

MODIFIED MANUAL FOR CIVIL ENGINEERING WORKS



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MODIFIED MANUAL FOR CIVIL ENGINEERING WORKS

PART - I

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1. FUNCTIONS OF CIVIL ENGINEERING DEPARTMENT.

1.01 DETAILS OF CIVIL ENGINEERING WORKS:

The activities of Civil Engineering Discipline in Coal India are of diverse nature and are broadly categorized below:

1.01.1 ENABLING WORKS:

- Temporary approach road
- Temporary hutments for office/ camp living
- Temporary water supply arrangements
- Erection platforms for HEMM
- Temporary stores & workshops etc.

1.01.2 INFRASTRUCTURES:

- Office buildings and rest house.
- Pit head bath & cap lamp room
- Incline mouth roofing & walling
- Headgears & shaft sinking
- Haulage rooms & fan houses
- Haul roads & permanent approach roads
- Regional/ Central stores
- Regional/ Central workshops
- Railway sidings & wharf walls

1.01.3 HEAVY INDUSTRIAL STRUCTURES:

- Coal handling plants including RLS
- Coal preparation plants
- Winder house
- Check dams
- Bridges
- Underground transport system

1.01.4 TOWNSHIP:

- Residential building
- Colony & approach road
- Water supply arrangement
- Drainage system
- Plantations & landscaping

1.01.5 WATER SUPPLY & EFFLUENT DISPOSAL

- Intake arrangement (intake well, weir etc.)& Pump House
- Treatment plant
- Treated water storage & distribution

Overhead reservoirs
 Deep Tube well & Hand Pump
 Sewerage Treatment Plant.
 Effluent Treatment Plant
 Sewerage Disposal System.

1.01.6 WELFARE BUILDINGS:

Worker institute
 Schools & colleges
 Shopping centers
 Post office & Banks
 Hospitals & Dispensaries
 Recreation Centers & Clubs
 Canteens
 Auditoriums & Stadiums
 Swimming Pool

1.01.7 TOWNSHIP ENGINEERING :

Maintenance of residential & office buildings
 Maintenance of welfare facilities
 Maintenance of water supply arrangements / Water Treatment Plant.
 Maintenance of sewerage/ drainage systems / Effluent Treatment / Sewerage Treatment Plant
 Maintenance of roads.
 Maintenance of Industrial Buildings & Structures.
 Organising festivals, sports meet, foundation stone laying ceremony etc.

N.B. The work of Town Engineering/ Administration at HQ level shall be under GM/HoD(C)/ GM(C) of the company. The practice of entrusting this Engineering function to other departments shall be discouraged.

1.01.8 Miscellaneous Activities:- In addition to the aforesaid main activities of Civil Engineering Department, the Civil Engineering personnel have to undertake various day to day activities such as organising festivals, sports, fairs, foundation laying ceremonies, work connected to corporate social responsibility and sustainable development etc. apart from day to day repairs and maintenance works of townships, water supply, infrastructures, heavy industrial structures etc.

1.01.9 CLASSIFICATION OF WORK.

The works undertaken by Civil Engineering department are classified as follows:-

1.01.9.01 Original works

These shall mean:

- i. All new constructions,
- ii. All types of additions, alterations and / or special repairs to newly acquired assets, abandoned or damaged assets that are required to make them workable.
- iii. Major replacements or remodeling of a portion of an existing structure or installation or other works, which results in a genuine increase in the life and or value of the property.

1.01.9.02 Repairs and maintenance works.

These cover operations undertaken to maintain the assets in a proper condition and include maintenance and operation of all services. The "Repairs" are further classified into two categories as follows:

- i. Annual repairs : These cover the routine as well as yearly operation and maintenance works.
- ii. (Special repairs : These cover major repair or replacement or remodeling of a portion of an existing structure/ Roads or installation or other works due to major breakdowns, or deterioration, or periodic renewal, which do not result in a genuine increase in the value of the property.

1.01.10 Power to Sanction Work

The power delegated to various authorities to accord administrative approval, sanction expenditure and re-appropriate funds for works are regulated by Delegation of Power and other orders contained in the respective departmental regulations.

1.01.10.1 Normally no works shall be commenced or liability incurred in connection with it until, -

- i) Administrative approval has been obtained from the appropriate authority;
- ii) Sanction to incur expenditure has been obtained from the competent authority;
- iii) Preliminary / detailed design has been made;
- iv) Estimates / detailed estimates containing details specification and quantities has been prepared on the basis of approved schedule of rate / analyzed rate /market rate. However, once estimate/detailed estimates are approved, steps at i, ii & iii above are not required ;
- v) Fund certification will be available.
- vi) Tenders invited and finalized.
- vii) Work order issued.

NOTE: Estimate containing detail specifications and quantities, if approved, action as per (i), (ii) & (iii) above shall not be applicable.

On grounds of urgency, or otherwise, if it becomes necessary to carry out a work or incur a liability under circumstances when the provisions set out under Cl. 1.01.11 cannot be complied with, the concerned executive officer may do so in consultation with higher authority. Simultaneously, he should initiate action to obtain approval from competent authority.

1.01.11. Procedure for Execution of Work

The broad procedure to be followed by Civil department for execution of works shall be as under:-

- i) obtaining administrative approval based on preliminary estimate.
- ii) preparation of preliminary design, detailed design and estimate.
- iii) approval of the detailed estimate along with financial concurrence.
- iv) quotation / open tenders / limited tenders as relevant depending on value and situation for works are invited.
- v) issuance of LOI / award of work / execution of agreement as relevant.
- vi) making interim payments including final payment on completion of work.

NOTE: Estimate containing detail specifications and quantities, if approved, action as per (i) & (ii) above shall not be applicable.

1.01.12. Emergency Works.

Emergency works are those kind of works which arise all of a sudden and are inescapable requiring immediate action that cannot brook any delay. In case of emergency, the work may be executed in absence of any or all of the above mentioned pre-requisite. On such aforesaid situation the concerned executive officer should obtain the administrative approval and expenditure sanction of the competent authority to regularize the liability as early as possible.

1.01.13 Urgent Works

Urgent works need not be treated at par with the works to be taken up under emergency situation. Urgent works may be defined as those kinds of works which requires fast start / completion within compressed schedule and are to be taken up on top most priority at the instruction of the competent authority. GM(HoD), Civil / GM, Area / GM(Project) shall be final authority to approve the execution of urgent works. Under such situation availability of funds shall be ensured before taking up execution of such works.

Normally, works as mentioned below can be considered as urgent works.

- a) Interior furnishings - both hard and soft.
- b) Afforestation, Landscape, Lawns, Gardens etc.
- c) General leveling and dressing.
- d) Inauguration, foundations stone laying & special occasions.
- e) House Keeping.
- f) Works related to maintaining water supply and drainage.
- g) Works related to maintaining power supply / electrification / Air-conditioning System.
- h) Works affecting production in mines.
- i) Works as decided by above authorities.

1.02 System Review of Civil Engineering Works:

All Civil Engineering schemes whether in CIL or elsewhere need decision making at different stages of planning and construction. Any fresh civil engineering project commonly designated as "Original works" must necessarily be built up through the following stages:

1.02.1 Preparation of a Draft Scheme & Preliminary Estimate

Before commencement of any work, a draft scheme is first prepared with brief outline of the work and the probable cost assessment of the scheme is made through a preliminary estimate. These are mostly prepared either on a "Pro-rata" basis based on similar works in the past or on "Thumb rule" basis. This exercise is carried out for budgeting purpose & appraisal of competent authority.

Concerned project / unit/ Headquarter may prepare such schemes on their own or with assistance of CMPDI. Such draft scheme shall cover justification, operational features, capital investment and lead time etc.

1.02.2 Detailed Design and Planning

Once the technical sanction, financial concurrence and administrative approval for a work have been obtained the next step consists of preparation of detailed design and planning for the original works. Such a detailed design requires in-depth information of the site, details of functional requirements, subsoil report, loading etc. With the above information one can proceed with preparation of detailed design and drawings for the scheme. At this stage the designer has to work out in detail the final configuration of the various elements, their sizes, specifications etc.

1.02.3 Preparation of Detailed Estimate

Once the designs and drawings are ready and the specifications for the various items of work have been selected, the detailed estimate for the works is prepared. The unit cost for the items of work is normally obtained from what we call the schedule of rates, which will be discussed in detail later.

1.02.4 Optimization of cost

For the purpose of cost optimization, often a number of alternative schemes, satisfying the basic functional requirements, have to be tried and the cost worked out to select the most cost effective solution for the given situation.

1.02.5 Preparation of Tender Documents & Notice Inviting Tender

For execution of a work tender document is prepared and outside agencies are invited to submit their bids. To facilitate submission of bids due notification is made through Notice Inviting Tender or NIT.

1.02.6 Evaluation of Tender

Bids from contractors are received against NIT and the comparative merits of the various bids are ascertained through proper evaluation done by a duly constituted committee called the "Tender Committee".

1.02.7 Award of Works

Based on the recommendation of the Tender Committee and approval thereof by Competent Authority the work is awarded to the successful bidder for execution of the work as per the conditions laid down in the tender.

1.02.8 Monitoring of Progress

The progress of work is checked from time to time to ensure that the project is on schedule. Interim payment is made to the contractor against progress of work at site.

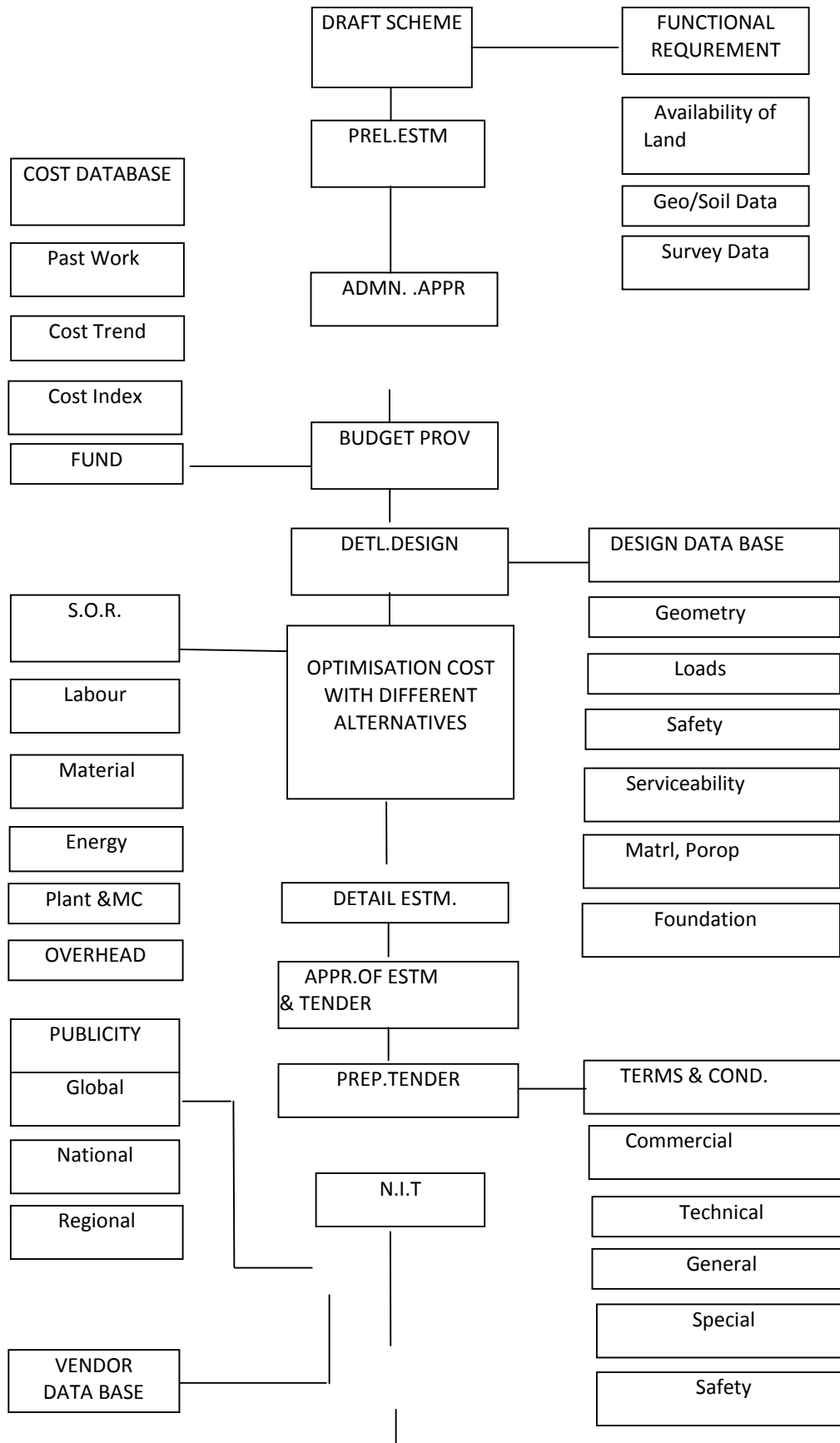
1.02.9 Inspection of Works

During the execution and also after the works have been completed the work should be jointly inspected at various stages with the contractor/ contractor's representative. After completion of the work a completion estimate is framed known as Revised Estimate. Standard measurements are entered in the Asset Register of the department/Standard Measurement Book for future maintenance works.

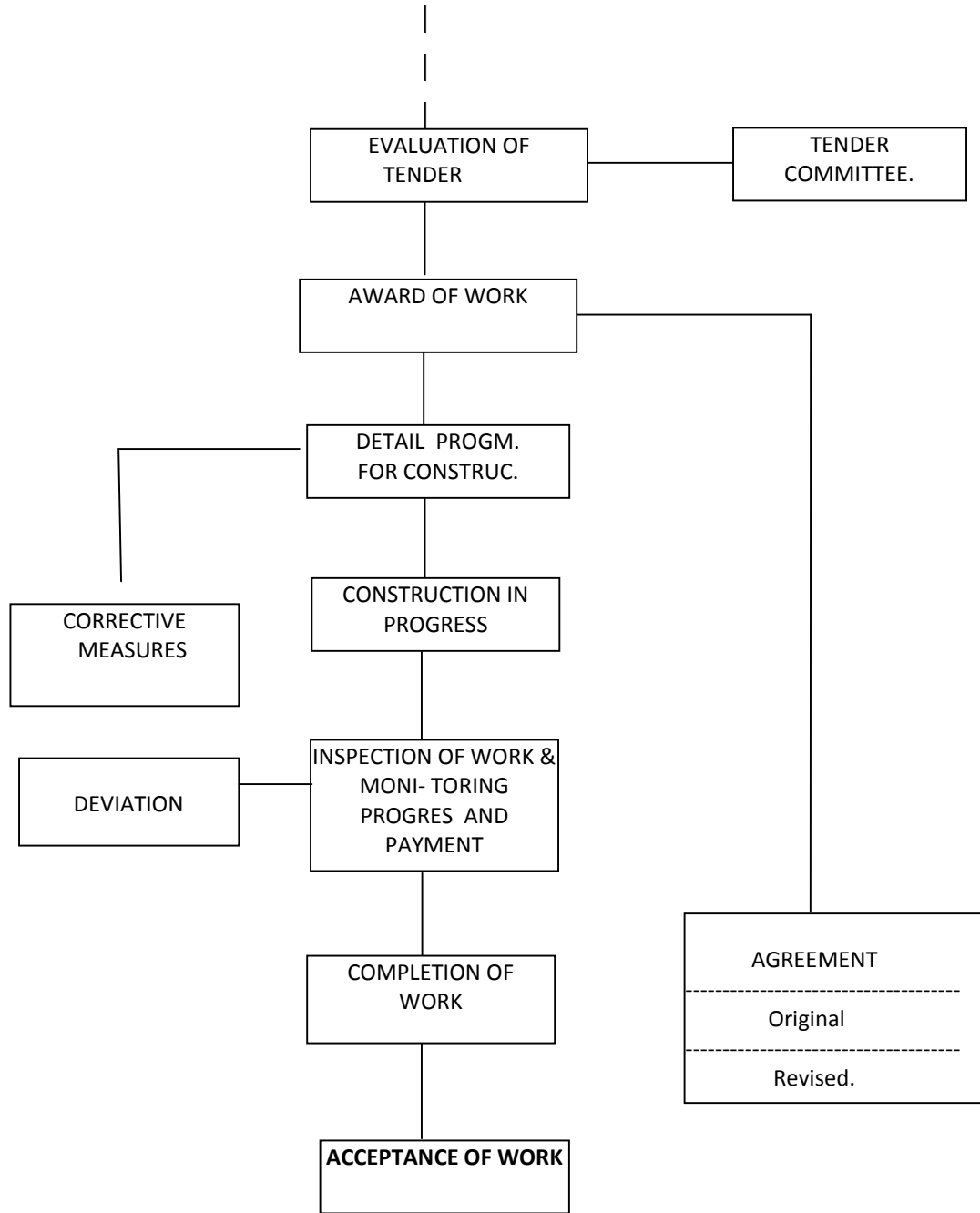
1.02.10 Acceptance of Works

After the works have been completed as per the drawings and specifications, the contractor informs the company and hands over all the assets to the custody of the Company. The Company issues a Defect Liability certificate to the contractor after inspection. The above are the sequence of stages for fruitful completion of Civil Engineering projects particularly for original works. The various stages described above are summarized in a system flow sheet showing the linkage of the various stages which are described in the Chapters that follow.

SYSTEM FLOW CHART.



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2. PREPARATION OF ESTIMATES

2.00 Before commencement of any work it is necessary that estimates are prepared for the purpose of obtaining technical sanction/ financial concurrence/ administrative approval. Estimates as already explained are of two kinds.

- i) Preliminary Estimates
- ii) Detailed Estimates

For preparation of estimates, CIL/subsidiaries may consider current CPWD DSR. For items not available in CPWD DSR, subsidiaries may consider current relevant State PWD Schedules for the relevant / nearest station or adopt rate based on analysis adopting current market rate of material and labour or consult earlier approved rate.

2.01 Preliminary Estimate

It is necessary to know the financial implication of a proposed work before it is taken up and so a preliminary estimate is prepared for the purpose based on a draft scheme of the proposed work. The preliminary estimate is the basis for seeking administrative approval and it is often prepared, considering present cost index, on the following basis:-

- a) Plinth area norms - for building works / workshop.
- b) Length of road - for road works.
- c) Past cost for similar works - for turnkey contracts.

Preliminary estimate shall be prepared on the basis of preliminary drawings. Such estimates shall appropriately indicate in the history sheet the broad items that are included or excluded in the estimate. Part estimate that may not result in total completion of the work / project should be avoided as far as possible.

Preliminary estimate shall be based on preliminary survey, site / soil investigation, site particulars and other site data. Such estimate shall be prepared in consultation with representatives of all the concerned disciplines incorporating their requirements and cost involved. Such estimate shall also include if appointment of Consultant or any other essential preliminary steps connected with the project is necessary before preparation of the detailed estimate for the proposed work.

Guidelines for making preliminary estimate are given at Appendix-I.

Before according administrative approval sanctioning authority must know:

- a) Approx. and feasible cost (of a building for example) on broad basis but with due regard to foundation and drainage problem, architectural and structural requirements, cost expected due to local special condition, special construction method and technique etc. which should be supported by a proper report.
Preliminary cost may be based on plinth area or length of road etc. Updation of plinth area rates shall be on building cost index for building works and cost index for other work.
- b) Approx. cost required for architecture and engineering and interior and landscape designs.
- c) Approx., cost of interior furnishing, electrical installations, meeting the requirements of Building Bye-laws of local bodies.
- d) For industrial structures 10% extra is to be added to the estimated cost derived on the basis of prevalent SOR.
- e) For underground works estimate is to be prepared on analysis based on wage board rates / circulated rates by the company for labour component, prevalent material cost and working conditions. In addition,

cost on account of lead and lift be also considered. Such structures shall be treated as industrial structure.

Provisions for Contingencies.

In every estimate, a provision of 3% shall be made for contingent expenditure, which will be controlled by GM/HoD(C) who will use this fund on meeting all urgent and miscellaneous items including temporary structures and purchase/ hiring of vehicles and other adjunct services required for effective supervision and control of the works. GM/HoD(C) can at his discretion delegate this power to the subordinate officer.

However, such contingency amount shall not be considered to arrive at justified rate.

2.02 Detailed Estimates for Original Works:

On receipt of administrative approval, expenditure sanction and confirmation about the likely availability of land the concerned executive officer shall decide on the package for the purpose of technical sanction. The concerned executive officer shall take up preparation of detail estimate and for this purpose he may rely on preliminary drawings.

In general the detailed site investigation and preparation of plans, designs and estimates for a work should not be taken up unless the administrative approval has been obtained or the work is included in the proposed budget.

The detail estimate should be complete and as comprehensive as possible. It should also take into consideration various services needed for the project and firm up detail specifications for various components of works involved. The detail estimate should contain necessary details in support of the lump sum provision made in the estimate and basis on which rates have been provided. This should also cover a brief note on the special construction difficulties, if any, which are likely to be encountered during the construction stage.

The detail estimate shall consist of a report as per Appendix - 2 , detail statement of measurement as per Appendix-3 and details of quantities and rates as per Appendix –4 with an abstract showing the total estimated cost of each sub head. In the case of a project consisting of several works, the report may be a single document for all the works, but details of measurement and abstract of cost may be prepared for each work supplemented by a general abstract bringing the whole together.

