification means the procedure set out to identify, prior to inviting bids, the bidders that are qualified.
68.	Pre-qualification documents	Pre-qualification documents means the documents issued by a procuring entity, including any amendments thereto, that set out the terms and conditions of the pre-qualification proceedings and includes the invitation to pre-qualify.
69.	Prescribed	It means prescribed by rules made under this Act i.e. RTPP Act.
70.	Price Variation Clause	A clause in a contract allowing the procuring entity to vary the price under certain conditions.
71.	Private Procurement	The procurement that is undertaken by private organizations like businesses, companies, for-profit organizations, social organizations, NGO, individuals, etc. for their own use. Moreover, the procurement using fund other than public money may be termed as private procurement.
72.	Procurement / Public Procurement	Procurement means the acquisition by purchase, lease, licence or otherwise of works, goods or services, including award of Public Private Partnership projects, by a procuring entity whether directly or through an agency with which a contract for procurement services is entered into, but does not include any acquisition without consideration, and "procure" or "procured" shall be construed accordingly.
73.	Procurement contract	Procurement contract means a contract entered into between the procuring entity and a successful bidder concerning the subject matter of procurement.
74.	Procurement process	Procurement process means the process of procurement extending from the issue of invitation to pre-qualify or to register or to bid till the award of the procurement contract or cancellation of the procurement process, as the case may be.
75.	Procuring Entity	Procuring Entity means an entity defined by government for conducting procurement process as mentioned in RTPP Rules.
76.	Project Closure Fee	Fee to be paid to Transaction advisor for technical, financial and legal advice to Administrative Department for finalization of the successful bidder.
77.	Public Works	Public Works means civil works and irrigation, navigation, embankment and drainage works.
78.	Quality Assurance	Quality assurance is the term used to describe the systematic efforts taken to ensure that the product delivered meet with the

Sl. No.	Term	Meaning/ Definition
		contractual and other agreed upon performance, design, reliability, and maintainability expectations of that customer/ procuring entity.
79.	Quantum Meruit	It means "what one has earned" or "as much as he has earned". In simple terms, it refers to the actual value of the services rendered or performed. Even if there is no specific contract, this law implies a promise to pay a reasonable amount for the labour and material furnished.
80.	Rate contract	Rate contract means an agreement between a procuring entity and one or more bidders which specifies the terms and conditions including the price, for the supply of a subject matter of procurement required on a recurring basis.
81.	Re-appropriation	Re-appropriation means the transfer of funds from one unit of appropriation to another such unit.
82.	Registered bidder	Registered bidder means any bidder who is on a list of registered bidders of the procuring entity maintained.
83.	Registered Bidder (Enlistment)	Registered Bidder (Enlistment) means any bidder who has been registered through process provided under these Guidelines. The Register of registered bidders of the purpose of Procuring of Works shall be maintained.
84.	Registering Authority	Registering Authority means the Officers designated by the Government for enlistment of bidders through process of registration.
85.	Scope/ Quantities	Enumerated elements and quantities thereof the procurement outcomes. May be listed in the Activity Schedule, BoQ, Schedule of Requirement, Scope of Work, and so on.
86.	Single Bid System	The single bid calls for technical details of the offer as well as price quoted in the same bid envelope. The lowest priced bid that meets the technical requirements laid down in the Bid Document is declared as successful.
87.	Small Work	It means an original work, costing not less than Rs. 5.00 Lakhs but not more than Rs. 25 Crores, or as may be specified by the Engineering Department depending on nature and estimated cost of work.
88.	Specifications	Specifications are the detailed qualitative requirements of the item being procured. These indicate various details like the material composition, physical dimensional, performance parameters and so on.

