

GOVERNMENT OF KARNATAKA

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Karnataka Government Secretariat,
Vidhana Soudha,
Bangalore, dated 20.01.2005**CIRCULAR****Subject:** Procurement Reforms – Types of Contracts and Guidelines for their choice

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1. Paragraph 168 of the Karnataka Public Works Departmental Code Volume I discusses in brief only two types of contracts viz., Lump-sum and Schedule (Item rate)

2. Development projects of the Government Departments/Undertakings and local bodies are some times complex and necessitate the use of other alternative forms types of contracts. This circular details the various forms/types of contracts and gives guidance for their choice.

3. Types of contracts and their choice:

In the preliminary planning stages of procurement. implementing agencies have a choice of procurement method and or the types of works contract to be used. depending on prevailing circumstances. The type of contract chosen will affect the subsequent stages of procurement, the content of the tender document, and to some extent the degree of influence, which the Employer can exert during contract implementation. It is important, therefore, at an early stage in the planning process to consider carefully the types of contract that might be suitable for use and the factors affecting the choice of type of contract.

Some of the general factors, which may affect/influence the choice of contract type by an Employer or implementing Agency are:

- Nature and complexity of the works (e.g. building, highway, industrial plant etc.);
- The size and duration of the contract (e.g. Primary Health center, Primary School, Major Hospital, Feeder road, Expressway, Pump House, or Urban Water Supply etc);
- The degree of the definition of the works and th element of risk/uncertainty;
- The status of design (preliminary or final);
- The technical capability, design and supervisory resources of the Employer;
- The financial resources available and./or budget constraints;
- The previous experience of the Employer in a particular type of contract;

The following is a list of common types/kinds of works contracts, their features, the advantages and disadvantages and the circumstances/situations in which they can be best used.

Sl. No	Type Kind of contract	Features	Advantages/Disadvantages	Circumstances/Areas in which to be used.
1.	Lump-sum Contract or all inclusive contracts. (LS)	<p>1. The tenderer is required to quote a fixed sum for execution of the work, complete in all respects in accordance with the designs, drawings and specifications within the stipulated time.</p> <p>2. It is essential that the work must be defined accurately, specifications are completely written up and the site conditions fully explained so that disputes shall not arise.</p> <p>3. Quantities are not normally given for small works, but major quantities are some times indicated for the convenience of tenderers on large works</p> <p>4. The payment schedule is normally a proportion of the contract price related to progressive stages of completion commonly termed as "Schedule of Activities"</p> <p>5. Two modifications of the Lump-sum contract may be introduced to cope with uncertainties</p>	<p>Advantages:</p> <p>1. Advance knowledge of the fixed contract amount for budget forecasting (variations due to quantities and price adjustment, if any, are relatively minor),</p> <p>2. Relatively easy to administer for payment purposes (no or little measurement of work performed);</p> <p>3. Requires less documentation (normally no detailed Bill of Quantities)</p> <p>Disadvantages:</p> <p>1. Inflexible to design changes (major variation are difficult to price)</p> <p>2. Not suitable where potential future risks and changes are difficult to forecast (Tenderers may inflate their prices to cover expected costs which do not materialize); and</p> <p>3. Designs for smaller works must normally be complete and drawings prepared in detail by the Employer, as a basis for tendering</p>	<p>Normally used for small, short duration (less than a year) well defined, Detailed works and building or other form of construction, where the works are unlikely to change in quantity and specifications and where encountering difficulties or unforeseen site conditions (for example hidden foundation problem) is unlikely.</p> <p>Examples of typical Lumpsum contracts are culverts, small bridges, primary schools, health clinics, bus shelters, transmission towers, pipe laying, standard housing involving type designs etc.</p>