For preparation of the detailed estimates, the site investigation along with subsoil exploration, whenever required, is necessary for proper design of foundations and for arriving at realistic cost estimates to minimize changes during execution warranting revised estimates. The detailed estimates shall be prepared based on current available schedule of rates (SOR) as previously explained. For the items of work not covered by the SOR, analysis of the rates shall be prepared based on market rates of materials and labour and these are to be incorporated separately in the estimate.

All detailed estimates should consist of: -

- a) A report covering a brief description of the project and Budget Provision & Allocation (Appendix-2)
- b) Design and Drawings.
- c) Scope of Work
- d) Rates
- e) Detailed estimates of the quantities with detailed statement of measurements (Appendix-3)
- f) Analysis of rates for non-schedule items
- g) Abstract of cost indicating value of work based on SOR and analysed rates (Appendix-4)

- h) Method of execution
- i) Requirement of important materials, special T&P.
- j) Requirement of labour
- k) Availability of clear working site.
- l) Brief Specifications
- m) Deviation from approved/ standard norms & justification thereof, in regard to areas, specifications, amenities etc., if any.
- n) Soil report, wherever required
- o) Period of execution
- p) Detailed estimate shall include elements of Appendix-6 in order to ensure that no point has been left out at the time of planning.

Estimate for Road Work.

- (1) Projects for the construction of new roads must be accompanied by the following documents:
- i) Report, including a brief note on the proposed gradients.
 - ii) Abstract estimate of cost.
 - iii) Index map.
 - iv) A detailed survey and longitudinal section and cross section at suitable intervals, which should show not only the existing ground levels, but also proposed formation levels.
 - v) Quarry charts showing the various quarries from where road metal is proposed to be obtained.
 - vi) Drawings of all masonry, concrete, iron or timber works in the order in which they occur in the line of the road.
 - vii) Detailed estimate sheets.
- (2) Estimate for new lines of road should, if necessary, include the cost of all dwellings, if constructed, and inspection houses intended to be built along it for accommodation of subordinates and others.
- (3) Necessary provision should also be made for shifting of pipe line, drainage and electric poles and cables, telephone lines and other such structures, if any coming in the way of new alignment.

NOTE: Such estimates may be made based on current approved schedule of rates/State PWD Schedule or approved rates based on MORTH specifications / guidelines at the discretion of subsidiary. MORTH specifications / guidelines may be considered for important / major roads at the discretion of subsidiary / approving authority.

Deviation Estimate /Revised Estimate

When an excess beyond the sanctioned estimate is foreseen, and there is likely to be unavoidable delay in the preparation of a deviation estimate /revised estimate, an immediate report of the circumstances should be made to the authority whose sanction will ultimately be required. When a deviation estimate /revised estimate is submitted it must be accompanied by a statement as in Appendix-5, accompanying it with the latest existing sanction of the competent authority.

Deviation estimate represents any interim estimate, proposed for sanction, to take care of probable variations from the sanctioned estimate. Revised estimates are prepared after completion of work to arrive at the completion value for the awarded work.

2.02.1 Site Investigation:

Inadequate information about character and safe bearing capacity of the underlying soils in a chosen site frequently results in serious damage and distortion to even most elegantly conceived structure. Adequate collection of information on the nature of underlying soil therefore forms the core of site investigation.

Subsoil and hydrological investigation should be made to provide with the information for determining the proper type and most economical design of foundations. Complete facts about the subsoil conditions will be necessary for estimating and planning the construction procedure. Field investigations supplemented by laboratory investigations will give essential information.

The investigation should include one or more of the following steps:

- i) Reconnaissance of the site.
- ii) Geotechnical examination.
- iii) Subsoil exploration.

i) Reconnaissance of site:

The reconnaissance of the site is well done by walking on foot across the entire length and breadth of the site to have firsthand knowledge of surface features and ground conditions. The study should record the following:-

- * The soil cover and its visual characteristics e.g. sandy, silty, clayey etc.
- * Existing drainage pattern, swamps etc. and likely impact on the project.
- * Condition of structures already constructed and knowledge of their foundation.

ii) Geotechnical Examination:

For important structures a general knowledge of the geology of the region such as the character and formation of the strata, the fault and other disturbances should be studied. Coal bearing areas should be avoided for permanent construction as far as possible and under no circumstances permanent structures shall be taken up either over unstable old workings or in an area with further mining prospects. A clearance in this regard from the associated Mining Department should be ensured before final selection of site.

iii) Subsoil Exploration:

The scope for subsoil exploration is vast and needs the guidance of experts. In many areas of the coalfields, good foundation condition is available at reasonably shallow depths.

Hence for unimportant and lightly loaded structures elaborate subsoil exploration may be confined to:-

- * Test pits to examine various strata and their nature.
- * Assessment of bearing capacity by plate load tests, if required.

For important projects and heavily loaded structures of significant dimensions, detailed subsoil and hydrological exploration as per relevant BIS Codes should be conducted (Guidelines for soil investigations given at Appendix-7). Subsoil exploration reports prepared by specialist organizations must furnish complete information on characteristic of soil, safe and ultimate bearing capacity, settlement studies and type of foundation recommended for the kind of structures proposed. These information's will greatly remove uncertainties regarding design of foundations and the superstructure.

2.02.2 Planning & Design.

Along with detailed site investigation, Engineering and Architectural drawings in the forms of plans and sections shall be prepared to satisfy the functional requirements. The functional requirements should be decided on the use of a particular facility e.g. coal handling plants, workshops, welfare buildings etc. The system layout for different schemes shall be obtained from concerned disciplines. These system layouts should indicate the position and detailed dimension of equipment, load data details, spacing of holding down bolts etc. Detailed analysis for structural design (superstructure) shall be done on the basis of relevant BIS, IRC/MORTH and other codes.

Similarly relevant architectural codes should be followed for all industrial and civil structures. Design of foundation shall be done as per the actual subsoil and hydrological report. The type of construction to be adopted for Projects with a shorter life, which does not entail permanent construction, should be temporary in nature with a view to have a maximum possible salvage value on dismantling.

2.02.3 Drawings:

Drawings accompanying estimates should be legible and clear. This should be prepared in a manner so that drawings are easily readable to save time and efforts. Drawing should comply with the following requirements:-

- i) Scale and size of the drawings should be properly selected according to the object to be shown/ drawn. Too many objects should not be incorporated in one sheet so that it becomes clumsy. Size and writing of the figures and letters should be proper and clear.
- ii) Drawings should be made in standard sizes as per BIS codes and when more than one drawing is required for one work, all the sheets in one set of drawings should preferably be of same size for easy handling at site.
- iii) The note should be very clear and explicit leaving no chance for misunderstanding or ambiguity.
- iv) An arrow indicating north direction should be given for quick orientation of the drawing. Preferably the north direction should be towards the top of the sheet.
- v) Only standard symbols and abbreviations should be used.
- vi) Drawings should be duly authenticated and all subsequent revisions should be recorded.
- vii) Drawings should be numbered as per standard practice and documentation /recording should be done.

2.02.4 Specifications:

The specifications for different items of work are to be decided before the estimates are prepared and specifications are to be laid down with due regard to functional utility, safety, durability and aesthetics. The specifications, standard of construction and quality of materials depend on the type of structures, the life and the utility value. Richer the specifications, more is the estimated cost and therefore justifications for adopting richer specifications are to be laid down.

2.03 Sanction of Estimates and Method of Execution:

The estimates are to be processed from the unit level and upwards for the sanction of competent authority as

per the delegation of powers for sanctioning the estimates. However, GM/HoD(C)/SO(C) will decide the method of execution of the work by any one of the following methods:-

- i) Departmental execution.
- ii) By piecework arrangement.
- iii) By regular tenders (Open / Limited).
- iv) By direct negotiations.
- v) By item rate contract basis(annual or once in two years).
- vi) Cost plus fee basis.
- vii) By hired agencies.

i) Departmental Execution:

a) This is done when no contractors are available or where for other reasons, it is found essential and economical to do it departmentally by engaging departments own existing labour.

b) For departmental execution, a proper estimate shall be prepared and approved at competent level. This will contain:

- * A complete estimate as per approved SOR.
- * Break-up in terms of labour and material required.
- * Requirement of cash imprest for making local purchases and for disbursement to workers.
- * Cost of enabling works; hired services, stores, securities etc.
- * Engagement of piece rate contractors on labour rate basis. A labour rate schedule has to be prepared and approved for the purpose.
- * Provision of contingent expenses.

c) For such execution, a Project Manager will be delegated with full powers to operate the funds and procedures as approved.

d) The Project Managers will have power to dispose off all materials left over at site by any manner deemed fit as per the laid down procedures but with proper accounting.

e) The Project Manager will have power to hire necessary transport, and other construction equipment for effective execution of work.

ii) By Piecework Arrangement.

Under this method, the contractor merely agrees to execute a specified item at specified labour rates without reference to quantity; quantum of work and schedule of completion is fixed work wise. It is ordinarily confined to maintenance and revenue nature of works. Under this method, work is also executed through labour rate contract based on labour rates schedule of the company in which case materials for the work are supplied by the department. Labour rates schedule shall be worked out and updated from time to time for adoption in piece rate arrangement.

iii) By Regular Tender System.

This method is the one ordinarily adopted for award of work above Rs. 20000/-. The execution of work shall be in accordance with the specifications for a rate as accepted through tender and incorporated in the agreement/work order. Execution of work on regular tender system shall be adopted for works valued above Rs.20000/-, subjected to an annual limit of Rs. 200000/-, and is dealt in greater detail later.

iv) By Direct Negotiations.

Under special circumstances for emergency situation (Cl. 1.01.12), the work may be executed by direct negotiation without inviting tenders, with the registered contractors or working contractors, as the case may be, based on negotiated rates or prevailing market rates or proprietary item rates as per delegation of power. Direct negotiation may also be done with the parties having proprietary items.

v) By Item Rate /Percentage Rate Contract Basis (Maintenance Contract).

For revenue nature of works of any value, like white-washing, colour-washing, painting, repair of roads, replacement of doors and windows, sanitary items, cleaning, housekeeping, electrical items etc., and new minor works (new minor works are those whose estimated values are up to Rs. 5 lakhs) like addition/alteration to existing structures, extension of roads, small culverts, small pipe lines, repair of doors and windows, jungle cleaning and dressing etc. the following procedure shall be adopted:

a) Staff Officer (Civil) shall identify and obtain normal sanction from the competent authority for the estimated projections of these works, which are expected to come up in each colliery/unit in a year. He shall call for tenders by giving due publicity depending upon the projected value work as per the laid down norms.

b) The tenders received shall be finalized with reasonable rates and agencies shall be fixed accordingly before the financial year starts, preferably by January to undertake the works during the next financial year in different collieries/units. Such rates shall be valid for one/two years, as provided in the notice inviting bid, as per the decision of the GM/HoD(C)/Staff Officer (C)/Engineer in Charge.

c) The contractor/contractors thus fixed shall execute the works as per the requirement of department on separate contract for each work. Engineer-in-Charge (Civil) in the Colliery/Unit shall also operate such approved contract rates within his delegation of power of the Colliery In-charge/ Project In-charge.

d) The Maintenance Contract may be fixed for one year/two years at the discretion of GM/HoD(C) /S.O(C). Duration of shorter magnitude can also be considered by GM/HoD(C) / S.O(C), based on exigencies/ nature of work.

For regular maintenance contracts (covering materials as well as labour), having period of contract more than One year, provision of suitable escalation clause may be incorporated.

For maintenance contract having mainly labour component like sweeping, cleaning, gardening etc., the BOQ may be divided into two parts, labour and supply. Such contracts may also be for a period more than a year and labour escalation for the full component of work related to labour only may be allowed (as per normal escalation formula) when duration of the contract is more than one year.

Proper action in advance should be taken for award of maintenance contract so that extensions of existing contracts are avoided.

In case extension becomes unavoidable, the following be ensured:-

- I. Consent on acceptance of existing terms and conditions and additional period.
- II. Extension shall be for a limited period only.

vi) By cost plus fee basis.

The cost of construction will be reimbursable on the basis of actual expenditure or cost of material and labour used and a fixed percentage towards profit and the management services rendered.

The form of contract may be applicable for projects with new technology; railway sidings etc. and all works executed through Govt. agencies, like State P.W.D., Railways, RITES, IRCON, etc. who have necessary expertise for executing such works. In all such cases day to day supervision by department is limited. But regular monitoring of the progress is done to ensure timely completion of the work.

vii) Hired Agencies.

Normally it is the onus of CMPDI & its Regional Institutes to provide these services. But if in the opinion of the GM/HoD(C) of the Subsidiary, the work is urgent and CMPDI is not likely to meet the time schedule, he can place for consideration award the work to outside agencies with the approval of appropriate authority as per delegation of power.

Engagement of Private Architect / Consultant shall be resorted to only when the competent authority is satisfied about any of the following considerations:-

- (a) The deployment shall be economic.
- (b) Result into faster services due to urgent nature of work
- (c) CMPDI or its regional institutes are busy and burdening it with the work will result into delay
- (d) Special and outstanding nature of work requiring substantial exposure for such nature of work(s) in the past.

Appointment of private Architect / Consultant shall be need based and will be on the basis of invitation of bids.

A firm which has been engaged to provide goods or works for a project and any of its affiliates will be disqualified from providing consultancy services for the same project. Conversely, a firm hired to provide consultancy services for the preparation or implementation of a project, and any of its affiliates, will be disqualified from subsequently providing goods or works or services related to the initial assignment for the same project. Consultants or any of their affiliates will not be hired for any assignment, which by its nature, may conflict with another assignment of the consultant.

In absence of empanelled consultant firm, consultancy services required for Major Roads, Railway infrastructure, services for quality control for major roads may be taken up through RITES / IRCON / suitable agencies decided by CIL / subsidiary after approval from competent authority.

Consultancy work (such as proof checking of structural design or original structural design of typical or special structure, assignment of specialized job requiring analysis of structure and soil investigation and seeking expert advice can be assigned to IITs, NITs, Govt. Engineering Colleges and other Central / State Govt. Institutes without call of tenders with appropriate approval as per DoP. For Turnkey Works, proof checking of Structural Design/Soil Investigation etc. through IITs/NITs/Government Engineering Colleges may be made a part of Bidders responsibility at the discretion of the department.

viii) Emergent Works.

In emergent cases when nature of work so demands (Cl.1.01.12), the award of work without call of tenders up to Rs. 10 lakhs may be adopted. However, such award of work shall be with the approval of appropriate authority as per D.O.P.

2.04 Register of Estimates:

A register of estimates shall be maintained and the estimates processed shall be serially numbered year wise for easy linkage with status of sanction. The register of estimates shall be used for monitoring the stages in processing an estimate from tendering to award of work and also for revision of estimates. A pro-forma for maintaining the register is given at **Appendix-8**.

2.05 Time schedule for the work:

For major works, the estimate should be preferably accompanied by PERT or BAR CHART to indicate the time schedule for sanction, tendering, execution etc. for the said job. This analysis will form the basis for prescribing duration of construction in the NIT. Guidelines for schedule of contract period to be considered for different value of works are given at **Appendix-9** which should be followed as far as possible.

3. BUDGETARY CONTROL & MONITORING.

3.01 Annual Budget

The annual budget for the works shall be initiated from the Hqrs./Area/Projects/Units by identifying the work to be done. Provision is kept for the ongoing or spill over works (committed works) carried forward to the next year. The expenditure incurred for different works up to the end of the last financial year shall be compiled and the anticipated expenditure for the year of the action plan should be assessed and provision made in the budget.

New works to be taken up are identified at the time of preparation of annual plan against the sanctioned projects or existing mines or as the case may be as per the phased programme of construction indicated in the project reports. The approximate value of work is calculated from prevalent construction cost for the purpose of budgeting and provision is kept in the budget depending on the physical progress of construction and financial outlay required. The completion schedule and the value of the contracts shall form the basis for the formulation of budget.

Out of the total annual budget a maximum of 1%(one) may be provided for R & D activities related to Civil Engineering works which can be carried out either departmentally or through outside agencies in case the department does not have proper infrastructure/laboratory facilities. Fund for R&D will be spent on acquiring knowledge and introduction of new technologies in CIL's working. If the experiment does not succeed, no special sanction for writing off will be necessary.

The annual budget will contain a provision of 5% of the provision for new works in the subsequent year, for spending on preparatory works, such as survey and investigation, architecture and engineering etc. and other advance actions as necessary.

3.02 Budget Heads.

The budget for Civil Engineering works shall be compiled under the following heads of account:

A. CAPITAL BUDGET:

i) Land

ii) Building:

- a) Residential buildings.
- b) Non-residential buildings:
 - Welfare buildings.
 - Other buildings.

iii) Development:

- a) Mine development.
- b) Roads/Culverts & Colony development i.e. drains etc.
- c) Water supply, Sewerage disposal i.e. Treatment plants etc.
- d) Haul road.
- e) Rehabilitation work.
- f) Landscaping etc.
- g) Township electrification i.e. Street lighting etc.
- h) Research and Development activities.
- i) Expenditure on advance actions like survey investigation, architecture, town planning, design, engineering and documentation.
- j) Wages, salaries and other expenditure of engineers and people engaged

on construction, supervision of work of capital nature.

iv) **Civil works for Coal Handling Plants/Coal Preparation Plants/Workshops.**

v) **Railway sidings.**

B. REVENUE BUDGET:

- i. Maintenance of assets like residential/Non-residential/Industrial Buildings including Roads, other Services like Water Supply, Waste Treatment, Sewerage disposal, conservancy etc.
- ii. Wages, salaries and other expenditures of Engineers and people engaged on supervision of work of revenue nature.

3.02.1 Guidelines for Maintenance Cost of different works:

The following provisions for maintenance cost shall be kept in the annual revenue budget:

<u>Sl.No.</u>	<u>Items</u>	<u>Annual repair</u>	<u>Special Repair.</u>
i)	Type Qtrs. A,B,C D & Miners Qtrs.	1% of prevalent capital cost.	1/2% of prevalent capital cost per annum accumulated for 4 years.
ii)	Hospital/Canteen /Dispensary etc.	2.5% of prevalent capital cost.	1% of prevalent capital cost per annum accumulated for 4 years.
iii)	Industrial Buildings	1.5% of prevalent capital cost.	3/4% of prevalent capital cost per annum accumulated for 4 years.
iv)	Water supply	5% of prevalent capital cost.	2% of prevalent capital cost per annum accumulated for 4 years.
v)	Sewerage/ Drainage	1/2% of preva- lent capital cost	1/4% of prevalent capital cost per annum accumulated for 4 years.
vi)	Roads	1/2% of prevalent capital cost	1/4% of prevalent capital cost per annum accumulated for 4 years.

NOTE: For very old buildings constructed more than 25 years ago or affected due to mining activity, special fund allocation in addition to above, may be made considering the status of building.

3.02.2 Frequency of Different Maintenance Works

- i) Special Repair works like painting/ polishing of doors and windows, floor repairing etc. shall be done once in

every four years. General Repair & Maintenance works of Welfare Buildings like Hospital, Dispensary, School and Non-residential buildings like office, sub-station etc. shall be done once in a year.

General Repair works like white washing & colour washing of Residential and Non-Residential Buildings shall be done as under:-

Sl.	Particulars	Residential Building	Non-residential Building
1	White Washing / Colour Washing / dry distemper	1 year	1 year
2	Polishing wooden doors/windows, Painting with plaster paint, synthetic enamel paint, oil bound distemper, acrylic paint, acrylic distemper.	3 years	2 years
3	Painting external surface with water proofing cement paint.	3 years	2 years
4	Cleaning and disinfecting of water storage / distribution tanks.	6 months	6 months
5	Text mat or poly mat based equivalent synthetic silicon based exterior paint.	5 years	5 years

ii) Black topping including necessary major repairing works of Roads shall be done once in every four years.

iii) For every change in occupation of quarter, General Repair works like White Washing/ Distempering, Colour Washing & other minor repairing works etc. shall be done for which a separate provision upto 1/8% of prevalent capital cost of residential Bldgs. shall be kept in the revenue budget.

iv) Separate provision for annual maintenance and servicing of other installations like air Conditioners, Lifts, sub-station (electrical equipment) etc. shall be kept in the annual revenue budget of the department.

3.03 Manpower Budget.

While formulating project report, manpower requirement for execution and maintenance of the project shall be clearly spelt out.

3.03.1 In this regard following will be considered for Civil Engineering personnel.

GM, HoD(C)/GM (C)/ CM(C)/Sr. Manager(C) will be the Engineer-in-Charge of all Construction & Maintenance works in HQ & Area level The definition of Engineer-in-Charge will be as per Clause 5.02.1.The EIC is to be designated by the Competent Authority of the company.

Sr. Manager(C) / Manager (C)/ Dy. Manager(C)/ Asstt. Manager (C) will act as the In Charge of Work (to be nominated by the Engineer-in-Charge) for all works within their area of responsibility.

The above is subject to availability of proper supporting staff both at office and at field level with proper communication facility/ vehicle and administrative and financial power as mentioned the Clause defining the Engineer-in-Charge. (Clause.5.02.1)

3.03.2The manpower requirement of Civil Engineering personnel, technical and supervisory staff etc. for the office of the GM, HoD(C)/GM(C)/ CM(Civil) at the company HQ level and Staff Officer(Civil) / CM(C)/ Sr.