Sl. No.	Term	Meaning/ Definition
89.	Sub-contractor	An entity to whom/ which the contractor sub-contracts part of the contract while remaining solely liable for the execution of the contract.
90.	Subject matter of procurement	It means any item of procurement whether in the form of goods, services or works.
91.	Swiss Challenge Method	Method in which an unsolicited proposal for a government project is received and allows third party to challenge the original proposal through open bidding, and then lets the original proponent counter-match the most advantageous / most competitive offer.
92.	Turnkey contract	A turnkey contract is a contract whereby a project is delivered in a completed state. Therefore rather than contracting with various parties to develop a project in stages, procuring entity enters into a contract with one party or a contractor to finish the entire project without any further input from the procuring entity.
93.	Two Bid System	Two-Bid (Envelope) System: The bidders are asked to bifurcate their quotations into two separately sealed parts – first part, called the Techno-Commercial Bid, containing the relevant technical details of the equipment/machinery offered by them with reference to the specification and allied commercial terms incorporated in the tender enquiry documents. The second part is called the Financial Bid. In the Financial Bid, the price quotation along with other allied issues is given.
94.	Two-stage Bidding	Pre-Qualification Bidding (PQB) is a two-stage bidding procedure for selection of competent and qualified bidders by using a Pre-Qualification Criterion (PQC), prior to the issue of the "Invitations to Bid" to pre-qualified bidders. The crux of PQB is in locating suppliers with proven skills essentially required for the supply of items/ works/services before the Procurement Bids are issued so as to ensure fair and wider competition among such a set of suppliers.
95.	Work Schedule/ Program	A plan for a robust and realistic schedule for contract implementation including the measure for work zone safety and mitigation of environmental impact, based on any project management system. It includes 'deadlines' or 'contractual milestones' to facilitate monitoring of the progress of work. In good contracts, there may be Delivery Schedule of periodic deliveries.
96.	Works	It means all works associated with the construction, reconstruction, site preparation, demolition, repair, maintenance, or renovation or railways, roads, highways or a building, an infrastructure, or structure or an installation or any construction work relating to excavation, drilling, installation of equipment and

Sl. No.	Term	Meaning/ Definition
		materials, as well as services incidental to the works if the value of those services does not exceed that of the works themselves.
97.	Zone (Enlistment)	It means Zone as constituted by the administrative department which is headed by an Additional Chief Engineer.
98.	Zones	It means zones within an Engineering Department as designated by the Administrative Department.
99.	Workmen's Compensation Act, 1923	An Act to provide for the payment by certain classes of employers to their workmen of compensation for injury by accident.
100.	Principle of 'Contra proferentem'	Contra- Proferentem places the cost of losses on the party who was in the best position to avoid the harm. The Courts / Arbitrators Page 2 expect that the party who drafts the agreement shall take due care and caution and shall not insert ambiguous provisions in the agreement.
101.	Contingency Charges	The term "contingencies" indicates the incidental expenses of miscellaneous character which cannot be classified under any distinct item sub-head yet pertain to the work as a whole. To meet such unforeseen expenses an additional amount of 3% to 5% of the estimated cost of the works is provided in the total estimate.
102.	Dredging and Reclamation Works	Dredging works are commonly described as removal of sediments from underwater which involving excavation process. Soil and rocks are excavated for channel and harbor deepening and for land reclamation. Land reclamation is defined as usage of dredged sediments to construct or build new land in the sea.
103.	Appraisal Note	Project appraisal is the process of assessing, in a structured way, the case for proceeding with a project or proposal, or the project's viability. It often involves comparing various options, using economic appraisal or some other decision analysis technique.
104.	Life Cycle Cost <sup>1</sup>	Life cycle cost (LCC) is an approach that assesses the total cost of an asset over its life cycle including initial capital costs, maintenance costs, operating costs and the asset's residual value at the end of its life.
105.	Piece Work System	Piece work (or piecework) is any type of employment in which a worker is paid a fixed piece rate for each unit produced or action performed, regardless of time.
106.	The Housing Grants Construction	The Housing Grants, Construction and Regeneration Act 1996 (HGRA - also known as the Construction Act) is intended to ensure that payments are made promptly

Sl. No.	Term	Meaning/ Definition
	and Regeneration Act	throughout the supply chain and that disputes are resolved swiftly.
107.	Rate Contract	Rate Contract means the agreement for supply of goods/ materials between Owner and Vendor, for a fixed period of time (i.e till validity of Rate Contract, with no commitment of contractual quantity) on mutually agreed terms and conditions. The actual supply of goods/ materials shall take place only on issue of separate purchase orders for required quantity as and when required by Owner.