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		<p>during implementation one relating to Quantity variations and other to Price Adjustment.</p> <p>6. LS tenders may also be called for larger works of larger duration such as Industrial Process Plants, normally following a Two-Stage Tendering procedure with designs prepared by the successful tenderer and with provision for price adjustment (Refer Turnkey contracts)</p>		
2.	Item Rate Contract/ Unit Rate/ Ad measurement (UR)	<p>1. The tenderers are invited to quote unit rates for carrying out the Employer's estimated quantities of different items of work to be executed.</p> <p>2. The unit rates are inclusive of all related inputs (labour, materials, equipment usage and a proportion of overheads and profit)</p> <p>3. The tender price comprises the summation of estimated quantities multiplied by the respective unit rates for all items of work.</p> <p>4. Detailed measurements of all items of work executed by him are recorded and</p>	<p>Advantage:</p> <p>1. Tenders Are competing on the most equitable basis, against the same quantities of work and completed designs;</p> <p>2. The comparison and evaluation of tenders is normally straight forward and objective;</p> <p>3. It provides flexibility for the contracting parties in handling variations and extra items of work;</p> <p>4. Regular progress payments for work completed help the contractor's cash flow.</p> <p>5. Reasonably accurate cost estimates can be made for planning purposes and under normal circumstances, the</p>	<p>3. Most common type of contract in general use internationally in the public sector works under conditions of moderate perceivable risk in sectors such as Transportation. Power, Irrigation, Water Supply and Sewerage etc.</p>

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		<p>payments are made to the contractor as per his quoted rates.</p> <p>5. The unit rates may be fixed for short duration (less than one year) contracts or adjustable for variations in the indexed price of inputs over longer duration contracts.</p>	<p>Employer can expect only minor discrepancies between the estimate of cost and the lowest bid and between contract price and the final basic cost;</p> <p>Disadvantages:</p> <ol style="list-style-type: none"> 1. Tenders containing unbalanced unit rates and front-end loading create problems in comparison and evaluation; 2. Higher cost for documentation than Lump-sum is preparing the detailed Bill of Quantities; 3. Higher supervisory cost than Lump-sum, due mainly to the measurement of work performed; 4. Amenable for manipulation either by change of design, or by increase in quantities of work for which higher rates have been quoted, or decrease in quantities of work for which lower rates have been quoted. 	
3.	percentage Tender or percentage Rate Contract	The Contractors are required to submit their offers to carry out the work as per the estimated rates (which is usually on the current Schedule of Rates) or at some percentage above or below the Schedule of Rates.	<p>Advantages:</p> <ol style="list-style-type: none"> 1. Simple to comprehend for the contractor and submit his tenders; 2. Decision on the lowest tender is immediate; 3. Possibility of unbalanced tender submission is eliminated 	Appropriate for small value contracts, when the items of work are few and belong to the same category or classification, such as Earthwork, or concrete or masonry etc.

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			<p>Disadvantages:</p> <ol style="list-style-type: none"> 1. Two or more contractors may quote the same rate in order to get part of the work at the higher rate; 2. Division of work among those contractors who have quoted the same rates may be difficult; 3. Quoting the same percentage above or below for different categories of items of work is irrational 4. Amenable for manipulations to get the items changed to get advantage of higher rates. 	
4.	Cost reimbursable plus fee commonly termed as "Cost Plus" CP	This type of contract provides For the periodic reimbursement of the contractor's actual costs for measurable inputs to the works, such as labour, materials, equipment, spare parts, fuel etc., together with a Fee" to cover his Associated overheads, management and profit. The "Fee" may be either (i) a fixed fee i.e. independent of The total measured costs, or (ii) a percentage of the measured costs, or (iii) a variable (incentive) fee,	<p>Advantages:</p> <ol style="list-style-type: none"> 1. Early mobilization of construction resources is possible in emergency situations and no works that are poorly defined. involve high risk or high returns; 2. The contractor is reimbursed all expenditure and assures little or no risk. <p>Disadvantages:</p> <ol style="list-style-type: none"> 1. The circumstances favouring cost plus contracting are more conducive to sole source negotiations with a selected contractor than to competitive tendering which is normally required in private sector, 	<ol style="list-style-type: none"> 1. Cost Plus contracts are appropriate in open-ended emergency situation such as structural collapse of or damage to buildings, bridges, dams, or breach of canals and in circumstances where works are exposed to conditions of great uncertainty or unquantifiable risks, such as unknown ground conditions (tunneling), or large unforeseeable