Manager(C) at Area level is to be considered under the overall corporate/ area level establishment. Separate establishment for monitoring and quality control of works shall be maintained at Hqrs. with direct reporting from individual projects/ areas.

3.03.3 For revenue/ maintenance nature of job the annual value of work including salaries of the departmental manpower and materials will be multiplied by 3 (three) for assessing manpower in terms of above modality.

3.04 Monitoring and Quality Assurance

3.04.1 Monitoring: It is an important tool of Management. Monitoring can be done effectively by preparing a detailed programme of work in the form of PERT Chart or BAR Chart of all the activities for completing the work. The programme of work is prepared with great care taking into account the field conditions in consultation with the Contractors and the Engineers. The schedule of monitoring is fixed and the physical progress of work and the financial expenditure are regularly monitored as per the time schedule. Monitoring is done weekly at the lowest level and monthly at the Project level.

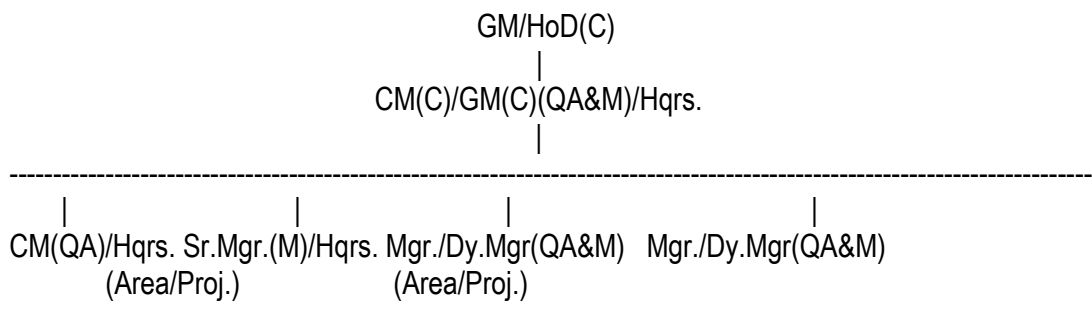
The programme shall be flexible enough to permit modifications to meet unknown contingencies that disturb the planned sequence of operations. Monitoring helps in making necessary adjustments to bring the programme back in line.

Systematic steps are taken to ensure the programme is followed as closely as possible to achieve the desired level of progress of work and this also ensures planned expenditure as per the budget. This has been discussed in detail in the relevant chapter.

3.04.2 Quality Assurance: Quality assurance encompasses all the measures that are necessary to achieve the quality of a product. Specifically for Civil Engineering construction it implies that there are standards of construction for all works, which must be achieved. Knowledge/ consciousness about quality is therefore the first prerequisite of quality assurance.

Bureau of Indian Standards (BIS) has extensively covered various aspects of Civil Engineering constructions which must be followed for quality assurance. To start with, specifications covering materials and workmanship should be clearly drawn and laid down as per BIS codes/ other scientific bodies engaged in standardization (like NBO, MORTH etc) Drawings should support the specifications in the form of notes, sketches etc. as far as practicable. Workmanship should be similarly covered to the possible extent in the form of acceptable limits of tolerance for any work.

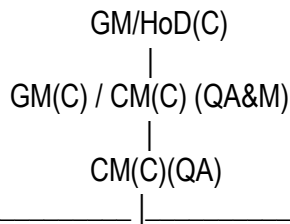
3.04.3 A typical organization structure for both monitoring and quality assurance works are given below :



- i) GM(C)/CM(C)(QA&M) Hqrs. shall report to GM/HoD(C) of the Company.
- ii) Necessary supporting staff shall be provided to above Managers

3.04.4 A Tree Chart of Quality Control set up with functions is given below:

a) Functioning of core cell at headquarters:



<u>Core Cell</u>		<u>Central laboratory</u>	
Manager(C)	- 2 nos	Mgr./ Dy. Mgr(C)	- 1 no.
Dy. Mgr(C)/Asstt Mgr(C)	- 2 nos	Asst. Mgr.(C)	- 2 nos.
Sub-ord Engr(C)/Engg.	- 2 nos	Sub-ord Engr(C)/Engg.	- 4 nos.
Asst/ Overseer		Asst/ Overseer	
LDC Typist	- 2 nos	LDC/Typist	- 1 no
Technician	- 1 no.	Technician	- 1 no.
Labour (Cat.I & II)	- 1 no.	Labour	- 1 no.
1. Inspection of works costing more than Rs.50 lakhs		1. Carrying out quality control test for works in Hqrs.	
2. Technical audit of works as above.		2. Carrying out special tests for quality control.	
3. Overseeing the quality control activities and providing necessary guidance.		3. Providing guidance in setting up and running the field laboratories.	

b) Function of quality control cell in Area/ Project

Manager(C) Dy.Manager(C)	
Asst Manager(C)/ Field Formation – MT(C)/Sr. Officer(C) Sub-ord Engr (C)/ Engg. Asstt(C)	Area/ Project/ field Laboratory Asstt. Manager(C)/ Lab. Technicians.
Function: Day to day quality control activity to be exercised by field formation.	Function : Routine quality control tests in the field

3.05 Mobility

For effective supervision of different works, timely fulfillment of Project completion and quality control, mobility is

the most important factor, without which work is bound to suffer. The Civil Engineering cadres in CPWD, State PWD and other Govt. Departments are always equipped with the departmental vehicles and the same practice should be followed in Coal India and its Subsidiaries.

It is therefore essential that the following norms will be followed in providing vehicles:

(A) Producing Subsidiary

- i) GM/HoD(C)/ GM(C) one car for his exclusive use.
- ii) GM(C)/ CM(C)/ Different Cells at HQ level one Car/Jeep
- iii) Town Engineering/Administration at HQ - one Car/Jeep
- iv) GM(C)/CM(C) - S.O(Civil) - one Car.
- v) Engineer-in-Charge(C)/ Project Officer(C)- one Jeep.
- vi) Asst. Mgr.(C)/Sr. Officer(Civil)- one Motor Cycle.

(B) CMPDIL (HQ) & RIs' of CMPDIL

- i) HQ - one Car This is required, as Engineers have to undertake frequent visits to mines & other offices.
- ii) RIs - one Car -do-

So far the cost of new vehicles and running of vehicles are concerned, the same may be met out of the provision of 3% as contingent to be kept in all the estimates.

In case of non-availability of vehicles, the GM/HoD(Civil)/ GM(Civil) will be empowered to hire vehicles depending upon the need based urgency.

3.06 Material Budget.

Subsidiary to decide on providing materials like Cement /Reinforcement Steel /Structural Steel / Pipes (CI/DI/GI) to contractors awarded work for their various projects / works. As per present practice, cement / reinforcement steel etc. are procured by contractors for the works awarded to them. However, in case such materials are supplied by department, advance procurement action is to be taken and in such situation the following be also undertaken:-

Like manpower budget, material budget should also form a part of annual budget proposals. The material budget should be carefully worked out for different items of works in the various civil works in the annual plans. In the material budget projection of requirement for cement and steel assumes the most significant part. The lead time required for building up inventory for steel is very high and the progress of works suffer for want of sufficient quantity of required sections of reinforcement or structural steel. Cement & Steel has since been decontrolled.

The plant and machinery required for the construction and maintenance of haul roads in annual plans shall be identified from Project reports and budgets for their procurement initiated well in time. With the thrust on mechanized construction and maintenance of haul road in open cast mines and also for better maintenance of link approach roads this needs special attention.

4. CONTRACTS, TENDER AND AWARD OF WORK

Definition of Contract.

- 1) When two or more persons have a common intention communicated to each other to create some obligation between them, there is said to be an agreement. An agreement which is enforceable by law is a "Contract".
- 2) According to Section 10 of the Indian Contract Act, 1872, only those agreements are enforceable by law which are made by the free consent of parties competent to contract, for a lawful consideration and with a lawful object, and are not expressly declared to be void. This is subject to any special law according to which a contract should be in writing and attested by witnesses.
- 3) The following are the essential ingredients of a contract –
 - a) Offer made by one person called the "Promisor".
 - b) Acceptance of an offer made by the other person called the "Promisee".
 - c) Doing of an act, or abstinence from doing a particular act by promisor for promise, that is called consideration.
 - d) The offer and acceptance should relate to something which is not prohibited by law.
 - e) Offer and acceptance constitute an agreement, which when enforceable by law, becomes a contract.
 - f) In order to make a valid and binding agreement, the party entering into such an agreement should be competent to make such agreement.
- 4) For the purpose of an agreement, there must be a communication of intention between the parties thereto. Hence in the forms of a contract there is :
 - a. A proposal.
 - b. Communication of acceptance of the proposal.
- 5) The communication of acceptance of the proposal completes the agreement. An offer may lapse for want of acceptance or be revoked before acceptance. Acceptance produces something that cannot be recalled or undone. A contract springs up as soon as the offer is accepted and imposes an obligation upon the person making the offer. It has been opined by the Ministry of Law that before communication of acceptance of an offer, the tenderer would be within his right to withdraw, alter and/or modify his tender before its acceptance, unless there is a specific promise to keep the offer open for a specific period, backed by a valid consideration.

4.00 Types of tender

While the competent authority sanctions the estimate, the Engineer in Charge will decide the method of execution of work. Generally civil works are executed on contract by inviting tenders for all works having estimated cost more than Rs.20000/-, (subject to an annual limit of Rs. 200000/-). In case of emergency works, directly affecting the production in the mines or involving safety of workmen, the requirement of open tenders can be relaxed and the work can be executed by direct negotiations with the working contractors or by call of limited tenders amongst the working contractors with the approval of the competent authority as per the delegation of powers. In case of limited tenders the tender notice is sent to limited number of contractors who are considered suitable for undertaking the job within the time frame set for the urgent works.

Such list of contractors be finalized on the basis of decided criteria which shall be brought to the notice of approving authority. Efforts should be made to have more number of quality participants.

Registration of contractors annually may be resorted to for such emergent and specialized works. It be ensured that all the listed contractors receive such notice. In case of large number of registered contractors, information through website publication may be resorted.

Press publication for emergency works can be avoided to save time. However, such notices should be sent to all eligible working contractors of the Area and also displayed in the notice boards.

Tenders are invited in any of the following forms:

- i) Turn-key Tenders
- ii) Lump sum Tenders
- iii) Limited Tenders / Restricted Tenders.
- iv) Open Tenders
- v) Short Tenders
- vi) Quotation Notice

4.00.1 Turnkey tenders

The intention behind turnkey contracts is to entrust the contractors with the entire responsibility of detailed investigation, planning, design, construction and commissioning of the total project. Turnkey tenders, following provisions of CMM, may be invited for specialized nature of work like design and construction of Water Treatment Plants, Sewage Treatment Plants, Effluent Treatment Plant, CHPs, Washeries, Workshops, etc.

A panel of contractors for such specialized nature of works may be maintained by the companies. These panels will be kept updated by advertisement at regular intervals.

Whenever a proposition emerges, these empanelled agencies or agencies of repute may be asked to propose their own technology and system for meeting the duty conditions required. The proposals prepared by the empanelled agencies, after due survey and investigation and appraisal of site conditions, shall be critically examined in their entirety and from those proposals, a firm scope of work for the selected/ frozen system would be developed and thrown for bidding amongst the empanelled/ pre-qualified agencies. The entire responsibility from concept to commissioning including design, construction, procurements, and installations shall be left to the contractor with least interference but with strong supervision from the company. The department before the execution of works approves the designs, drawings and specifications. For approving designs, department may take help of CMPDIL / suitable consultants/ Engineering colleges/ Government Departments as elaborated in clause 2.03 (vii).

For preparation of Turnkey contract documents, department may take help of CMPDIL / suitable consultants. Department may also on its own prepare Preliminary Bid Document related to turnkey contract. Based on such documents pre NIT discussion may be carried out after giving Notice in website. Preliminary Bid document is hosted in the website and discussion carried out with prospective bidders based on this document, on a date mentioned in the Notice. Thereafter scope of work, specification, technical parameters, terms of payment etc. are finalized. The Final bid document shall thereafter be prepared and bids invited.

Before submitting tenders, the tenderer shall have to satisfy themselves about the location of work, scope of work, technical parameters and actual quantity involved, which shall be the basis of offer. The contractor shall have no claim for any payment on account of deviation and variation in quantity of any item(s) or Components of the work unless they are authorized deviations from the parameters, drawings and Specifications contained in the

tender document.

The offer shall clearly specify the inclusions in and exclusions from the scope of the contract and the various stages of work, and the percentage of the contract value for each stage for release of intermediate and final payments.

4.00.2 Lump sum Tenders:

This form, as its name indicates, is used for work in which contractor is required to quote a lump-sum amount for completing the works in accordance with the given designs, drawings, specifications and functional requirements as the case may be. Lump-sum tender can be either –

- (i) For only executing the work as per design, drawing and specification given by the Department, or
- (ii) For executing the work including the element of doing design work and preparation of structural drawings as well, which shall be in keeping with the given functional, structural and architectural parameters, and subject to approval by the competent authority beforehand.

In case of former, the lump sum tender documents shall contain:

- i. the detailed architectural and structural drawings,
- ii. detailed specifications for the various items and components of the work,
- iii. Approximate schedule of quantities for the various items and components of the work. Such quantities are only limited for the purpose of assessing the quantum of work and is not meant for subsequent measurement and payment in the course of execution of work. Before submitting tenders, the tenderer shall have to satisfy themselves about the actual quantity involved, which shall be the basis of offer. The contractor shall have no claim for any payment on account of deviation and variation in quantity of any item(s) or components of the work unless they are authorized deviations from the parameters, drawings and specifications contained in the tender document.
- iv. the inclusions in and exclusions from the scope of the contract, if required, for better clarity, and,
- v. the various stages of work, and the percentage of the contract value for each stage for release of intermediate and final payments.

In case of latter, the lump sum tender document shall contain-

- i) all the Architectural and Structural data / parameters necessary to work out the cost.
- ii) details of functional requirement.
- iii) complete/ detailed specifications thereof including preliminary drawings.

A condition should be stipulated that the work shall be executed as per detail design and Architectural / Structural drawings to be prepared by the successful bidder conforming to the given parameters, specifications, technical requirements as mentioned in the tender document and submitted within specified time after the award of work. Contractor shall get such design drawings approved by the department before start of work. In case of any modification in course of execution, suitable adjustment for extra payment or recovery shall be effected only if such modifications result in change in scope of work or change from specified parameters.

Lump sum tenders may be adopted for Reservoirs, Pump Houses etc. and any other suitable structure decided by management / department.

4.00.3 Limited Tenders

In case the work is of a specialized nature/ urgent nature with strict time frame and stringent quality requirements, limited tenders amongst registered/ working contractors or known agencies of repute may be invited with the competent approval, depending upon the value of work as per delegation of power.

Limited tenders can be called in the following cases with prior approval of the competent authority as indicated above.

- i. The work is required to be executed with great speed.
- ii. Not all contractors are able to take up such work and ensure speedy completion.
- iii. The work is of special nature requiring specialized equipment, which is not likely to be available with all contractors.
- iv. Specialized work and all contractors are not in a position to take up such work like Interior Furnishing (Hard & soft), afforestation, Landscape, Lawn, Garden, Catering and House- keeping.
- v. Maintenance of very important buildings.
- vi. Works directly affecting production in the mines or involving safety of workmen.
- vii. Inauguration, foundation stone-laying and special occasions.
- viii. Other exigencies of the work so demand.

Such list of contractors be finalized on the basis of decided criteria which shall be brought to the notice of approving authority. Efforts should be made to have more number of quality participants.

In case registration system is in vogue, it be ensured that all registered contractors, of appropriate category, is informed. Information through website publication should be resorted to.

4.00.4 Open Tenders

This is the normal procedure of tendering where tenders are invited from the parties under a given set of terms & conditions, eligibility requirement covering their past experiences, present status, credibility and other conditions which may be included in the NIT for a particular tender depending upon the requirement of work. The minimum time for submission of tender and extent of publicity to be given are elaborated in the relevant clauses. Such tenders shall preferably be in two part system exceeding estimated value of Rs.2.0 lakhs. The details about two part system have been elaborated at Para 4.01.5.

4.00.5 Short Tenders

For smaller work of urgent nature, where compression of time is warranted, estimated value up to Rs.5 lakhs open short tenders may be invited. This type of tender notice is similar to open tender notice with the exception that the time of circulation can be reduced to a minimum of 7 days depending upon the urgency of the work. However, publicity by way of circulating notices as per Cl. 4.03.1(v) shall be ensured in such cases.

4.00.6 Quotation Notice

For smaller works of estimated value up to Rs. 2 lakhs, quotation notice may be floated. This will be similar to open tender notice. The interested parties are asked to collect the Quotation document (comprising of NIQ and BOQ) from the office of the tendering authority during the specified period of time and quote their rates duly signed with official seal. The period of circulation of such notice can vary from 5 to 10 days depending upon the value and urgency of work. Under emergency circumstances the circulation time may be further compressed, however, reasons for such compression may be recorded while taking final approval. Publicity by way of circulating notices as per Clause 4.03(v) may be resorted to in such cases. Such quotations shall be invited in

single part. However, the bidders must submit Earnest Money along with PAN details. The Notice Inviting Quotation (NIQ) shall be specially drafted incorporating measures of penalty in case of failure on the part of the Bidder to complete the work.

Work Orders for works finalized through quotation notice shall also incorporate salient provisions of General Conditions of Contract in addition to BOQ and Scope of Work to bind the contractor in respect of quantity of work and time in which the work is to be completed.

4.01 The rate for tenders can be invited in any of the following forms:

- a) Item rates.
- b) Percentage rates.
- c) Mixed rates (combination of Item & Percentage rate)
- d) Turn-key rates /Lump sum rates.

4.01.1 Item Rates

The item rate tenders are invited for haul road/ road works and other non-standard works like industrial building, office building, and development works, water supply, sanitary system etc. In these tenders, tenderers are required to quote the rates against each of the items of "Schedule of Quantities" and not as a percentage above or below the standard schedule of rates. Alternative "rate only" items should not be provided in the tender document. If at all any such change becomes unavoidable, after award of work, it is always safer to work out a rate for such an extra item according to the procedure laid down in the contract for extra items of work.

4.01.2 Percentage Rates

This form should be used in tenders for a work where the items of works constituting a major part of the estimated cost put to tender are based on department's approved schedule of rates.

The percentage rate tenders are invited for standard works like residential buildings or other standard modular construction units in which the schedule of quantities indicating item wise rates based on approved schedule of rates. The tenderers are required to quote percentage above or below the schedule attached to the tender. Maintenance works, where a major part of items (85%) are based on approved schedule of rates can also be taken up on percentage rate basis.

Where bulks of the items (85%) are not based on the department's approved schedule of rates, this form shall not normally be used.

4.01.3 Mixed Rates

This form should be used in tenders for a work where the items of works constituting a substantial part of the estimated cost put to tender are based on department's approved schedule of rates and a smaller part is beyond approved SOR.

Percentage rate shall be invited for the items based on department's approved schedule of rates and item rates shall be invited for the items beyond approved SOR.

4.01.4 Rates for Turn-key Tenders / Lump sum Tenders

The above type of rates are generally invited for specialized nature of works such as Water Treatment Plants, Sewage Treatment Plants, Coal Handling Plants, Washeries etc. where the entire responsibility of the work starting from detailed site investigation, planning, design, materials procurement, construction and commissioning are vested with the contractor. Normally rates offered for such tenders are lump sum with breakup of rates for various components and provision of stage payment.

Turn-key tenders shall preferably be under two / three part systems.

Lump-sum rate may be invited for Reservoirs, Pumping- units, Intake-well, or any other suitable structure based on departmental Design/ Drawing or on Bidder's Design/ Drawing

4.01.5 Tenders with Two /Three Part System.

This system involves pre-qualifying the parties before opening the financial bid. List of contractors satisfying the eligibility criteria and technical bid may be decided by tender committee and the final recommendations of the tender committee along with all intermediary recommendations may be sent for final approval of the competent authority.

Two Part System (Applicable for percentage rate/ Item rate/ Lump-sum rate)

Works for which technical specification and scope of work / BOQ is finalized and defined clearly in NIT, tenderers shall be required to submit the bids in two parts (2 Envelopes placed in one outer envelope).

Part – 1: i) Documents related to eligibility criteria.

ii)Details covering scope of work, technical specifications (if applicable).

Part- 2: Financial bid.

Part-1 of all tenders shall be opened first. Eligibility related documents shall be evaluated and parties qualified / disqualified. In case scope of work includes technical specifications to be furnished by bidders, matching tender requirement, the same shall also be evaluated and parties qualified /disqualified. Financial bid of qualified tenderers shall then be opened at notified time, date and place in presence of tenderers or their representatives. The validity of the bids shall be reckoned from the last date of submission of Bid.

Three Part System. (Applicable for Turnkey tender)

Works for which technical specification are finalized, the bidders shall be required to submit the bids in three parts (3 Envelopes placed in one outer envelope) in the following manner -

Part - 1 : Documents related to eligibility criteria.

Part- 2 : Technical bid.

Part- 3 : Financial bid.

Part-1 of all tenders shall be opened first. Technical bids of tenderers (Part-2), who satisfy the eligibility criteria, shall then be opened at notified time, date and place in presence of bidders or their representative. Thereafter, financial bid (Part-3) shall be opened in respect of bids, that satisfy the technical requirements/parameters. The validity of the tenders shall be reckoned from the last date of submission of bid. The financial bids shall be opened preferably within 60 days of the last date of receipt of tenders. For such system, bid validity may be kept as 180 days.

Preparation of document based on Pre- NIT discussion

Specialised works/ New works for which technical parameters are not finalized, Bid-document may be finalized after a round of pre- NIT discussion. For a successful pre-NIT Discussion, a provisional set of Bid documents, covering all aspects of Scope of work, eligibility-criteria, technical parameters and conditions of contract be prepared and hosted in the web-site.

The provisional bid document shall cover a notice for pre-NIT discussion on a suitable date. The notice shall request participation of interested bidders and offer comments/ suggestion for incorporation in the final document. Such comments / suggestions (on any/all aspect of the document) may be suitably incorporated, if found necessary, and final bid document be drafted. This final draft, after due approval shall be the final bid document

Bids be invited thereafter in 2/3-part system as per standard practice

Pre-bid Meeting.:

Notice inviting authority may decide to incorporate pre-bid meeting in the bid-notice. Non-attendance in the pre-bid meeting will not be a cause for disqualification of the bidder. This provision intends to clarify issues related to bid-document that may be raised by the bidders during the meeting. Relevant issues raised and clarification given may be hosted in the web-site without disclosing the name of the bidder.

If found necessary, an addendum (on technical specification) to the tender documents may be issued and displayed in the website. This shall be a part of the Bid-document. For specialized works, while inviting notice, the date of pre-bid meeting and last date of submission shall be suitably decided so that sufficient time is allowed to bidders to consider implications of addendum, if any, in their offer.

4.02 PREPARATORY WORKS FOR TENDERING.

Before bids for a work are invited, the scope of work, the detail estimate showing the quantities, rates and amounts of the various items of work, and also the specifications to be adopted, be prepared.

The estimated cost put to tender in NIT shall preferably be worked out based on approved schedule of rate, where major / most of the items belong to subsidiaries approved schedule of rate and analyzed rate / market rate for non-scheduled items. The estimated cost put to tender in NIT may also be based on other approved mode of estimation depending on nature of structures / works. Such estimated cost put to tender shall normally be duly approved.

Before approval of NIT, the following are desirable.

- i) Availability of clear site and funds.
- ii) Confirmation that materials to be issued to the contractor would be available.
- iii) Availability of structural drawings for the foundations.
- iv) Lay out plan for all services.

Preparation of Tender document.

The tender papers are the most vital documents for execution of work through outside agencies and discrepancies in tender documents may lead to serious repercussions in execution of the works. Tender documents should therefore be very carefully prepared with close scrutiny.

Tender documents of work comprising of the following should be prepared by technical cell and approved by GM, HoD(Civil) for Head Quarter works or SO(Civil) for Area works, for standard normal works. the document prepared shall be as per approved provisions of the manual.

- a) Notice Inviting Tenders
- b) Instructions to Bidders, Forms Of Bid and Qualification Information and Undertaking
- c) General, Special and additional Conditions of Contract (all or as applicable).
- d) Scope of Work including Technical Parameters (if applicable).
- e) Specifications.
- f) Schedule of Quantities of Work.
- g) Drawings, if any.
- h) Safety Code

- i) In case of issue of materials, declaration of issue rate of materials and its nomenclature.
- j) Standard formats like Bank Guarantee and Articles of Agreement etc.
- k) Integrity Pact (applicable for works with estimated cost more than Rs. 200 lakhs).

NOTE: However, in case there is deviation from the standard provisions of manual, special technical provisions and special commercial terms due to exigencies or specialized nature of work, approval for NIT shall be from the appropriate authority delegated with powers to award. In case approving authority is Board, CMD shall be the approving authority for the NIT / Bid.

The approved draft Tender Document is to be kept in safe custody. There shall not be any discrepancy between the approved copy and Tender document uploaded in the website.

4.02.1 Global Tender

For highly specialised/technical works where available technology is not adequate to meet the desired result, option for adopting Global tenders may be considered. This shall be only with appropriate approval. In addition to following normal procedure for works costing more than Rs. 50 lakhs such notices shall also be published in TRADE JOURNAL. The preferable time limit between date of notification and date of submission shall be about 4 to 6 weeks.

4.03 Publication of Notices Inviting Tenders.

4.03.1 PUBLICITY.

The extent of publicity to be given for any tendered work depends upon the nature and magnitude of the work. There is no point in giving state wide or national level publicity for small and medium sized works costing up to Rs.10 lakhs as only local contractors will be interested in such work. However, for works valued more than Rs.10 lakhs not only local but other contractors may also be interested in such works. Hence, it is essential that this should be given adequate publicity through the press. The norms are as under in absence of any alternative guidelines adopted by PRO's Department:

i) For works of estimated value more than Rs. 50 lakhs, the tender notices are to be published at least in one leading national newspaper from nearest one metropolitan city and at least one regional newspaper in the local language and one local newspaper from the town/city close to the area where the work is to be executed. In addition, the complete bid document along with NIT shall be published on the website of the company / Govt. Portal.

ii) For works of estimated value above Rs. 20 lakhs and up to Rs. 50 lakhs the tender notices should be published in at least one leading regional newspaper and one local newspaper. In addition, the complete bid document along with NIT shall be published on the website of the company / Govt. Portal.

iii) For the works of estimated value above Rs.10 lakhs and up to Rs. 20 lakhs it will be sufficient if the tender notices are published in one leading local newspaper published from nearest city or town. In addition, the complete bid document along with NIT shall be published on the website of the company / Govt. Portals.

iv) For works of estimated value above Rs. 2 lakhs but up to Rs. 10 lakhs, it will be sufficient if the tender notices are displayed in the notice board in the following manner :-

a) For Head Quarter Works – At Notice Boards of Head Quarter as well as at Area Offices.

b) For Area Works – At Notice Boards of all Area Offices as well as at Head Quarter

- and Unit Offices of the concerned Area.
- c) For Works at Unit – At Notice Boards of the concerned Unit as well as all the Units of Area and Notice Boards of all Areas.

The above may be modified based on standard decision of the subsidiary.

In addition, the complete bid document along with NIT shall be published on the website of the company / Govt. Portals.

v) For works of estimated value up to Rs. 2 lakhs for which quotation notices are invited, it will be sufficient if the quotation notice is displayed in the Notice Board in the following manner:-

- a) For Head Quarter Works – At Notice Boards of Head Quarter as well as at the Unit Office of Head Quarter, if any.
- b) For Area Works – At Notice Boards of Area Office as well as at the Notice Boards of all the Units under the Area.
- c) For Works at Unit – At Notice Boards of the concerned Unit, other Units of the concerned Area and Notice Boards of concerned Area Office.

The above may be modified based on standard decision of the subsidiary. Website publication is not mandatory. Where Website publication is resorted the complete Quotation Notice along with price part shall be hosted in the Website.

vi) The Bid Register (Appendix -10) shall be made available to the contractors for perusal during a fixed time (during office hours) on working days and also to higher authorities during their inspection.

Note: For publication of the NIT and Tender Documents in the company's Website, refer clause 4.04.4

4.03.2 ACTION IN CASE OF POOR RESPONSE TO TENDERS.

For normal work, in case numbers of sealed bids received are less than three in response to open tenders, the last date of submission should be extended by 48 hours without opening the bid(s). Notice of extension covering the extended availability and submission etc. should be hosted in the Website, preferably on the last date of submission or on the next day. Up to the extended date if the number of sealed bids received is three or more, bids so received shall be opened.

Up to the extended date, if numbers of sealed bid(s) received remains less than three, the extended date shall be further extended by 5 days without opening the bid(s). Notice of extension covering the extended availability and submission etc. should be hosted in the Website, preferably on the last date of submission or on the next date.

Bid(s) received up to the second extended date shall be opened irrespective of numbers.

However, in case of emergency, where a work is to be completed before a target date involving inauguration, VIP visit, celebration and also works involving safety of mines, safety of life and property etc., tender(s) received against first notification may be opened at the discretion of the approving authority.

ECONOMY IN PRESS ADVERTISEMENT.

The advertisement inserted in the press shall be in abridged form but clear in meaning. For economization, press advertisement shall cover reference to website publication. Further, combined tender notices may be issued for all the works to be tendered around the same time.

4.04 Availability of Tender Documents.

4.04.1 Tender Documents shall be downloaded by all aspiring bidders . Such down-loaded documents shall serve the purpose of bid-document and be submitted as a part of Bid. There is no 'application fee'.

NOTE: - For basic minimum Qualification Criteria refer part-II of MCEW covering Instruction To Bidders.

4.04.2

The tender document should be prepared and kept in the master file, before the document and notice is sent for displaying in the website. A copy of the downloaded document shall be maintained in the office. It shall also be ensured that there is no difference between the approved master copy and document displayed in the website. In case of any difference fresh notification shall be done. A register shall be maintained where all notices displayed shall be recorded.

4.04.3The following minimum time limits between the start date of download and the date of submission of tenders are laid down, but this period may be varied at the discretion of the SO(C)/GM/HoD(C).

- i) 5 to 10 days for quotation notice valued up to Rs.2.0 lakhs
- ii) 10(ten)days in case of work costing above Rs.2.0 lakhs but below Rs.10.0 lakhs.
- iii) 14 (fourteen) days in case of work costing between Rs. 10.0 lakhs to Rs.50.0 lakhs.
- iv) 21(twenty-one) days in case of work costing more than Rs.50.0 lakhs.
- iv) For urgent works costing up to Rs.5.0 lakhs not published in Newspapers, a minimum time of 7(seven) days may be kept between the date of call of tenders (start date of download) and the last date of submission of tenders at the discretion of SO(C)/GM/HoD(C).
- v) For specialized works involving technical specifications and where pre-bid meeting is essential involving technical parameters the time limit may be suitably fixed by the Notice Inviting Authority, to take care of addendum, if any.

Note: - Website publication be ensured before start date of download.

4.04.4The following system may be followed for publication of the NIT and Tender Documents in the Website/Govt. Portal. The system should be followed for all civil works of estimated value more than Rs.2 lakhs.

- i) In addition to the existing rules and practices regarding giving publicity of Bids through newspapers, the complete bid documents along with Notice Inviting Bid shall be published on the Website of the company and Govt. Portals.
- ii) The complete bid documents should be available on the website for the purpose of downloading and Bids shall be submitted on such downloaded bid documents.
- iii) The company must give its website address and address of Govt. Portals in the advertisement / NIT published in the newspapers.
- iv) The company shall not be responsible for any delay / difficulties / inaccessibility of the downloading facility for any reason whatsoever. The downloading facility shall be available up to the date as mentioned in the NIT.

- v) The bidders will be required to confirm in the undertaking that they will accept the Bid documents as available in the website and their Bid shall be rejected if any tampering in the Bid document is found to be done and detected at any time after opening of Bid or during pendency of the contract.
- vi) In case of any discrepancy between the Bid documents submitted by the bidder and the master copy downloaded from website and available in the office, the latter shall prevail and will be binding on the Bidders. No claim on this account will be entertained. Department shall ensure that there is no discrepancy between master copy and downloaded copy.

4.05 Application Fee – there is no application fee.

4.06 Earnest Money

According to practice in PSUs and Govt. department, Earnest Money is paid by each tenderer to enable the organization / department to ensure that a tenderer does not back out of its tender before its acceptance, or refuse to execute the work after it has been awarded to him. The earnest money is to be deposited in the acceptable form as mentioned hereafter.

The Earnest money for tenders should be 1% (one percent) of estimated value of work subject to a maximum of Rs.100lakhs.

Earnest money may be deposited in the form of irrevocable Bank Guarantee (from Scheduled Bank/) with validity up to in the prescribed format, where Earnest Money amount exceeds Rs.2,00,000/-. The BG issued by outstation bank shall be operative at its local branch at..... Or branch at Banker's Cheques and Demand Drafts will also be acceptable as Earnest Money/ Bid Security.

However, for work valued up to Rs.5 lakhs the earnest money may be deposited in cash (subject to a maximum Rupees of five thousand) or in the aforesaid form. The Earnest Money/ Bid Security shall bear no interest.

Earnest money received in the form of Banker's Cheques /Bank Draft shall be deposited to the associated Accounts Department. Earnest money to be refunded to the unsuccessful tenderers as per clause 4.06.4.

On receipt of Bank Guarantee, an independent reference shall be made to the issuing Bank for confirming the issue of BG. Such confirmation shall be obtained by associate finance of GM - for Area works or associate finance dealing with Civil department - for Head Quarter works. Such associate finance shall monitor validity of the BG and its timely renewal/encashment. The BG shall be kept under the custody of Area Accounts Deptt. - for works related to Area or associate finance dealing with Civil department - for Head Quarter works. Finance department shall inform GM(Civil),HoD/SO(Civil) before any action related to renewal/encashment.

In case where bid validity is mutually extended, earnest money deposited in the shape of Bank Guarantee by the bidder shall be extended suitably to cover such extension. The responsibility for seeking such extension shall be with the dealing officer dealing such tender.

Note:

Notice inviting tender shall specifically indicate requirement of BG validity i.e. date up to which BG submitted as Earnest Money shall remain valid.

Minimum validity period of BG shall be fixed in the Notice as under

If the last date of submission of bid, (first time) if any, is 31:03:2014, the validity of BG submitted shall be for minimum 120+90 days i.e. at least up to 26:10:2014. The notice should clearly spell that validity of bid shall be up to 26-10-2014.

However if the last date of submission of bid is up to 31:03:2014 which has been revised/extended to 15-04:2014 due to reasons other than non-availability of three bids, only bids submitted with validity of BG up to 10:11:2014 shall be considered as valid (considering 210 days from 15.04.2014). The notice shall clearly state that validity of bid is required up to 15-04-2014.

It is clarified that if, due to non-availability of three bids on 31:03:2014, bid submission has been extended up to 02:04:2014 and then again up to 07:04:2014, all bids submitted with validity of BG up to 26:10:2014 shall be considered as valid irrespective of its date of submission which may be up to 07:04:2014.

The above also explains the necessity for mentioning validity of BG in the Notice by the notice inviting authority. The above calculation is based on bid validity for e-tender.

4.06.1 Receipt of Tender.

Tenders will be received in two part system for works of estimated value above Rs.2.0 lakhs. Quotation notice up to Rs.2.0 lakhs shall be in single part system as deliberated at Clause 4.00.6.

4.06.2 Forfeiture of Earnest Money

According to prevalent standard practice Earnest Money is paid by each tenderer to enable the company to ensure that a tenderer does not refuse to execute the work after it has been awarded to him. In cases where the tenderer fails to submit performance security or to commence the work and continue, within one month of award of the work (where working site is available) or within one month of handing over site, whichever is later, the Earnest Money shall be forfeited to the company.

In case, where decision has been taken to forfeit earnest money of the tenderer for valid reasons, it is necessary to issue requisite notice to defaulting contractor. It shall also be ensured that earnest money submitted in the form of BG remains valid to effect encashment, if any.

In case of forfeiture of earnest money due to failure of the tenderer to commence the work within one month of award of work or one month after handing over of site, whichever is later, the bidder shall not be allowed to participate in the re-tendering process. In addition the bidder may be debarred for a minimum period of 12 (twelve) months for participating in future tenders with the subsidiary.

4.06.3 Exemption of Earnest Money

The tenders shall be treated valid when it carries requisite earnest money and the tenders without Earnest Money shall be rejected outright except in such cases where prior approval for exemption has been granted by CMD of the Subsidiary Company or Chairman, CIL.

4.06.4 Refund of Earnest Money

The Earnest Money/ Bid Security of the unsuccessful bidder shall become refundable. The unsuccessful bidder for this purpose means the bidders who have not qualified for opening of Part-II (Price Bid) and those who have not emerged as L-1 Tenderer after opening of Price Bid.

Earnest money should be refunded without waiting for any application or request from unsuccessful bidders.

The Earnest Money/ Bid Security deposited in the form of Bank Guarantee shall be discharged when the Bidder has signed the Agreement and furnished the required Performance Security. The bid security deposited in the form of Demand draft/ cash, may be adjusted against the security deposit, at bidder's option.

4.07 Security Deposit:

4.07.1 Security Deposit shall consist of two parts;

- a) Performance Security to be submitted at award of work and
 - b) Retention Money to be recovered from running bills.
- The security deposit shall bear no interest.

4.07.2 Performance Security should be 5% of contract amount and should be submitted within 28 days of issuance of LOA by the successful bidder in any of the form given below :

- a Bank Guarantee in the form given in the bid document from any Scheduled bank. The BG issued by outstation bank shall be operative at its local branch at or branch at.....
Bank Guarantee against Performance Security shall be applicable if the amount of Performance Security exceeds Rs. 5.0 lakhs.
- Govt. Securities, FDR or any other form of deposit stipulated by the owner and duly pledged in favour of owner.
- Demand Draft drawn in favour of Coalfields Ltd on any Scheduled Bank payable at its Branch at.....

The Earnest Money/ Bid Security deposited in the form of Bank Guarantee shall be discharged when the Bidder has signed the Agreement and furnished the required Performance Security/ 1st part of security deposit.

The bid security deposited in the form of Demand draft/ cash may be adjusted against the Performance security (1st part of security deposit) at bidder's option.

If performance security is provided by the successful bidder in the form of bank guarantee it shall be issued either –

- (a) at Bidder's option by a Scheduled Bank , or
- (b) by a foreign bank located in India and acceptable to the employer.

The validity of the Bank Guarantee shall be for a period of one year or ninety days beyond the period of contract /extended contract period (if any), whichever is more.

Failure of the successful bidder to comply with the requirement as above shall constitute sufficient ground for cancellation of the award of work and forfeiture of the bid security/ earnest money.

In addition to the above penal measures, the bidder will not be allowed to participate in the re-tendering process. The bidder may also be debarred from participating in future tenders in the subsidiary for a minimum period of 12 Months.

4.07.3 5% Performance Security should be refunded within 14 days of the issue of defect liability certificate (taking over certificate with a list of defects).

4.07.4 All running on account bills shall be paid at 95% (ninety five percent) of work value. The balance 5% shall be treated as retention money and will be second part of security deposit. .

Retention Money may be refunded against equivalent Bank Guarantee, on written request of the contractor, on its accumulation to a minimum amount of Rs 5 lakhs subject to the condition that amount of any Bank Guarantee except last one, shall not be less Rs. 5 lakhs.

However, Bank Guarantee against retention money shall be with suitable validity based on nature of work which shall be 90 days beyond the defect liability period, but in no case less than the period of one year.

Bank Guarantee is to be submitted in the format prescribed by the company. Bank Guarantee shall be irrevocable and will be from Scheduled Banks as elaborated at Cl.4.07.2.

4.07.5 Retention Money should be refunded after issue of No Defect Certificate.

4.07.6 The Company shall be at liberty to deduct/appropriate from the security deposit such sums as are due and payable by the contractor to the company as may be determined in terms of the contract, and the amount appropriated from the security deposit shall have to be restored by further deduction from the contractors subsequent on account running bills, if any.

4.07.7 REFUND OF SECURITY DEPOSIT: The refund of security deposit shall be subject to company's right to deduct/ appropriate its due against the contractor under this contract or under any other contract.

On completion of the entire work and issue of defect liability certificate (taking over certificate with a list of defects) by the Engineer-in-charge, one half of the security deposit remaining with the company (Performance Security) shall be refunded as elaborated at Cl. No.4.07.3.

The other half (Retention Money) shall be refunded to the contractor after issue of No Defect Certificate by the Engineer-in-Charge on the expiry of Defect Liability Period of six months , subject to the following conditions:

- a) Any defect/defects in the work, if detected after issue of defect liability certificate (Taking over certificate with list of defects) is/are rectified to the satisfaction of the Engineer-in-Charge within the said defect liability period of six months or on its due extension till completion of the rectification works as required.
- b) In the case of building work or other work of similar nature, the refund shall be made on the expiry of the said six months period or at the end of one full monsoon period i.e. June to September, whichever is later in point of time and any defects such as leakages in roof, effloresces in walls, dampness, defects in drainage etc. should be rectified to the satisfaction of Engineer-in-Charge.

NB: In case of Maintenance contracts, that ends with successful completion of work, where question of Defect Liability Period does not arise (e.g. sweeping / cleaning, horticulture, tank cleaning, jungle cutting, grass cutting, surface dressing etc.), the performance security and retention money (second part of bid security) may be released simultaneously after completion of work and taking over by department.

4.07.8 Additional performance security (applicable for item rate as well as percentage rate works):

Additional performance security shall be applicable if the bid price is below 15% of the justified price finalized by the owner. The amount of such additional performance security shall be the difference between 85% of the justified price finalized by the owner and quoted price.

Justified price shall be based on prevalent market rate of materials and labour, analysed as per standard analysis of rate of CPWD/ NBO, and shall be binding on the bidder.

Additional performance security shall be furnished by bidder along with normal performance security. Failure to submit such additional performance security may result into termination of the contract.

This additional performance security will not carry any interest and shall be released in the following manner:

- i) 30% of Additional performance security will be released after 60% of the total work is completed.
- ii) 50% of Additional performance security will be released after 80% of the total work is completed.
- iii) 100% of Additional performance security will be released after total work is completed.

Additional performance security may be furnished in the shape of BG or any of the forms as applicable for performance security.