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		<p>which increases if saving materializes in an agreed Estimate of the total contract payments, or which reduces with cost overruns</p>	<p>2. If the CP fee is fixed, the contractor has little incentive to produce quality or timely work:</p> <p>3. With a CP percentage fee, the contractor the CP fee is fixed, the contractor has little incentive to produce quality or timely work:</p> <p>3. With a CP percentage fee, the contractor benefits from higher costs and consequently has limited incentive to be cost effective;</p> <p>4. The Employer needs additional supervisory staff to monitor and verify actual costs.</p>	<p>price fluctuations etc.</p> <p>2. They are also used in private sector, usually on a negotiated basis with a selected contractor, when an early start is required on projects which are not completely defined or designed but are expected to be highly remunerative, such as hotels, casinos, innovative technical processing and manufacturing plants etc.</p>
5.	Supply and Erect/ Install, Commission and Test	<p>1. This type of contract provides for the supply of major items of manufactured or pre-fabricate goods (such as turbines, pumps, generators, switch yards, transmission towers, pipelines, boilers, telecommunication works etc.) including relatively minor works involved in their erection or installation and commissioning at a site or sites.</p>	<p>Advantages:</p> <p>1. Single responsibility for the supply of goods and the execution of related works in order to avoid conflicts and delays in the event of non-compatibility;</p> <p>2. Management is simple.</p> <p>Disadvantages:</p> <p>1. Direct Cost is likely to be more</p>	<p>Appropriate for Power Plants, Water Pumping Plants, Water Treatment and Sewerage Treatment Plants, Telecommunication projects etc.</p>

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		<p>2. The goods would normally be the subject of performance specifications, or fabricated to the design of the Employer on an LS basis. Minor works might be quoted LS based on the design of the Supplier, but major works should normally be undertaken to the design of the Employer on "Item Rate/Unit Rate basis.</p> <p>3. Commissioning and/or testing of the completed work is a normal requirement before acceptance.</p>		
6.	Design and Build Construct	<p>1. The Employer wishes to explore on a competitive basis, the most innovative designs and the special expertise and technology of individual contractors which may not be available to the Employer's own Engineers/Architects</p> <p>2. Pre-qualification is an essential feature of the tendering process in order to select qualified combinations of Engineer Architect/ Contractor.</p> <p>3. Comprehensive site and sub-soil survey is normally</p>	<p>Advantages:</p> <p>1. Competitive proposals result in economy and better design and aesthetics.</p>	<p>Appropriate for important buildings, major bridges, Aqueducts, Viaducts, Complex Fly overs. Navigation works, Sea Ports, Airports, and other major Infrastructure works</p>

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		<p>provided as a part of tender document, which should also include the parameters of structural design and loading.</p> <p>4. Competitive design and lump-sum tenders are called from qualified tenderers who provide comprehensive design calculations, quantities and drawings.</p> <p>5. Tender evaluation includes: design checks, the quantification of design errors, times of completion, payment schedules etc., and an assessment of the aesthetics of different proposals.</p> <p>6. Tenderers are sometimes compensated on a sliding scale according to merit, for the preparation of responsive proposals</p>	<p>Advantages:</p> <p>1. Competitive proposals result in economy and better design and aesthetics.</p>	<p>Appropriate for important buildings, major bridges, Aqueducts, Viaducts, Complex Flyovers, Navigation works, Sea Ports, Airports, and other major Infrastructure works</p>
7.	Turnkey	<p>1. Tenders invited for Alternative systems and processes to provide satisfactory end product requirements and therefore undersirable or impracticable to</p>	<p>Advantages:</p> <p>1. The Employer is able to choose the best available processes and thus effect economy.</p>	<p>Appropriate for procurement of complex Industrial Process plants such as Steel mills, fertilizer. food processing coal bunkering,</p>