4.07.9 Refund of Security Deposit regarding Specialized Item of Works (shall be applicable only when relevant item exists in the contract and shall be for 10% of value of such items in the contract or for 10% of value of the contract with such specialized items only) shall be as under :

a) For some specialized items of work such as anti-termite treatment, waterproofing work, kiln seasoned and chemically treated wooden shutters, or any other item of work deemed as such 'specialized' by Engineer-in-Charge that are entrusted to specialized firms or contractors who associate specialized agencies, the contractor / firm executing the work should be asked to give a specific guarantee that they shall be responsible for removal of any defects cropping up in these works executed by them during the guarantee period. The form of the guarantee to be executed by the contractors shall be as enclosed.

b) 10% security deposit (performance security and retention money), deposited / deducted from the bills of the contractors, relevant to the items, shall be refunded to him after expiry of Guarantee period. The security deposit amount, relevant to the item(s) of work, may be released after 12 months of completion of work against equivalent BG and furnishing Guarantee as at (a) above.

4.07.10 Refund of security deposit for contracts with supply installation and commissioning of equipment i.e. with Mechanical & Electrical Works (shall be applicable only when relevant item exists in the contract)

For some specialized contracts like Pump house, Intake well etc. there may be Civil works as well as Mechanical and Electrical works. For such works 10% as security deposit (performance security and retention money)- deposited / deducted from the bills of the contractors shall be refunded to him after expiry of guarantee period, which will be one year from the date of commissioning of equipment/ completion of work and/or rectification of any defect which may be detected in the individual equipment for the whole system under the contract, whichever is later.

In addition, all types of manufacturers guarantee/warranty wherever applicable are to be issued/ revalidated in the name of the owner by the contractual agency and will be covered with relevant counter guarantee. Bank guarantees furnished against Performance Security and Retention Money shall be validated for a period 90 days beyond the guarantee period.

CLARIFICATION.

(1) Bank Guarantee is to be submitted in the standard prescribed form. Bank Guarantee issued by outstation Bank shall be operative at a local branch/ branch located at a city decided by subsidiary. If it is decided not to accept any bank guarantees from a particular Bank, it may also be mentioned in the Bid document. All foreign Banks' guarantee will be confirmed by a Bank located in India and acceptable to the company. It will stipulate that the Bank guarantee must be unconditional and should be encashable on presentation to the issuing Bank.

(2) If performance security deposit / retention money is submitted in the form of FDR or any other form of deposit stipulated by the company on Scheduled Indian Banks the following should be followed:-

a. The deposit shall be made in the name of pledgee, or, if it is made out in the name of pledger, the Bank shall certify on it that the deposit can be withdrawn only on the demand, or with the sanction of the pledgee. The Bank shall agree that on receiving a withdrawal order from the pledgee in respect of the deposit, or any part thereof, it will at once remit the amount to the pledgee. The depositor shall agree to undertake any risk involved in the investment, and make good the depreciation, if any. The depositor shall receive interest, when due, direct from the Bank on a letter from the pledgee authorizing the Bank to pay it to him. The responsibility of pledgee with the deposit and interest on it will cease when he sends intimation to the Bank / Depositor about its release.

b. Fixed Deposit receipt should be accepted as security even if it does not cover the stipulated period / extended period of completion including defect liability period.

(4) Retention Money can be released against Bank Guarantee on its accumulation to a minimum amount of Rs. 5 lakhs subject to the condition that amount of any Bank Guarantee except last one, shall not be less than Rs. 5 lakhs.

In case where agreements are not required to be executed, performance security deposit should be deposited within the period mentioned in the work order/ LOA.

4.08 Execution of Agreement/Work Order.

4.08.1 As soon as possible after the acceptance of a tender and award of work, the successful tenderer is called upon to furnish the required security deposit and to execute a formal agreement. Standard documents along with work order only form part of the contract agreement. Important points of the correspondences with the contractor should be reflected in the work order / contract agreement.

Only work order is issued to the contractor for works valued up to Rs.10 lakhs. It is not necessary to execute agreements in such cases. Properly drafted work orders covering important aspects of general terms and conditions shall be issued so as to bind the contractor to complete the work within the stipulated time. Such work order shall also include Bill of Quantity and Terms & Conditions. Contractor shall sign in all pages and return a copy of such work order as a token of his acceptance which be kept under proper custody for future record. A draft pro forma is placed at Volume-2 which may be consulted for reference. Necessary additions, for improvement, to suit site specific conditions, type of work etc. may be incorporated.

4.08.2 A formal agreement is executed on a non-judicial stamp paper of appropriate value for contracts more than Rs.10 lakhs. The agreement and the work orders shall be thoroughly scrutinized with reference to the following:

i) That the agreement is signed by the contractor himself or a person holding the power of attorney to sign the agreement.

ii) Any alteration to the standard form may result in legal complications. No officer should accept unauthorized alterations to the standard printed contract form. The primary responsibility for issuing amendments to the contract will always rest with the authority who has originally approved the contract though for administrative reasons, he may delegate the powers of issuing amendments to his subordinate authorities subject to the delegation of financial power rules of the company. The subordinate authority will keep the superior authority informed in writing whenever such amendments are issued. At the time of closing the contract, the authority who had originally approved the contract must satisfy itself that the amendments issued by the

subordinate authority are in order. He may, if required, evolve his own control systems to see that the contracts approved by him are being executed properly.

iii) That the terms of the agreement/work orders are precise and definite without any ambiguity or misconception/wrongful words.

iv) Whether there are provisions in the contract for making available land for construction of temporary structure, allotment of company's buildings, supply of electricity, supply of water, supply of equipment etc. for the execution of the contract. If so, whether clear stipulations have been made for the recovery of the cost thereof.

v) The provision has been made for recovery of all statutory dues wherever applicable, sales tax on works contracts and other taxes and duties.

vi) All decisions taken by correspondence with the contractor shall form part of the agreement and shall be duly incorporated.

vii) That the quantities stipulated in the agreement are in accordance with those shown in the tender document.

viii) That the rates and the amounts in the agreement/work order are in accordance with the accepted tender.

ix) That the dates of commencement and completion of the work have been clearly specified.

x) Whether there is any provision in the tender/work order/agreement for issue of materials to the contractor. If so, whether the rates of recovery have been clearly specified.

xi) That the contractor has submitted a labour license under Contract Labour (Regulation & Abolition) Act 1970 and rules 1971.

xii) The Clause for "Compensation for Delay" in execution of works is included.

xiii) The agreement includes provision of adequate technical supervision and quality assurance by the contractor.

xiv) The agreement includes undertaking on behalf of the contractor to provide reasonably clean and hygienic habitation to the staff/labourer on roll of the contractor.

xv) The common defects to be taken care of regarding agreement:

- a) The original offer by the contractor is kept in a correspondence file that is freely approachable.
- b) Pages of agreement are not numbered serially. Page numbering is necessary to ensure that no unauthorized deletions or additions are made.
- c) The condition of contract many times call for submission of drawings for prior approval. This is not enforced.
- d) Acceptance letter as well as letters which contain important deviations from the contract conditions but which have been agreed to during negotiation /clarification are not attached to the agreement.

xvi) The contractor indemnifies the Company against any liability arising out of non-observance of the statutory provisions like royalty payments, all taxes, workmen compensation act, minimum wages act, income tax act, contract labour & abolition act etc.

Performance security and stamp paper for execution of agreement shall be submitted within 28 days of issue of LOA (or as mentioned in the LOA) and agreement executed within 30 days of issue of LOA. When contractor starts the work and continues with it, as specified in the LOA, the department [GM(C) / Staff Officer(C)], on the written request of the contractor, may extend up to 30 days period of execution of agreement. Any extension thereafter shall be with the approval of concerned Director when the work is awarded from Hd. Qtr. with the approval of Director or higher authority and GM, Area when the work is awarded with the approval of GM, Area.

4.08.3 Power to Sign Agreement.

The power to sign agreement on behalf of the company in respect of Civil Engineering Works only will be as follows subject to the condition that this power can be exercised only after the tender has been accepted by the competent authority to approve such award & work order issued.

- a) For works tendered from Area – Staff Officer (Civil), Area.
- b) For works tendered from Head Quarter – GM/HoD(Civil).

NOTE:- Work order, after approval of award, shall be issued by Staff Officer (Civil), Area or his nominated officer, for works tendered from area, and by GM/HoD(Civil) or his nominated officer for works tendered from Head Quarter.

4.08.4 Supply of copies of Contract Document to the contractor.

Two sets of contract documents/agreements should be prepared and signed by both the parties. One of the sets should be stamped "Original" and the other "Duplicate". The duplicate copy should be supplied to the contractor free of cost and the original is to be retained by the dept.

In case of voluminous documents, photocopy of the original documents (duly signed by both the parties) may be considered as duplicate copy. However, such documents shall be certified by the officer signing the agreement on behalf of the company as duplicate. A number of additional certified copies be also prepared for distribution.

For any additional copies required by the contractors the price to be charged should be decided by CIL/Subsidiary. Only true copies of agreements should be utilized for the use of accounts and other departments.

4.08.5 Certification & Safe Custody of Agreements:

The original contract documents/agreements should be kept in the personal custody of the Engineer-in-Charge or Head of the contracts Department or a person authorized by Engineer-in- Charge

Certified copies of the agreements should be furnished to the authority accepting the tender by the Engineer-in-Charge. On receipt of the certified copy of the agreement the tender accepting authority or his authorized representative should ensure that the agreement is in accordance with the accepted tender.

A certified copy of the agreement will be forwarded to the concerned Accounts Officer by the Engineer-in-Charge. A Certified copy of the agreement should be given to the concerned executive officer responsible for day-to-day supervision and effective control of the work.

The Engineer-in-Charge or the authority empowered to sign the agreement on behalf of the company should certify each copy including the duplicate copy of an agreement as "True Copy" and should put their full signature as a token of such certification.

4.09 Failure to Execute Agreement:

Failure on the part of the successful bidder to execute the agreement as provided therein, within the reasonable time after starting of work, will hamper the work, as no payment shall be made without an agreement. It is incumbent upon the contractor to provide all the documents for preparation of the agreement within 28(twenty eight) days of issue of letter of acceptance of tender so that the agreement is executed within 30(thirty) days of letter of acceptance of tender. However, in case of delay in handing over of site, this period may be suitably extended at the discretion of the Agreement Executing Authority. In case the contractor fails to execute the agreement and/or commences the work within the time specified/ allowed for the same, the work order issued to the contractor might be cancelled forfeiting the Earnest Money. For works of shorter duration, tender inviting authority may allow a shorter period for execution of agreement, which be mentioned in the bid document.

4.10 Validity of the Bid.

The validity of the Bid shall be 150days from the last date of submission of bid. The Part -2 (Price Bid) of a Tender should be opened within a stipulated time limit from the date of opening of Part-1, preferably within 30 days. For big value works of estimated cost of over Rs.5 Crores or specialized / Turnkey works, the above validity may be fixed at 180 days.

Note: Bid Validity for e-tender system is 120 days.

4.11 Procedure for Submission of Bid.

Bid shall be submitted on the specified date(s) and up to _____(time of submission of bid as per NIT).

4.11.1 Single Part System. (Item rate / Percentage rate quotation with BOQ)

Single Part System should be followed for quotation purpose for works as deliberated under clause 4.00.6. In Single Part system (value up to Rs. 2 lakhs) bid shall be submitted in the following manner:-

First Envelope shall contain the following-

- a) The earnest money,
- b) PAN details

Second Envelope shall contain the following:

- a) Bid document duly signed and BOQ duly filled in.

These two envelopes shall be placed in another Envelope and submitted by the bidder. The cover- envelope shall indicate the name of the work, name of the bidder along with the address, reference Tender Notice No. The second envelope shall be opened only if Earnest Money and PAN details are properly submitted.

4.11.2 Two Part System. (Normal item rate / Percentage rate/ Lump-sum rate tender)

Two Part System should be followed for tendering purpose for works as deliberated under clause 4.01.5

Normal Tenders (without any special technical parameter) under two part system shall be contained in two separate envelopes as detailed hereafter:

In Two Part system bid shall be submitted in the following manner:-

The first envelope (Part I) of the bid shall contain the following:-

- a) The Earnest Money in the shape as mentioned in the NIT.
- b) Papers related to fulfillment of Qualification Criteria of the Bid along with copies of all Credentials/ Certificates related to the qualification criteria of the bidder as specified in the document, undertaking, contractor's bid and Integrity pact if applicable.
- c) The bid document downloaded from website (excluding the price bid).

All the above documents shall be duly signed by authorized signatory of the bidder on all pages as a proof of accepting the conditions of the contract and also authentication of the document submitted.

However, in addition to above particulars any other documents may be asked for in Part-1 if felt necessary by the authority calling the tenders. Part-I bid submitted by the bidder shall be treated as valid only when Earnest Money as required as per NIT is submitted.

Second Envelope - Part-II.

Part-II of the Bid i.e. Price Bid comprising of Priced Bill of Quantities duly signed.

Both the two Envelopes shall be placed in another Envelope, sealed and submitted by the Bidder. The cover envelope shall indicate the name of the work, name of the bidder along with the address, reference Tender Notice No.

Part-II shall be opened in respect of the bidders only, whose qualification information matches NIT requirement.

4.11.3 For Turnkey Works :

Such tenders may be dealt as per provisions of CMM

4.11.4 Submission of UNDERTAKING by the Bidders in the following format.

(Ref. Clause- 3.2 of ITB)

Format for UNDERTAKING:

On the letter head of the company by the bidder or authorised officer having power of attorney to sign on behalf of the bidder

UNDERTAKING.

I / We,, Proprietor/Partner/Legal Attorney/Director/
Accredited Representative of M/S., solemnly declare that:

1. I/We am/are submitting Bid for the work.....against Bid Notice No. Dated..... and I/we offer to execute the work in accordance with all the terms, conditions and provisions of the bid.
2. Myself/Our Partners/Directors don't has/have any relative as employee of..... (Name of the Company)
3. All information furnished by us in respect of fulfillment of eligibility criteria and qualification information of this Bid is complete, correct and true.
4. All copy of documents, credentials and documents submitted along with this Bid are genuine, authentic, true and valid.
5. I/ We hereby authorize department to seek references / clarifications from our Bankers.
6. *I/We have submitted particulars of existing Sales Tax / VAT registration. I/We also undertake that Certificate of Registration with appropriate Sales Tax / VAT Authority where the work will be executed shall be arranged before any payment is made to me/us.
7. I/We hereby undertake that I/we shall register and obtain license from the competent authority under the contract labour (Regulation & Abolition Act) as relevant, if applicable.
8. *I/We hereby confirm that I/we have registration with CMPF / EPF Authorities. I/We shall make necessary payments as required under law.

Or

*I/We hereby undertake that I/we shall take appropriate steps for registration as relevant under CMPF / EPF authorities, if applicable. I/We shall make necessary payments as required under law.

* Delete whichever is not applicable.

9. ** I/We have not been banned or delisted by any Govt., or Quasi Govt. Agencies or PSUs.
(In case of JV, all partners are covered)

Or

**I / Wehave been banned by the organization named “ _____ ” for a period
of..... year/s, effective from to.....

[in case of JV, name(s) of the JV Partner(s)]

** Delete whichever is not applicable.

10. I / We hereby declare that I shall/we will accept the Bid documents as available in the website and our Bid shall be rejected if any tampering in the Bid document is found to be detected at the time of opening of Bid or at any time thereafter and in such case department shall be free to take appropriate action as it deems fit.

In case of missing pages, I shall / We will abide by the terms and conditions etc. of the original Bid document as hoisted in the website of the company.

11. If any information and document submitted is found to be false/ incorrect at any time, department may cancel my/our Bid and action as deemed fit may be taken against me/us, including termination of the contract, forfeiture of all dues including Earnest Money and banning/ delisting of our firm and all partners of the firm etc.

Signature of the Bidder
In case of JV signature of all partners of JV

Dated.....

4.11.5 Submission of Contractor's Bid by the Bidders in the following format.

CONTRACTOR'S BID AND ACCEPTANCE OF BID CONDITIONS

On the letter head of the company by the Bidder or authorized officer having power of attorney to sign on behalf of the bidder

To :

Sub : BID for the Work _____

Ref: Bid Notice No

Dear Sir,

This has reference to above referred tender. I/we have read and examined the conditions of contract, Scope of work, technical specifications, BOQ and other documents carefully.

I /We am/are pleased to submit my/our bid for the above work. I/We hereby unconditionally accept the tender conditions and tender documents in its entirety for the above work and agree to abide by and fulfill all terms and conditions and specifications as contained in the bid document.

I/we here by submit all the documents as required to meet the eligibility criteria as per provision of the bid notice/document.

I/We hereby confirm that this bid complies with the Bid validity, Bid security and other documents as required by the Bidding documents.

If any information furnished by me/us towards eligibility criteria of this tender is found to be incorrect at any time, penal action as deemed fit may be taken against me/us for which I/We shall have no claim against CIL/Subsidiary.

Until a formal agreement is prepared and executed, this bid and your subsequent Letter of Acceptance/ Work Order shall constitute a binding contract between us and.....coalfields ltd.

Should this bid be accepted, I/we agree to furnish Performance Security within 28 days of issue of letter of acceptance and commence the work within 30 days of issue of letter of acceptance. In case of our failure to abide by the said provision.....Coalfield Ltd. shall, without prejudice to any other right or remedy, be at liberty to cancel the letter of acceptance/ award and to forfeit the Earnest Money and also debar us from participating future tenders for a period of minimum 12 months.

Yours faithfully,

Signature of Bidder OR Authorized signatory
In case of JV all partners of JV

Encl. i) Earnest Money of Rs..... vide Dated
ii)

4.12 Call of Tenders/Constitution of Tender Committee.

4.12.1 As soon as the tender notices are issued for publication, the authority inviting the tenders initiates proposal for constitution of the tender committee. Approval of the competent authority who has powers to approve the award of work is obtained for constitution of the tender committee. In case Board is the approving authority, approval of CMD shall be taken. The constitution of the tender committee for different values of work may broadly be on the following lines (need based modifications can be done):

(I) For Estimated Value of work, the award of which requires the approval of the Board of the subsidiary company/CIL.

- i) D(T)P&P/Director under whom the department operates, of the subsidiary - Chairman
 - ii) GM/HoD(C) of the subsidiary - Member
 - iii) GM(F) of the subsidiary - -do-
 - iv) GM/HoD(Plg/ Proj.) of the subsidiary (For Head Quarter works only), - -do-
- OR
- GM, Area of the subsidiary (For works related to Area only),
- OR-
- GM(HOD) of concerned Technical department, as applicable

(II) For Estimated Value of work, the award of which requires the approval of Director/ CMD of the subsidiary company.

(a) For estimated value of work more than Rs. 100 lakhs.

- i) GM/HoD(C) of the Subsidiary - Chairman
 - ii) GM (F) of the Subsidiary - Member
 - iii) GM/HoD(Plg./ Proj.) of the subsidiary(for works related to Hd. Qtrs - -do-
- OR
- GM, Area of the subsidiary (For works related to Area only),
- OR
- GM(HOD) of concerned technical department, as applicable.

(b) For estimated value of work more than Rs. 30 lakhs and upto Rs. 100 lakhs:-

For Company HQ:

- i) GM(Civil) / CM(C) nominated by GM/HoD(C) - Chairman
- ii) Representative of GM/HoD(F) - Member
- iii) Representative of GM/HoD(Plg./ Proj)/ GM. HoD-(CTD) - -do-

For Area works - Tendered from Headquarter

- i) Representative of GM/HoD(C) - Chairman
- ii) Representative of GM/HoD(F) - Member
- iii) Representative of Area G.M) - -do-

(c) For estimated value of work below Rs. 30 lakhsFor Company HQ:

- | | |
|----------------------------------------------------------------------|------------|
| i) CM(C) / Sr. Manager(Civil)/Mgr.(Civil) nominated by GM/HoD(Civil) | - Chairman |
| ii) Representative of GM/HoD(F) | - Member |
| iii) Representative of GM/HoD(Plg./ Proj)/GM.HoD-(CTD) | - -do- |

(III) For Estimated Value of work, the award of which requires the approval of GM/HoD(Civil).**a) for all values of work**

- | | |
|-----------------------------------------------------------|------------|
| i) CM(C) / Sr. Manager(Civil)/Mgr.(Civil)- | - Chairman |
| ii) Representative of GM/HoD(F) | - Member |
| iii) Representative of GM/HoD(Plg./ Proj.) OR GM/HoD -CTD | - -do- |

(IV) For Estimated Value of work, the award of which requires the approval of GM of the Area.**a) For Estimated Value of work valued more than Rs. 30 lakhs:-**

- | | |
|----------------------------|------------|
| i) Staff Officer(C) | - Chairman |
| ii) Staff Officer (Mining) | - Member |
| iii) AFM | - -do- |

b) For Estimated Value of work valued below Rs. 30 lakhs:-For Area/Units:

- | | |
|----------------------------------------------------------------|------------|
| i) Agent/Colliery Manager/ Nominated representative of SO(Min) | - Chairman |
| ii) Manager(Civil)/Dy.Mgr.(Civil) Nominated by SO(C) | - Member |
| iii) Representative of Area Manager(Fin) | - -do- |

4.13 Receipt and Acceptance of Tenders.

The following procedures shall be adopted in respect of receipt, opening and acceptance of tenders.

Receipt of Tender:**Tender shall normally be received in the following offices :-**

- | | |
|------|-------------------------------------------------------------------------|
| i) | Works tendered from Headquarter – at the office of GM /HoD(Civil) |
| ii) | Works tendered from Area – at the office of SO(C) |
| iii) | Works tendered from Project/ Colliery – at the Project/ Colliery Office |
| iv) | Works tendered from Town Office – at the office of Town Administrator. |

Receipt of tenders may be allowed at more than one office depending on value and nature of work to be decided by subsidiary / Notice Inviting Authority.

Note: Any variation may be made at the discretion of the notice inviting/ approving authority.

The tender shall be received in appropriate Tender Box kept for the purpose at respective offices as mentioned

above.

In case of voluminous tenders which cannot be dropped in the standard Tender Box, NIT shall indicate that such voluminous documents should be submitted in presence of at least two executives. Such executives shall be nominated by controlling officer of the respective offices in advance and they shall be available during the notified period at each place of submission.

Opening of Tender: Tender committee shall normally open tenders. However, committee members may nominate their representative. Such committee shall invariably have members from Finance Discipline. It will be appropriate that at least one original member of the committee remain present during opening of tender. It shall be the responsibility of the Tender Inviting authority to see that opening at scheduled date and time remains firm. Tenders received shall be recorded in a tender opening register along with all details i.e. record of earnest money. Signature of the Tenderers or their representative attending opening shall be recorded in the Tender opening register. Name of the tender committee members or their nominated members be also recorded in the tender opening register along with their signatures.

In case where tenders are submitted in two / three parts, only Part-1 is opened on the opening day. Subsequent parts are opened during the course of evaluation at appropriate stages with advance intimation to the eligible bidders.

Important clarifications:-

During opening of bid, it is sometime noted that bid document is not signed at all the pages by the bidder. Under such circumstances the following may be adopted:-

If the bidder has submitted earnest money and signed on undertaking, bid letter, authenticated documents in support of fulfillment of eligibility criteria, authenticated technical details (if applicable) and signed some of the pages of the document downloaded from website as a token of acceptance of terms and conditions, – the same be brought to the knowledge of tender committee as well as intending tenderers attending opening. Since the undertaking and bid letter indicates that “We are pleased to submit our bid for the above work. We hereby unconditionally accept the tender conditions and tender documents in its entirety for the above work and agree to abide by and fulfill all terms & condition and specification as continued in the bid document”.

The bidder may be allowed to sign on all the pages at a subsequent date or during opening before considering the bid as valid. Such intimation shall be given to all intending tenderers attending opening. Any bidder refusing to sign on all left over pages of the bid document during opening or subsequently will be treated as not accepting all terms and conditions of the bid. Bids of such bidder shall be treated as non-responsive.

The following procedures shall be adopted during opening of bids:-

i) The committee authorized to open the tenders should invariably date, initial corrections, conditions and additions in the Schedule of Quantities, Schedule of Materials issued and Specifications and other essential parts of contract documents irrespective of fact whether they contain or do not contain any corrections or over writings etc. On all pages of tender documents not containing corrections, conditions, and additions and over writing etc. the tender committee should record the fact in writing at the end of those pages individually.

ii) The Committee should mark all corrections, conditions, additions and over writings and number them and attest them in red ink. In case of a number of corrections in any rate, either in words or in figures or in both, the number of corrections marked should be allotted independent numbers serially and not one number to represent all the three corrections. In case of more than one correction where the correction is not legible, the rate should

be written afresh in the hand of the officers opening the tenders.

iii) The number of such corrections and over writing must be clearly mentioned at the end of each page of Schedule attached to the tender paper and properly attested with the date. Any omission observed should also be brought out clearly on each page of the Schedule.

iv) The corrections, conditions, additions and over writings should be allotted separate numbers, i.e. corrections should start from 1, 2, 3 etc. and over writing should similarly start separately from 1, 2, 3 etc.

v) Any ambiguities in rates quoted by tenderers, in words or figures, must be clearly indicated on each page of the Schedule attached to the tender to which it concerns.

vi) In case where the contractor has quoted rates in rupees and no paise is mentioned the word "only" should invariably be initiated and dated with suitable remarks at the end.

vii) Where the contractors have omitted to quote the rates either in figures or in words, or both as applicable, the omission should be recorded by the Officers opening the tender on each page of the Schedule.

viii) The contractor must fill the tender documents carefully and properly providing honestly all information's sought for. They should avoid quoting absurd rates and avoid making too many corrections in the tender documents. All the pages of the tender document must be signed and properly authenticated.

ix) During opening of tender, if it is noticed that any rebate has been offered in the price bid, the same shall be encircled and be considered irrespective of its location.

x) The tenders should be opened in presence of authorized/accredited representative of the Tenderers who wish to be present and no unauthorized person should be allowed to be present.

4.13.1 Precautions During Opening of Tenders With More Than One Part.

All precautions shall be taken during opening and custody of tenders so that they are not misplaced / tampered. Committee Members present during tender opening, shall number all the bids received. In case of bids with more than one part, unopened parts be also numbered and sealed properly in an envelope in presence of Committee members present during opening of tender as well as bidders / representative of bidders present during opening of first part. Such properly sealed envelope shall also be signed by Committee members present during opening of bid at a number of places on the sealed Envelope so as to avoid any tampering.

Such sealed envelope, when opened subsequently, shall be in the presence of Committee members opening tender as well as bidders / representatives of bidders present during opening.

4.14 Withdrawal of Tenders by Contractors.

Withdrawal of tender is permitted before the last date and time of submission. Tenders submitted / modified within the last date and time of submission shall remain valid up to the schedule validity period. The tenderers will not have the option to withdraw offer within the validity period. If any tenderer withdraws his tender before the expiry of validity period or makes any modifications in the terms and conditions of the tender which are not acceptable to the Company, then the Company shall, without prejudice to any other right or remedy, be at liberty to forfeit the Earnest Money and also suitable actions like banning, delisting etc. could be contemplated against such erring contractor by the Company.

4.15 Late and Delayed Tenders.

Late and delayed tenders; unsolicited post tender offers and pool tender revisions shall not be accepted at all without any exception.

4.16 Opening and Evaluation of Tenders.

As soon as the approval of constitution of the tender committee is received from the competent authority, the tender committee members are intimated about the same along with the date and time of opening of the tenders. The tender committee members may be present at the time of opening of such tenders or depute their representatives to be present at the time of opening. The tenders are opened in the presence of at least 3 members of the tender committee (including member of finance discipline) or their representatives. The tender should be in single / two / three part system as already given in details hereinbefore.

In case where tenders are submitted in two parts, Part-I is opened first and evaluated. Thereafter the Part-II i.e. price bid of only those contractors are opened, whose Part-I offer are found acceptable.

The tenders are opened in the presence of the tenderers or their accredited representatives who wish to be present at the place and time as indicated in the notice inviting tender.

The number of tenders received, the particulars of Earnest Money and the names of the representatives who participated in the opening of the tenders and the names of the TC members or their representatives who were present at the time of the opening of the tenders are recorded in the tender opening register.

Technical section attached to the office of the GM/HoD(C) or Staff Officer(C) shall prepare the comparative statement of all the tenders received and work out the justified rates for the work as tendered. In the technical section attached to the GM/HoD(C) or Staff Officer(C), an officer of not less than Sr. Manager (C) / Manager(C) rank should be nominated to carry checks of the tenders and also preparing comparative statement. He may be assisted by the Estimating Officer/Estimator/Accountant attached to the Office of the GM/HoD(C) or Staff Officer(C).

4.16.1 Comparative Statement:

The detailed arrangements for proper check of Tenders including seeking clarification(s) and preparation of comparative statement(s) are left to the Civil Department but any such arrangements must provide:-

a) The employees entrusted with the work date and initial all papers, the calculation of which they have checked and that all working sheets are preserved.

b) Bids determined to be substantially responsive will be checked by the Employer for any arithmetical errors. Errors will be corrected by the Employer as follows :

- i) In case of discrepancy in rates between description in words and figures, the rate which corresponds to the amount worked out by the contractor shall be taken as correct.
- ii) In case of discrepancy in amount quoted by the contractor due to calculation mistake of the unit rate and quantity, the unit rate shall be regarded as firm and amount corrected.
- iii) When the amount of an item is not worked out by the contractor or if it does not correspond with the rates written either in figures or words, then the rates quoted by the contractor in words shall be taken as correct.

- iv) Discrepancy in totaling or carry forward in the amount quoted by the contractor shall be corrected.
- v) In case of percentage rate tender, the contractors are required to quote their rates both in amount as well as in the percentage below / above the rates entered in the schedule. In such cases in the event of Arithmetical error committed in amount by the contractor, tender percentage and not the amount should be taken into account.

NOTE: If the bidder has neither quoted above/below nor has quoted the amount then the price-bid shall be treated as invalid.

The Tendered sum so corrected and altered shall be substituted for the sum originally tendered and considered for acceptance instead of the original sum quoted by the Bidder along with other Bid/Bids. Rounding off to the nearest rupee should be done in the final summary of the amount instead of in totals of various sections of the offer.

4.17 Evaluation of Tenders.

The tender committee examines the comparative statement prepared by the technical cell and wherever necessary also examines the original tender document to satisfy itself that all aspects including qualification criteria submitted by the bidder / conditions including commercial, if any / technical details and specifications of each offer has been properly evaluated with respect to the financial implications etc. and truly brought out in the comparative statement.

The tenders without earnest money are rejected unless they are exempted otherwise.

The deviations from the commercial terms and conditions and the technical specifications are scrutinized before opening the price bid in respect of Lump-sum/ Turnkey rate tender. Normally no deviation in the commercial terms and conditions /technical specifications indicated in the tender document is to be accepted.

However, the tender committee may decide to scrutinize the different conditions (Technical) given by the tenderers and formulate and freeze the acceptable conditions and intimate all the tenderers about the same. Revised Price Bids shall not be allowed.

For item rate and percentage rate tenders, having specific Bill of Quantities, no deviation from commercial terms or technical specifications shall be allowed.

To qualify for award of the contract –

A. The Intending bidder must have in its name or proportionate share as a member of Joint Venture experience of having successfully **completed similar** works, as a prime contractor, during last 7(seven) years ending last day of month previous to the one in which bid applications are invited (i.e. eligibility period) should be any of the following :-

Three similar **completed works** each costing not less than the amount equal to 40% of the estimated cost put to tender. Or

Two similar **completed works** each costing not less than the amount equal to 50% of the estimated cost put to tender. Or

One similar **completed work** costing not less than the amount equal to 80% of the estimated cost put to tender.

Similar nature of work shall include
 Definition of similar to be decided by GM, HoD (Civil)/ Staff Officer (Civil).

Experience for those works only shall be considered for evaluation purposes, which match eligibility requirement stipulated above, on or before the last day of month previous to one in which tender has been invited (publication date of NIT). The experience of incomplete/ongoing works as on last date of eligibility period will not be considered for evaluation. If the referred work includes construction as well as maintenance after construction, the experience of such work may be considered as 'acceptable' if the construction part is completed as on the last date of 'eligibility period', even if maintenance work is ongoing, and the certificate issued clearly stipulates the same.

In all the above cases, while considering the value of completed works, the full value of completed work will be considered whether or not the date of commencement is within the said 7 (seven) years period.

Cost of previous completed works shall be given a simple weightage of 5% per year to bring them at current price level, while evaluating the qualification requirement of the bidder. Such weightage shall be considered after end date of completion. Updating will be considered for full or part of the year (total no. of days / 365) i.e. considering 365 days in a year, till the last day of month previous to one in which bid has been invited.

In case the bidder is not a prime contractor, but a sub-contractor, the bidder's experience as sub-contractor will be taken into account, against suitable document that the contract in support of qualification is a sub-contract in compliance with the provision of such sub-contracts in the original contract awarded to prime contractor. The document may be issued by owner/Govt. department on behalf of the owner.

The intending tenderer must submit documentary evidence in support of above in the form of (i) certified copy of work order, (ii) completion certificate indicating value and period of work, (iii) In case of Sub-contractor, suitable document as per provision of eligibility- if applicable.

The TDS certificate / Bill of Quantity be submitted during clarification, if any.

Joint Venture, shall be allowed for participation in the bid with estimated cost above Rs. 2.0 Crores.

The above qualification criteria shall be fulfilled by JV in the following manner.

The qualifying criteria parameter e.g. experience of the individual partners of the J.V will be as deliberated hereinafter towards fulfillment of qualification criteria related to experience.

a) In case of completion of single work of similar nature costing, not less than the amount equal to 80% of the estimated cost put to tender:-

i) Any of the JV partner shall have the experience of having completed successfully a single work of similar nature equal to 80% of the estimated cost put to tender.

Or

b) In case of completion of two works of similar nature each costing not less than the amount equal to 50% of the estimated cost put to tender :-

i) Any one partner can match the above requirement.

Or

ii) At least two partners should each have completed at least one work of similar nature each costing not less than the amount equal to 50% of the estimated cost put to tender.

Or

c) In case of completion of three works of similar nature, each costing not less than the amount equal 40% of the estimated cost put to tender:-

i) Any one partner can match the above requirement.

Or

ii) Any two partners shall match the above requirement through completion of at least one work of similar nature each costing not less than the amount equal 40% of the estimated cost put to tender:-

Or

iii) All the three partners shall match the above requirement through completion of at least one work of similar nature each costing not less than the amount equal 40% of the estimated cost put to tender.

However, during fulfillment of any of the above criteria one of the partner, who is the lead partner shall have :-

i) More than 50 (fifty)% share in J.V.
and

ii) Experience of having completed successfully a single work of similar nature equal to at least 40% of estimated cost put to tender

B. Average annual financial turnover during the last 3(three) years, ending 31st March of (previous) financial year should be at least 30% of the estimated cost put to tender.

The intending bidder must submit documentary evidence in support of above in the form of certificate from Chartered Accountant or audited balance sheet or suitable acceptable documents.

If the audited balance sheet for the immediately preceding year is not available in case of tender notified before 30th September, audited balance sheet/ profit and loss statement and other financial statement of the three financial years immediately preceding the previous financial year may be adopted for evaluating the credentials of the bidder.

Note:

a) Financial turnover shall be given a simple weightage of 5% per year to bring them at current price level, while evaluating the qualification requirement of the bidder. Such weightage shall be considered from the end date of financial year. Updating will be considered for full or part of the year (total no. of days / 365) i.e. considering 365 days in a year, till the last day of month previous to one in which bid has been invited.

Joint Ventures shall meet the above eligibility requirement, in the following manner:

The qualifying criteria parameter e.g. financial resources(Turnover) of the individual partners of the J.V. will be added together, for the relevant financial year, and the total should not be less than as spelt out above.

C. The Net Worth of the bidder based on latest audited annual accounts as on 31st March (e.g. for tenders floated in the financial year 2014-15, this will beas on 31st March 2013) shall not be negative.

The Net Worth shall be equal to: - Aggregate of the Capital + Free Reserve ± Accumulated profit/Losses. Offer of the bidder showing Negative Net Worth will be rejected (Net Worth provision applicable for tendered works with estimated cost above 100 lakhs).

The intending bidder must submit documentary evidence in support of above in the form of certificate from Chartered Accountant based on latest audited Balance Sheet.

The qualifying criteria parameter e.g. financial resources (Networth) of the individual partners of the J.V. will be added together, for the relevant financial year, and the total should not be less than as spelt out above.

If the bidder is a subsidiary of a company, the experience and resources of the holding company or its other subsidiaries will not be taken into account. However, if the bidder is a holding company, the experience and resources of its wholly owned subsidiaries will be taken into consideration.

Even though the bidders meet the above qualifying criteria, they are subject to be disqualified:-

- (i) if they have made misleading or false representations in the forms, statements and attachments submitted as proof of the qualification requirements.
- (ii) if they have record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, or financial failure etc.

Notes : (Not a part of bid document)

- 1) The qualification criteria shown above are to be considered as a standard for normal works.
- 2) For specialized works, based on requirement, the subsidiary may add or modify the criteria with the approval of competent authority.
- 3) The documents to be furnished by the bidder to prove that he is satisfying the qualification criteria laid down should all be in the bidders name except in cases where though the name has changed, owners continued to remain the same and in cases of amalgamation of entities and when a holding company relies on the credential of its wholly owned subsidiaries.

In addition, the intending tenderer has to submit the following:-

- 1) Earnest Money in the form as mentioned in NIT.
- 2) Particulars of PAN details.
- 3) Particulars of registration with the appropriate VAT/Sales Tax authority, of any Indian State/UT (not applicable for only service oriented works) .
- 4) Particulars of Registration with appropriate Service Tax authority, (not applicable for small service provider. However, a declaration issued by Practicing Chartered Accountant is to be enclosed certifying that the bidder is a Small service provider and exempted from service tax registration).
- 5) Bid letter as per pro-forma at clause 4.11.5
- 6) Undertaking as per pro-forma at clause 4.11.4

The Part-1 bid covering Qualification Criteria, technical and commercial parameters (if applicable) are opened at the time and place fixed for the same in presence of intending tenderer(s). Thereafter, the Part-II bid (Price Part) is opened in respect of the eligible bidders at a notified date and time fixed for the same in presence of intending tenderers or their representative. The committee members are also informed about such dates and time so as to make them available during the opening.

Price bids of the tenderer will have no condition and a comparative statement of the price bids offered by different tenderers is prepared for scrutiny of the tender committee. The price bids which are incomplete and not submitted as per the instructions given in the tender document are rejected.

EVALUATION REPORT: The Evaluation report will be prepared by tender committee comprising representatives from the Contracts, Engineering and Finance Departments or such departments of the company

as are handling this task. It will evaluate bids only on the basis of set criteria which will be clearly stated in the bid documents. It will not, nor will it be compelled to change the criteria, after the price bids have been opened. No document presented by the bidder after the closing date and time of the bid will be taken into account by the Evaluation committee unless it is, a clarification based on written request of department or of purely technical nature which has no bearing financially on the contract and which does not seek major changes in technical specifications given in the bid documents.

If a bidder offers a rebate unilaterally after the closing date and time of the bid, it will not be taken into account for evaluating purposes by the Tender Committee, but, if that bidder emerges as the lowest evaluated, the rebate offered will be taken into account by the Tender Committee, while forwarding the Tender Committee's recommendations to the accepting authority. The rebate will also be considered while awarding the contract.

The Tender Committee's report (Part-I & Part-II) will be self-contained, clear, cover all aspects of tendering from sanction to seeking clarifications including complaints, if any and unambiguous. If any cost compensation is carried out on account of technical deviation or on other factors, it will be mentioned in the evaluation report, which can easily be understood by non-technical officials.

If the price quoted varies above or below justified price by 10%, the same will be considered as more than normal. Under such situation tender committee after consulting the concerned technical cell take desirable steps as deliberated hereinafter.

ITEMWISE EVALUATION:

If the pricing of the bidder is such that he is likely to garner a major portion of the value of the contract at the initial stage of the project itself, the bid will be evaluated appropriately after carefully assessing the resultant fund flow. Under such situation, department may initiate suitable action to protect the interest of the company. However, such an exercise is normally possible when the items involved are only limited in number. While operating such provision, acceptance of contractor shall be obtained during clarification.

The definition of seriously "unbalanced bid" will no doubt vary from organization to organization and from contract to contract. It is therefore, essential that after the bids are received, the concerned technical cell must fix the price above or below ($\pm 20\%$) which the pricing of an item would be termed as seriously unbalanced.

If the bid-price of the successful bidder is seriously unbalanced in relation to the estimate of the cost of work to be performed under the contract, the company may require the bidder to produce detailed price analysis for any or all items of the Bill of quantities to demonstrate the internal consistency of these prices with the construction method and the schedule proposed.

The company may require that the amount of the performance security/security deposit is increased at the expense of the successful bidder to a level sufficient to protect the company against financial loss in the event of default on the part of the successful bidder under the contract.

Additional performance security shall be applicable if the bid price is below 15% of the justified price finalized by the owner. The amount of such additional performance security shall be the difference between 85% of the justified price finalized by the owner and quoted price.

Justified price shall be based on prevalent market rate of materials and labour analysed as per standard analysis of rate of CPWD/ NBO, and shall be binding on the bidder.

Additional performance Security shall be applicable for Item rate/ Percentage rate tenders.

Such additional performance security shall be furnished by bidder along with normal performance security as per Cl. No. 4 of GTC. Failure to submit such additional performance security may result into termination of the

contract. Such additional performance security may be in the shape of BG. This additional performance security shall be released as specified in GTC.

If the Bid of the successful Bidder is on higher side in relation to the Company's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the methods and schedule proposed.

4.17.1 Allowable Variation for Acceptance of Tenders.

After ascertaining the justified rate, the variation in award of work should generally be up to +10% of the justified rate.

4.17.2 DEVIATION (applicable for Lump-sum Tenders only):

Deviation sought by the bidders; whether they are commercial or technical deviation; must only be given in the schedules prescribed for them. Any willful attempt by the bidders to camouflage the deviation by giving them in the covering letter or in any other documents than the prescribed schedules may render the bid itself as "Non-responsive".

No deviation shall be allowed in respect of percentage rate tenders or item rate tenders based on specific Bill of Quantities.