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		<p>prepare definitive designs and complete technical specifications in advance.</p> <p>2. Two stage tendering procedure is followed, first inviting unpriced technical proposals and outline designs which are subject to clarification and adjustment by the Employer followed by the submission of detailed technical proposals and priced tenders in the second stage.</p> <p>3. The turnkey contractor undertakes to provide detailed designs, production process plant and equipment, related construction, procurement, licenses, guarantees, recruitment and training of operating staff, commissioning, start-up, initial operation and maintenance and final hand over of the "key" to the Employer for him to "Turn"</p> <p>4. The contract price is normally quoted LS with periodic payments against specified stages of partial completion.</p> <p>5. Price Adjustment may also be provided</p>		<p>petroleum refineries etc.</p>

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8.	Management Contract	<p>for contracts of longer duration than about two years.</p> <p>A firm acts in the role of a "Contractor" that does not usually perform construction work directly, but manages the work of other sub-contractors</p>		<p>Appropriate for major Infrastructure projects such as Airports, Sea Ports, Expressways,</p>
		<p>while bearing full responsibility and risk for price, quantity, and timely performance of the contract.</p>		<p>Townships, Power Projects, Telecommunication Projects etc.</p>
9.	<p>Build Operate, and Transfer (BOT) Build Own and Transfer (BOT); Build, Own, Operate and Transfer (BOOT); Build, Own and Operate without any obligation for Transfer; Build, Rent and Transfer (BRT); Build, Lease and Transfer</p>	<p>It is essentially a concessionary turnkey type of contract including financing in addition to the design, construction, operation and maintenance of public and private revenue earning projects.</p> <p>Normally total costs and risks are borne by the private BOT investors over the concessional period which may be some 10 to 20 years. In the Public Sector, the Employer would be the Public Authority otherwise responsible for providing such services, and to whom the facility is transferred at the end of the concession.</p>	<p>Advantages:</p> <ol style="list-style-type: none"> 1. It is a Way for overcoming the borrowing capacity budgetary constraints to acquire the needed infrastructure for Growth. 2. If properly structured and priced it can provide significant "additionality" in financial resources while achieving overall cost savings from efficiency in design, construction and operation <p>Disadvantages:</p> <ol style="list-style-type: none"> 1. They are highly complex from both a legal and financial point of view. 2. They require potential sponsors to spend years and millions in development and 	<p>To be adopted for profit earning projects such as power generation and distribution, Port facilities, toll roads and bridges, water supply etc. when the Employer Owner has limited budget and or borrowing capacity.</p>

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	(BLT), Build, Own, Operate, Subsidize and Transfer (BOOST); Build And Transfer (BT)	The only source of revenue to the BOT investors is the tariff levied on users of this facility. which is a major consideration in tender evaluation Other variants include BOOT (Build, Own, Operate and Transfer), BOO (Build Own and Operate, i.e. without any obligation to Transfer); BOOST (Build, Own, Operate, Subsidize and Transfer); and BT (Build and Transfer immediately, possibly subject to installement payments of the purchase price)	negotiations. 3. They present novel issues for host Government /Implementing Agencies as to proper allocation of risks and rewards among parties.	

4. Use of appropriate type of contract and tender documents:

Keeping the above Guidelings in view, the Procurement Entity shall submit proposals to the Competent Authority for adopting the type of contract for particular packages with full justification. The competent authority shall review the recommendations and accord approval to the proposals of the Procurement Entity, who will then use the tender documents appropriate for the type of contract approved. Standard Tender Documents for the various types of contracts as detailed above are under preparation and would be circulated in due course of time.

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