4.18 Method For Justification Of Rate

Any of the following methods shall be adopted for aiming at the justification of the rate. However, when one method is adopted the same be only considered. Adoption of a particular method shall be decided judiciously by GM(Civil) / Staff Officer(Civil) :

i) Analysing rates of items (including major items) in terms of value on the whole costing 80% of the estimated cost put to tender based on prevalent market rates of materials, labour and carriage etc. as per standard analysis of rates of C.P.W.D./ N.B.O and then working out the percentage on this basis. For road works, subsidiaries are to decide on adopting the standard of analysis-of-rate(State PWD/ N.H).

NOTE: While working out analyzed rate and justified rate, the following be considered:-

- 1) Market rate of materials inclusive of all Taxes and carriage and labour.
 - 2) Contractor's profit and overhead shall be @ 15%.
 - 3) Analysis shall be made as per standard analysis of rate of CPWD / NBO.
 - 4) Effect allowed as per Clause 2.01 for specialized structures.
 - 5) Any other effect that appears reasonable by the Technical department for the relevant structures / work / location of work etc. Such consideration shall have approval of GM/HoD(C).
 - 6) Effect of building and other construction workers cess (as applicable in the State) shall be added to the analysed rate.
- ii) Calculating the increase in cost due to :-
- a) Increase in rates of stipulated materials over those adopted in schedule of rates used for estimate.
 - b) Increase in rates of non-stipulated materials (not available in S.O.R).
 - c) Increase in labour cost.
- iii) Any other suitable method including past accepted rates giving allowance for variation in Cost Index for various components may also be considered, depending upon the kind of work.

The adoption of a particular method should be decided judiciously by the tender committee and such method shall be accepted by the authority competent to accept the tender.

In case of second method while calculating increase in cost, 15% as contractor's profit and overhead shall be considered.

4.18.1 Abnormally High Rate(AHR) and Abnormally Low Rate(ALR) Items.

PROVISIONS FOR DEALING WITH VARIATIONS IN RESPECT OF ABNORMALLY HIGH RATE AND ABNORMALLY LOW RATE ITEMS.

The abnormally high rate items are those whose quoted rates are more than 20% of the justified rates decided by the company.

The abnormally low rate items are those whose quoted rates are less than 20% of the justified rates decided by the company.

In case of Item Rate Tenders, the revision of rates for (i) abnormally high rate items and (ii) abnormally low rate items, shall become operative under the following circumstances:-

For increase in quantity of more than 25% in respect of works executed below plinth level and 10% in respect of works executed above plinth level.

Quantity variation beyond the limit mentioned above shall be dealt by arriving at new rate based on prevalent market rate of materials and labour analyzed as per standard analysis of rate of CPWD/NBO and other relevant guidelines for specialized structure. Payment of extra quantity over the permitted quantity as explained above would be made on the basis of the new analysed rate.

The variation in quantity of abnormally low rate items for item rate tenders shall not be permitted below 25% for the items below plinth level and below 10% for the items above plinth level of the agreement schedule quantity, but in exceptional cases with written consent of Engineer-in-Charge arising out of technical necessity.

The above provisions shall be applicable for item rate tenders only and not applicable for percentage rate tenders for works based on standard schedule of rates of the company.

For the purpose of operation, the following works shall be treated as works related to foundation, unless otherwise defined in the contract.

- a. For Buildings: All works up to 1.2 metres above ground level or up to floor 1 level whichever is lower.
- b. For abutments, piers and well steining : All works up to 1.2m above the bed level.
- c. For retaining walls, wing walls, compound walls, chimneys, overhead reservoirs / tanks and other elevated structures: all works up to 1.2 meters above the ground level.
- d. For reservoirs / tanks (other than overhead reservoirs / tanks): All works up to 1.2 meters above the ground level.
- e. For basement : all works up to 1.2m above ground level or up to floor 1 level whichever is lower.
- f. For Roads, all items of excavation and filling including treatment of sub base.

4.18.2. Royalty/ Cess on Minor Minerals.

The Act governing Royalty/ Cess on Minor Minerals is a state subject Therefore it's application will depend on respective legislation in force at the place of work.

4.19 Recommendation for Award of Work

Based on the above scrutiny/ examination of the valid tenders / price bids, the TC may recommend the award of work to the lowest tenderer (L-1) provided:

a) The overall amount for the contract quoted by L-1 is justified, competitive and reasonable –

- (1) adopting method of analysis as proposed at Clause 4.18 (i) or
- (2) calculating the increase in cost as proposed at Clause 4.18(ii) or
- (3) adopting method of justification as proposed at Clause 4.18(iii)

b) It is not obligatory to recommend the award of work to the lowest tenderer in case lowest offer is higher than justified. Under such situation re-tendering may be resorted to with the approval of competent authority.

4.19.1 MAJOR POINTS FOR COVERAGE IN TENDER COMMITTEE RECOMMENDATION.

The department inviting the tenders should submit to the competent authority the proposal for accepting the tender committee recommendation. The tender committee recommendation shall cover the following major points :-

1. Name of work :

2. Estimate No :

3. Ref. to technical sanction :

- i) Scope of work :
- ii) Authority :
- iii) No. & date :
- iv) Amount :

4. Ref. to financial concurrence to estimate :

- i) Authority :
- ii) No.& date :
- iii) Amount :

5. Ref. to administrative approval: (if applicable)

- i) Authority :
- ii) No.& date :
- iii) Amount

6. Ref. to approval of NIT: (if applicable)

- i) Authority:
- ii) No.& date :
- iii) Estimated amount put to tender:

7. Ref. to publicity:

- i) Name of Newspapers (with dates) in which the NIT was actually published:
- ii) Date on which published in website / Govt. Portal.

8. i) The date & time at which tenders were due to be received in GM/HoD(C)'s Office / SO(C)'s Office / Unit Office:

- ii) Postponed date and time, if any:
- iii) Reasons for postponement:
- iv) Ref. to publicity in regard to postponement of tenders:

9. The date from which tenders were available in the website for downloading:

10. No. of tenders received:

11. Opening of Tenders:

- (i) Date and time at which tenders were due to be opened:
- (ii) (a) Date & time at which tenders were actually opened:
(b) Name & designation of officers who actually opened the tenders:
- (iii) Names of contractors present at the time of opening of tenders:
- (iv) Name and designation of any other person present:
- (v) Have all the contractors, if not exempted, deposited earnest money in proper form:

12. Date on which validity of tenders expires:

13. Any other relevant aspect

14. Comparative position of offers received.

15. Deliberation by Tender Committee.

4.19.2 General Guidelines:

i) Work should be awarded to L-1 without post tender negotiations if the rates are reasonable.

- a) In case the lowest offer is found to be on higher side, the justification of such rates may be sought once including break-up of prices/rates. Suo-moto rebates, if offered during this stage, may be considered.
- b) Negotiations, if unavoidable, may be carried out only with the lowest tenderer as per recommendation of the Tender Committee after giving justification and recording details of such negotiation. Such negotiation shall be brought out in TC recommendation and approval of such negotiation be sought. This may be done in accordance with CVC circular.
- c) In case negotiation with L-1 do not yield a reasonable rate, re-tendering should be done.

However, in case there is an emergency and the time required for retendering cannot be allowed, the case of awarding the work/ Part-work to the L-1 tenderer at the negotiated rate may be considered by an authority one step higher than the otherwise competent authority after recording the reasons. Where Board is the approving authority, approval shall be from Board only.

If there are more than one lowest bidder and splitting up of work is not considered necessary/feasible, L-1 may be decided as under:-

All L-1 bidders may be advised to submit the reduced price online & final L-1 may be decided on the basis of revised (reduced) Price.

OR

Through "Reverse Auction" amongst the L-1 bidders online, if "Reverse Auction" is available in online mode. The above Principle may be followed for offline tenders also.

The tender committee submits final recommendations (covering Part-I & Part-II) in detail along with minutes of the negotiation, if any and decision of the tender committee at each stage. The tender committee recommendations with the supporting documents are sent for approval of the competent authority through associated finance.

4.20 Acceptance of Single Tender

There may be occasions where in response to call for tender only single tender is received even after adopting action as at clause 4.03.2. The powers of accepting such single tender (if found valid) shall be as per delegation of power of the accepting authority.

There are occasions where in response to call of tender more than one tender is received, but on scrutiny it is noticed that only one of them is valid. Such tender shall be treated as single valid tender and shall be dealt considering single tender as per delegation of power of the accepting authority.

4.21 Acceptance of Offer :

Letter of Intent is an acceptance of offer by the company and it need not be accepted by the tenderer. But the tenderer should acknowledge the receipt of order within 10 days of receipt of Work Order and any delay in acknowledging the receipt would be treated as a breach of contract and compensation for the loss caused by such breach will be declared by the company by forfeiting EMD/Bid bond.

4.22 Banning and Suspension of Business

In case of such contractors who indulge in malpractices like bribery, corruption etc. by their proprietors or the employees, whose proprietors, partners or representatives have been convicted for offences involving moral turpitude, who are found guilty of withholding Government/ Company dues forcibly without valid reasons and such disputes cannot be placed within the ambit of Arbitration, who are acting prejudicial to the interests of the company, shall be placed under the category of Banning and Suspension of Business depending upon the nature of offence committed with the approval of CMD of Subsidiary Company or Chairman, CIL. For guidance related to banning of business, provisions at Chapter-12 may be seen.

4.23 Banned or Delisted Contractors.

The bidders would give a declaration that they have not been banned or delisted by any Govt. or Quasi Govt. agencies or PSU's. If a bidder has been banned by any Govt. or Quasi Govt. agencies or PSU's this fact must be clearly stated and it may not necessarily be a cause for disqualification. If the declaration is not given, the bid will be rejected as non-responsive.

4.24 Sub-contracting.

If a contractor submits his bid qualifies but does not get the contract because of his being not the lowest, he will be prohibited from working as a sub-contractor for the contractor who is executing the contract.

5. COMMENCEMENT AND EXECUTION OF WORK

5.00 Commencement of Work

The contractor is asked to commence the work within 10(ten) days of issue of Letter of acceptance or after 7(seven) days of handing over of site whichever is later. In some cases, mostly in Specialised contracts / high value (above Rs.5 Crores) work, the work is to be commenced after execution of contract agreement. In such cases provision of a time limit of 30 days from the issue of LOA for start of work should be made in the work-order itself. However, in the interest of work and also for saving time, the contractor may be allowed to start the work before execution of the agreement after the department issue a work order/tender acceptance letter to the contractor. Failure on the part of the contractor to furnish 'Performance Security' or to 'execute an agreement', within 30(thirty) days' time, allowed by the department after the acceptance of the tender, will be considered as just cause for the cancellation of the award and forfeiture of his earnest money.

5.01 Handing Over the Site

Availability of clear site must be ensured before issue of tender notice. After the issue of work order or the tender acceptance letter to the contractor, communication shall be sent to the contractor in writing stating the date of handing over of clear site for the work and requiring him to start the work forthwith as per clause 5.02. Clear site shall be handed over to the contractor immediately after issue of letter of acceptance of tender by the Company.

5.02 Date of Commencement and Completion of Work :

The contractor shall start the work within ten days 10(ten) days of the issue of work order / tender acceptance letter or 7 days after handing over of site or reasonable number of drawings or within the period of mobilisation as allowed in the work order for starting the work in special circumstance whichever is latest.

The time allowed for the completion of the work and the date of commencement of work and date of completion of work are recorded in the agreement. Time being the essence of the contract, the contractor shall submit his detailed programme of work which will be the basis for course of actions to be taken by the contractor, to complete the work within schedule time. This programme shall be based on the date of commencement and scheduled date of completion as per agreement. This will form a part of the contract between the contractor and the department. The programme will be the basis on which the Engineer-in-Charge of the work will draw up requirement of funds and departmental materials on various stages of planned progress.

5.02.1 The Engineer In charge of a work may be from GM/HoD(C) to Manager(C)/Dy. Manager(C) level to be nominated by the competent authority of the company for the purpose of operating a particular contract and the same is to be indicated in the work order/contract by the authority issuing the same.

The Engineer-in-Charge /Designated officer-in-Charge will be clearly defined in the contract document. Engineer-in-Charge/ Designated Officer-in-Charge who is of an appropriate seniority, will be responsible for supervising and administering the contract, certifying payment due to the contractor, valuing variations to the contract, awarding extension of time and valuing compensation events. The Engineer-in-Charge/Designated Officer-in-Charge may further appoint his representatives .i.e. another person/project manager or any other competent person and notify the contractor who is directly responsible for supervising the work being executed at site, on his behalf under the delegation of powers of the concerned company. However, overall responsibility, as far as the contract is concerned, will be that of the Engineer-in-Charge/ Designated Officer-in-Charge.

5.03 Programme and Progress of Work

5.03.1 As soon as the agreement has been signed, the contractor should draw up and submit a detailed

programme of execution using techniques of project monitoring such as BAR CHART/PERT-CPM etc. in consultation with the Engineer-in-Charge so as to complete the work within schedule time.

5.03.2 For work of value of up to Rs.1 crore the detailed programme should be drawn in the form of Bar Chart and for work of value more than Rs.1 crore the detailed programme should be drawn using PERT/CPM technique.

5.03.3 The preparation of a comprehensive and carefully considered programme for the execution of the works, the periodic revision of that programme as circumstances may demand, and the regular monitoring of planned and actual progress constitute the most important part of the work. Without a programme the Engineer cannot accurately determine when interdependent works should be started so as to ensure completion of the whole scheme on a prescribed date. An important point is that from this programme, particulars of the likely financial requirements during the period of construction can be worked out to arrange for fund and timely payment of bills.

5.03.4 The drawing up of a programme at the beginning of the work does not mean that it is drawn up once and for all and cannot be changed. In its early stages the programme will probably consist of salient dates on broad lines and later in detail. This process is largely a matter of trial and error and requires a considerable amount of time and thought. For not only does it necessitate consideration of alternative methods and the effect of each event on the others, but it also results in a orderly arrangement of events and in ultimate real saving of time and cost. The programme is therefore an important document, and should be discussed and agreed by all concerned.

5.03.5 Actual progress vs .planned progress shall be reviewed regularly and for this purpose review meeting within the department at various levels is a must. Further, the contractor will be called in the review meeting also, if required, so that corrective measures against foreseeable delays can be taken well in advance.

Such a control in progress enables the Engineer to speed up the operation that has fallen behind or to take appropriate steps to readjust subsequent operations when something has gone wrong. In other words it ensures the work to be carried out in an orderly way according to the programme.

5.04 Construction Surveys

The terms construction survey means all the Engineering surveys necessary for the execution of the work to its final completion. When the project is too large to be supervised by the regular persons, special survey team is generally posted for the construction work.

A good practice for initiating survey is to make an inspection of the whole project on foot with layout and other plans in hand. This permits each member to become familiar with the various physical features of the area and their relation to the project. When this is done setting out may be commenced.

The first requirement in construction survey is to check the alignment if already established, to see if it is in accordance with the final plans. It is also necessary to check all reference points of the alignment and if there is a possibility that these points may fall within the construction limit, they should be re-established beyond construction limits. Consideration should also be given to the establishment of additional reference points. All such marks established during the survey should be checked for location and elevation. If the reference line is not already established, it should be established now by fixing pegs/ stakes at all salient points. It is a good practice to establish essential grid references and levels right at the time of handing over the site to the contractor in writing.

5.05 Setting out

The contractor shall be responsible for the true and proper setting out of the works in relation to original points,

lines and levels of reference given by the Engineer in writing and for the correctness, subject as above mentioned, of the position, levels, dimensions and alignment of all parts of the works and for the provision of all necessary instruments, appliances and labour in connection therewith. If, at any time during the progress of the works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the works, the contractor, on being required so to do by the Engineer or the Engineer's representative, shall at his own cost, rectify such error to the satisfaction of the Engineer or the Engineer's representatives, unless such error is based on incorrect data supplied in writing by the Engineer's representatives in which case the expense of rectifying the same shall be borne by the Employer.

The checking of any setting out or of any line or level by the Engineer or the Engineer's representative shall not in any way relieve the contractor of his responsibility for the correctness thereof and the contractor shall carefully protect and preserve all bench marks, sight rails, pegs and other things used in setting out the works.

5.06 Increased or Decreased Quantities

In any running work, modification of original plans to suit ground realities becomes often necessary. These modifications in turn affect the original schedule of quantities appended to the agreement.

The right is reserved by the department at any time during which the contract is in force, to make such alterations, in the plans or the quantities of the work as may be necessary. Such alteration shall be ordered in writing. Further, the quantities of any items of work may vary from the quantities indicated in the schedule of work due to unforeseen or other conditions. Alterations in quantities shall not be considered as a change in the conditions of the contract nor invalidate any of the provision thereof.

However, such deviation in quantities or total amount in a particular contract shall be dealt with as under:

Dealing with variations beyond the agreement provision.

Savings

Revised estimate with variation up to -10% (overall) of original awarded value should require approval of GM/HoD(Civil) for works at Head Quarter and G.M(Area), for works at Area. A revised estimate shall be prepared after completion of the work for works valued more than 5(Five) Lakhs. This shall be applicable for all cases irrespective of level of approving authority.

However there shall be no extra items and variations in individual items shall not exceed $\pm 10\%$.

In case of any extra item and/ or variation in individual items exceeding $\pm 10\%$ the revised estimate shall require approval of the approving authority. In cases where board is the approving authority, approval shall be obtained from CMD of the subsidiary.

However, where GM/HoD(Civil) /Area GM/ D(T) is the approving authority for award, RE with variation up to -20% (overall) shall be approved by GM/HoD(Civil)/ Area G.M/ D(T), even if there is extra item and variation in individual items exceeds $\pm 10\%$. Any overall savings beyond 20% shall be approved by one-step-higher authority limited to CMD of the subsidiary company.

Further, where GM/HoD(Civil) / Area GM is the approving authority for award, RE with variation up to -10% (overall) shall be approved by GM(Civil)/S.O(Civil), if nominated by GM.HoD (Civil) or Area GM. However there shall be no extra items and variations in individual items shall not exceed $\pm 10\%$.

Where board is approving authority revised estimates with savings (overall) more than 10% and up to 20% shall require approval of CMD and with savings more than 20% (overall) shall be intimated to board.

Excess up to + 10%

Revised estimate including extra item with variation up to + 10 % (overall) of original awarded value shall be approved by approving authority limited to his DOP. Revised estimate with variation (overall) up to + 10% and beyond DOP of approving authority, shall be approved by next higher authority.

Where CMD is the approving authority, revised estimates including extra items with overall variation up to +10% shall be approved by CMD.

Where board is the approving authority, revised estimates including extra items with overall variation up to +10% shall be approved by CMD.

Excess above +10%

Revised estimate including extra item with excess (overall) beyond 10% shall require approval of one step higher authority limited to his DOP.

Where CMD is the approving authority, Revised estimate including extra item with excess (overall) beyond 10% shall require approval of CMD, limited to his DOP.

Where board is approving authority revised estimates exceeding 10% (overall) shall require approval of board.

Such additional/shortfall amount shall be exclusive of payable variation as per conditions of contract.

However, for above cases, the extra items of work, if any, will have to be sanctioned as per the standard procedure. Deviation in respect of AHR & ALR items will have to be dealt with as per Clause 4.18.1.

5.07 Omitted Items

The right is reserved to cancel any items of work included in the contract agreement or portion thereof in any stage of execution if found necessary to the work and such omission shall not be a waiver of any condition of the contract nor invalidate any of the provisions thereof.

5.08 Extra, Excess and Substituted Items of Works

Deviations in the Bill of Quantity in a Contract normally comprise of following:-

- (a) New items of work, i.e. items completely new and in addition to items in the contract. These are commonly known as Extra or Additional items.
- (b) Substituted items i.e., items which substitute the existing ones or are taken up in lieu of those already provided in the contract. These can be with slight modification or partially omitting items of work in the contract. These are commonly known as substituted items.
- (c) Variation in quantities of items i.e. where there is considerable increase or decrease in the quantities of items of works available in Schedule of Quantity of the agreement.

5.08.1 To obviate large scale deviations after call of tenders, the following instructions should be followed:-

- i) Items of Deviations are required to be minimum and wherever exigencies arise approval from the competent authority is required to be taken with special care to high value items and low value items.
- ii) It is the responsibility of the concerned In-charge of work to obtain approval in principle within seven days of commencement/ occurrence of such deviation from the Engineer in Charge as far as practicable in accordance with the delegated power.
- iii) Payments for such deviated/extra items of works may be made in the running account bills of the contractor provisionally with the approval of GM, HoD(C) of the company for works awarded with the approval of HQ & Staff Officer(C) of the area for works awarded from area, which have been agreed in principle by the Manager(C)/ Dy.Manager(C)/ In-charge of the work but not approved by the competent authority as per rates given below. The provisional rate to be paid should not exceed provisions incorporated at clause 6.07 and the following:-
- (a) 75% of the rate recommended to the competent authority by the EIC if the rate is directly available in the SOR of the company./derived from rates available from the BOQ of awarded work
- (b) 50% of the rate recommended to the competent authority by the EIC if it is analyzed item rate based on prevalent market rates.
- iv) The deviation proposal for deviated item along with the rate recommended based on contract provisions should be sent from the Manager(C)/ Dy.manager(C)/ In-charge of the work within a fortnight (15 days) of occurrence/ commencement of the deviation to the competent authority for approval.

In case the sanction is to be accorded by Company Head Qtrs. proposal of Dy.Manager(C)/ In-charge of the work along with his recommendation shall be sent to GM/HoD(C) who will ensure sanction within next 30 days after obtaining concurrence of associate finance.

v) For ensuring quick disposal, weekly returns shall be sent by Manager(C)/ Dy. Manager(C)/In Charge of work to the GM/HoD(C)/SO(C). In case of undue delay caused at any level, disciplinary action shall be initiated against erring officials.

vi) While submitting the proposal for sanction of deviation the following documents shall be enclosed:

- (a) Vouchers and proper quotations or any other publication shall be submitted in support of the market rates:
- (b) Analysis of rates should be self explanatory and by proper drawings
- (c) Remarks given by GM(C) / S.O.(C) / CM(C) should be self-explanatory and the description of the item should be clear and properly worded.
- (d) Copies of the Bill of Quantity of the agreement to be enclosed along with statements.
- (e) Reference to sanction accorded in principle.

5.09 Rate for Extra Work

The rate for extra items of work done shall be fixed as follows :

a) In the case of percentage tenders, if the rate for the extra item of work executed is available in the company's approved SOR, it will be paid at the schedule rate plus or minus the accepted percentage as per contract.

However, if the extra item is not available in company's approved SOR, then the rate for such extra item(s) shall be dealt as at (c) below.

b) In case of item rate tenders, the rate for extra item shall be derived from the rate for similar item or near similar item / class of work available in the agreement schedule of work or by analysis of rates as at below and the lower rate out of the above two shall be considered.

In case of composite item rate tenders, where two or more schedule of quantities for similar item description may form part of the contract, the applicable rates shall be taken from the Schedule of Quantities of that particular part in which the deviation is involved, failing that at the lowest applicable rate for the similar item of work in the other schedule of quantities.

c) In the case of extra item(s) that are completely new, and are in addition to the items contained in the contract, the contractor may within 15 days of receipt of order or occurrence of the item(s) claim rates, supported by proper analysis. The Engineer-in-Charge shall determine the rate(s) by analysis based on prevalent market rate of material and labour and on standard norms of analysis of rate of CPWD / NBO.

d) In case of combined tender with partly item rate for non-schedule items & partly percentage tenders for SOR items, the rate for extra item shall be derived as at (b) & (c) above in case of non-schedule items rates and in case of percentage rates for SOR items the rate for extra item shall be derived as at (a) above.

In case of any difference between the contractor and the Engineer-In Charge as to the fixation of rates, the matter shall be referred to the accepting authority of the company i.e. GM(C) of the company or Staff Officer(C) for the work awarded at Company Hqrs. level and Area level respectively, whose decision shall be final and binding on the contractor.

5.09.1 Part Rate.

The payment of incomplete items of works may be allowed by the Engineer-in-Charge on 'Part Rate' basis in on account bills. However, such Part Rate should not exceed 60% of the quoted & approved rate of individual items.

5.10 Extension of Contract Time for completion

The time for completion of the work will be specified in the contract and it is understood that the completion of work within the time specified is an essential part of this contract. If any delay in the completion of the work is likely to be caused by any of the following reasons viz.

- a) The execution of any modified or additional work.
- b) Delay caused by any written instruction of the Engineer in Charge.
- c) Any circumstances which are wholly beyond the control of the contractor and unavoidable.
- d) Delay arising out of act of God and in particular unprecedented flood and hostile acts, rebellion or civil war, political upheavals etc.
- e) Increase in the overall value of work. The time of completion of the work shall, in the event of any deviation resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor as follows :

(see next pg.)

- i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus.
- ii) 25% of the time calculated in i) above or such further additional time as may be considered reasonable by the Engineer -in -Charge.

Then the contractor immediately upon the occurrence of such delay shall give notice in writing to the Engineer-in-Charge and he shall be allowed a reasonable extension of time for completion in respect of delay caused by any of the above mentioned circumstances.

A HINDERANCE REGISTER shall be maintained by both department and the contractor at site to record the various hindrances encountered during the course of execution.

Provisional extension of completion time may be granted by GM/HoD (civil)/ Staff Officer (civil) as per provision of Clause 6 of GTC on the recommendation of the Engineer-in-Charge of the work during the course of execution of work reserving the right to impose/waive the clause relating to compensation for delay at the time of granting final extension of time depending upon the merit of the case. Final Extension of completion time is to be granted by Approving Authority as per delegation of power. In case of contracts awarded with the approval of Board, extension of time may be granted by CMD of the subsidiary.

5.10.1 General Principles for Granting Extension of Time

- i) At the time of issuing notice inviting tenders for a particular work the Engineer-in-Charge should specify the time allowed for completion of the work consistent with the magnitude and urgency of the work.
- ii) The time allowed for carrying out the work as entered in the contract shall be strictly observed by the contractor and shall be reckoned from the 10th day/ 30th day (applicable for specialised work or works with value above Rs. 5 crores.) after the date on which the orders to commence the work is given to the contractor.
- iii) The work shall throughout the stipulated period of the contract be proceeded with all due diligence (time being deemed to be the essence of the contract) on the part of the contractor.
- iv) To ensure good progress of work during the execution, the contractor shall meticulously follow the preset time and progress chart and in the event of slippages in one segment, all efforts will be made to liquidate the slippages in the next stages.
- v) If the contractor shall desire an extension of time for completion of work on the grounds of his having been unavoidably hindered in its execution or on any other grounds as mentioned above, he shall apply in writing to the Engineer-in- Charge within 30 days of the hindrance on account of which he desires such extension as aforesaid, and the Engineer-in-Charge shall, authorize such extension of time if any, as in his opinion, (which shall be final) be necessary or proper with the approval of competent authority. Such extension shall be communicated to the contractor in writing by the company through Engineer-in-Charge within 30 days of receipt of such request from the contractor for granting of extension of time.
- vi) Engineer-in-Charge shall grant extension of time for the completion of the work if the following conditions are satisfied :

- a) The contractor must apply to the Engineer-in-Charge in writing for extension of time.
- b) Such application must state the grounds which hindered the contractor in the execution of the work within the stipulated time.
- c) Such application must be made within 30 days of the date on which such hindrance arose.
- d) The Engineer-in-Charge must be of the opinion that the grounds shown for the extension of time are reasonable.
- vii) The Engineer-In-Charge has the power to grant extension of time as per Delegation of Powers, but the orders on the application of the contractor connected with the agreement accepted by the authorities higher than the Engineer-in-Charge should be issued by him with prior approval of such authorities who have been given such powers to grant extension of time.
- viii) The opinion of the Engineer-in-Charge, whether the grounds shown for the extension of time are or not reasonable, is final. If the Engineer-in-Charge is of the opinion that the grounds shown by the contractor are not reasonable and declines to grant extension of time, the contractor may approach concerned Director whose opinion shall be final and binding on all concerned.
- ix) In case the contractor does not apply for grant of extension of time within 30 days of the hindrance occurring in execution of the work and the department wants the contractor to continue with the work beyond the stipulated date of completion for reason of the work having been unavoidably hindered, the Engineer-in-Charge can grant extension of time even in the absence of application from the contractor as per the following guidelines :

a) Whenever any hindrance comes to the notice of the Manager(C)/ Dy.Manager(C) In Charge of the work, he should at once make a note of such hindrance in the register kept at site. He should also make a report to his S.O.(C)/Dy.GM(C) within a week of the occurrence of such hindrance.

The SO(C)/ DY.GM(C) should then grant necessary extension of time if it is within his competence, otherwise he must send a report to the GM/HoD(C) within a week of the receipt of the report from the Manager(C)/ Dy.Manager(C)/ In Charge of the work. The GM/HoD(C) should then pass orders within 15 days of the receipt of the report from the SO(Civil)/ CM(Civil).

b) In case where the sanction of the higher authority to the grant of extension of time is necessary, the SO(C)/ Dy. Mgr.(C) should forward the case with his views to GM/HoD(C) as soon as possible. If the orders of the higher authority are not received in time, he should extend the contract before the stipulated date actually expires so that the contract might remain in force but while communicating this extension of time, he must inform the contractor that this was without prejudice to Company's right to levy compensation under relevant clause of the agreement.

x) The period during which the contract remains valid is a matter of agreement and if the period originally set for the completion of the work comes to an end nothing short of agreement of the party can extend the subsistence and validity of the contract.

When the period fixed for the completion of the contract is about to expire, the question of extension of the contract may be considered at the instance of the contractor or the Department or of both. The extension, in order to be binding, will have to be by parties agreement, express or implied.

It therefore, follows that if the extension of time is granted by the Engineer-in-Charge suo-moto as per

provisions of contract agreement and such extension of time is accepted by the contractor, either expressly or implied by his actions before and subsequent to the date of completion, the extension of time granted by the Engineer-in-Charge is valid. It is, therefore, necessary that the Engineer-in-Charge grants extension of time as per provisions of the contract even when the contractor does not apply for extension of time in order to keep the contract alive. If the contractor refuses to act upon the extension so granted by Engineer-in-Charge, it will attract the provisions of appropriate clauses of the agreement.

5.11 Recording Measurements

5.11.1 Payments for all works done and for supplies made on the basis of measurements are recorded in measurement book (MB). It is a most important record since it is the basis of all accounts of quantities whether of work done or of materials supplied and payment made thereof. It is the original record of actual measurement.

5.11.2 All measurements should be neatly taken down in an authorised measurement book in ink issued for the purpose, and no-where else. Each set of measurement should commence with :-

- a) full name of work as given in the work order,
- b) location of work.
- c) name of contractor
- d) number and date of agreement/work order,
- e) date of commencement of work as per contract/actual
- f) date of completion of work as per contract/actual
- g) period of claim,
- h) date of measurement,
- i) name & designation of the person recording measurement

5.11.3 Each set of measurements should end with the statement "measured and entered by me" followed by the dated signature and designation of the person making the measurements in the measurement book. An abstract of cost should then be prepared which should indicate the total quantities, rate, unit & amount of each item of work. Based on the item wise amount total gross value of the bill is arrived at the end of the abstract.

The net amount payable is derived after making specified deductions and recoveries on account of security deposit, departmental materials/ equipments issued/lent for the work, secured advance, income-tax etc. from the gross amount of the bill. In preparing the abstract, reference should be given to the pages of measurement book in which the relative measurements are recorded.

5.11.4 As all payments for work or supplies are based on the quantities recorded in the M.B. it is incumbent upon the person taking the measurements to record the quantities clearly and accurately. He will also be responsible for the correctness of the entries in the column "Content" for the measurements recorded by him. If the measurements are taken in connection with a running contract account on which work has been previously measured, he is further responsible to ensure (1) that reference to the last set of measurements is recorded and (2) that if the entire job or contract has been completed, the date of completion is duly noted in M.B. If the measurements taken are the first set of measurements on a running account, or the first and final measurements, this fact should be suitably noted against the entries in the measurement book and in the later case the actual date of completion shall be recorded.

The signature of the contractor or his authorised representative should be obtained in measurement books after each set of measurements, with the words "I accept the measurements" In the case of illiterate men their left thumb impression marks should be obtained in token of acceptance attested by the Engineer-in-Charge.

5.11.5 Entries should be recorded continuously in the measurement book and no line should be left blank. No blank pages should be left and no page be torn out. Any pages left blank inadvertently must be cancelled by diagonal lines, the cancellation being duly authenticated.

5.11.6 No entry may be erased. If mistake is made, it should be corrected and initiated by the person recording the measurement and authenticated by the EIC. When any measurements are cancelled, the cancellation should be initialed by the person recording the measurements and supported by the dated initials of the officer ordering the cancellation or by a reference to his orders initialed by the officer who made the measurements. In each case the reason for cancellation should be recorded. Entries should be made in ink. Each measurement book should be provided with an index which should be kept up to date. Overwriting should not be done in any case.

5.11.7 In course of construction of any prestigious work, certain dismantling and modifications become necessary for bringing in permanent improvement in the scheme. Such demolition and dismantling should not be considered as loss and the cost should be absorbed in the contract price. The cost of such works be limited to 2 to 3% of the contract price. But the contractor who has done the job should be paid for such dismantling/dismantled jobs after obtaining approval of GM/HoD(C)/SO(C) and proper entries in the M.B.

Where Electronic recording of measurements and preparation of bills are in vogue, the following item may be adopted:-

Electronic recording of measurements and preparation of bills are the preferred method for large fast track project for timely payment and ensuring speedy completion of the work. This will result in equitable and effective deployment of manpower to more productive areas like quality control supervision etc. by diverting the manpower presently required for measurements and M.B's and preparation of bills.

Measurements of deviations or items not covered in the drawings are to be recorded in page numbered triplicate book jointly by the contractor or his authorized representative and representative of EIC for execution section. One copy is to be forwarded to the billing section, one copy shall be submitted to the execution section and the balance copy will be retained by the contractor.

The contractor will submit his bills in approved pro-forma in quintuplicate to the Engineer in Charge giving abstract and detailed measurements for the various items of work executed depending on progress of work achieve. The Engineer-in-charge will take necessary steps to get the bill verified as per standard procedure acceptance.

Billing section shall maintain records of:

- a) Joint Measurements
- b) CD/Pen Drive containing measurements and recommended bill amount details.
- c) Hard Copy duly accepted and signed for measurements and bills.

Billing section will check the contractors' bill on the basis of drawings and joint measurements and enter the data in the computer. Bill will be prepared on the basis of abstract quantity proposed recovery etc. by the billing section by using computer.

5.12 Method of Measurement and Tolerance:

5.12.1 Measurements of only completed work/portion of work should be recorded in Measurement Book.

5.12.2 The location of measurement should be clearly described so as to facilitate their easy identification.

5.12.3 All work shall be measured net in the decimal system subject to the tolerances specified unless otherwise stated. IS 1200 shall be referred to the relevant parts for the method of measurement of works.

5.12.4 Nominal size, tolerance, limits: - These terms are in common use in engineering practice. The "nominal size" is self-explanatory i.e. as specified. The use of the word "tolerance" indicates that it is recognized that the work is perfectly accurate and "tolerance" is defined as "a difference of dimensions prescribed in order to tolerate unavoidable imperfections of workmanship". Consistently with reasonable cost of production for the kind of work refer to "limits" are the dimensions between which must lie the dimensions of the work; the difference between a limit and the nominal size is equal to the tolerance.

5.13 Measurements for Inadmissible Items

In case of items which are claimed by the contractor but are not admissible according to the Department, measurements should be taken for record purpose only and without prejudice so that in case it is subsequently decided to admit the contractor's claims, there should be no difficulty in determining the quantities of such work. A suitable remark should however, be made against such measurements to guard against payment in the ordinary way.

5.14 Check Measurement

5.14.1 Recording of measurements by the technical staff & check measurements by the officers are important aspects of execution of any civil engineering work. Proper recording of measurements, check-measurements and maintenance of measurement books will avoid tampering of measurements. The following instructions should be strictly followed to avoid possible tampering of measurements.

- i) The entries in the measurement books are made in ink and no line shall be left blank. Any blank page left between shall be crossed and attested by the concerned officers.
- ii) The "Contents or area" column shall be filled before check-measurement and the check measuring officer as a rule shall see that the "Contents or area" column is duly filled in ink by the staff who recorded the measurements.
- iii) The recording shall be consistent and generally in the sequence of length, width & height or depth or thickness.
- iv) The location of work should be clearly described so as to facilitate their easy identification and checking.
- v) The method of measurements shall be as per I.S.1200 and relevant parts shall be referred to for different works.

5.14.2 The check measurement by the Sr. Officer(C) / Asstt. Manager(C) / dy. Manager(C) / Manager(C) shall be as per the norms given below :

- i) A Register regarding issue of new M.B. and movement of the same is maintained at the office of the EIC / Designated Officer-in-Charge. All M.B.s at the issuing office should be serially numbered. Each new M.B. should be checked and certified by the EIC/Designated Officer In charge that the same contain so many printed pages and issued to the concerned technical staff – Sub-Ord. Engr.(C) / Engineering Asst.(C) / Sr. Overseer(C) / Overseer(C).
- ii) Measurements shall normally be recorded by the Overseer(C)/ Sr. Overseer(C)/ Engg. Asstt(C) / Sub-Ord.

Engr.(C) concerned directly in the M.B. Measurement may also be recorded by a designated Engineer irrespective of rank.

iii) All the measurements for concealed items (reinforcement, earth work, foundation work etc.) shall be directly entered in the measurement book & 100% check measurement for the same should be done by the Sr. Officer(C) / Asstt. Manager(C). The Dy. Manager(C) / Manager(C) shall make 25% check measurement of each such items. All entries checked should be initialed by the checking authority.

iv) In case of exposed work, the Sr. Officer(C)/ Asstt Manager(C) shall check measure 50% and Dy. Manager(C) / Manager(C) shall check measure 10% of the measurements pertaining to major items.

v) In case of road works, the total materials required for each 100 mtr. of road length shall be collected in full before any measurement is taken. The measurement of stack, borrow pits etc. shall be done from the commencement in the direction of increasing chainage for left side first and then for right side of works.

No material shall be allowed to be used without proper stacking, measurement and check measurement. Each item of work involved in box cutting, WBM layers, bituminous concrete and top finishing should be measured before laying of subsequent layers.

vi) Accountant while checking MBs shall ensure that check measurements have been done as per norms.

vii) Officers making check measurement shall record at the end of the measurement in the MB, the items and the pages check measured by them with dated signature.

viii) In case the work is supervised by senior engineers other than Sr. Officer(C)/Asstt. Manager(C) / Dy. Manager(C) / Manager(C) the check-measurements shall be done by senior engineers according to the stipulations made in the foregoing clauses.

5.15 Acceptance of Measurement & Check Measurement

In order to avoid disputes, it is essential that the contractor signs in token of his acceptance of measurement as well as check-measurement of materials supplied or work performed. The date of measurement or check measurement should therefore be intimated to the contractor in advance requiring him to be present at the site of the work for the purpose of attending the measurement or check measurement.

If the contractor accepts the measurement of check measurement he should certify his acceptance on the last page of the set of measurements by recording "measurements accepted" with his dated signature. If the contractor is not present in spite of reasonable notice, the officer shall proceed with the measurement or check measurement and the contractor's acceptance should be obtained as soon as possible. In case of disagreement, the staff officer of the Area should himself inspect the work, perform such check measurements as are necessary, and his decision will be binding on the contractor.

5.16 Inspection of Works

5.16.1 Regular inspection of works by S.O(C)/ or any officer nominated by S.O.(C)/ CM(C) or any officer nominated by GM, HoD(C)/ GM(C) shall be done.

Such inspection by SO(C)/ CM(C) or any other officer nominated by SO(C)/ CM(C) shall be carried out for works upto Rs.200 lakhs and for works beyond Rs.200 lakhs, the inspection shall be carried out by GM(C)/ CM(C) Hqrs. or any other officer nominated by GM, HoD(C) for the purpose. The Engineer-in-charge of the work should

request within 15 days of the physical completion of the work, the SO(C)/ CM(C) or GM, HoD(C)/ GM(C) as the case may be, to carry out their inspections.

5.16.2 The officer carrying out the aforesaid inspections is required to record the following certificate within a period of 30 days from the date of physical completion of the work as intimated by the Engineer-in-Charge of the work.

"I have inspected the work of on contract value of which is Rs..... vide agreement No..... As a result of this inspection and my previous inspections. I find that the work has been carried out generally to specifications and drawings and has been completed satisfactorily. There are no noticeable defects, except for the following :

- 1.....
- 2.....

These defects should be rectified by the contractor/ department at his cost, action for which should be taken in terms of the contract by the Engineer-in-charge of the work.

(Inspecting Authority)

5.16.3 The above certificate will be attached with the office copy of the Final bill of the contractor and remain on the record of the department. The Engineer-in-charge of the work shall not make final payment till this certificate is recorded. This certificate, however, will in no way reduce the responsibility of the Engineer-in-charge and other concerned Engineers and Supervisory staffs for due check of the work as required.

5.17 Loss of Measurement Book

When a Measurement Book is lost, an immediate report of the facts of the case together with an explanation of all parties concerned responsible for the loss should be made promptly to the Staff Officer(Civil)/ GM/HoD(Civil), who is empowered to write off the lost Measurement Books. Such losses for write off should be reported in the Proforma as at Appendix-11.

5.18 Standard Measurement Books (SMB'S)

The SMB'S are maintained to record the measurement of permanent standing in a building, and are required to be brought up to date from year to year on the basis of addition that are made to the building. These are used for preparing repair estimates and contractor's bill, to avoid taking detail measurement on each occasion.

SMB'S shall be prepared after completion of work. They should be kept in safe custody. A Register shall be maintained for such SMB'S. SMB's shall be written legibly in ink and certified as correct by Chief Manager (Civil). These should be maintained very carefully and accurately. Each set of measurement should be written by Engg. Asstt.(C) / Subordinate Engineer(C) and checked by executives of appropriate level or Chief Manager(Civil). Chief Manager (Civil) shall certify recording as approved. Computerized SMB'S can also be maintained.

6. PAYMENTS.

6.00 Payments for all the works done/ supply made by the contractors are made on the basis of measurements recorded in the measurement books. Contractors bills may be submitted in any one of the following forms :-

- a) Running on account bill
- b) Final bill.

The running on account bill is meant for regular payment during the progress of the work. The running on account payment is generally made once in a calendar month or at the interval as stipulated in the Work Order/Agreement..

When, for any reason, monthly payment or running payment at the interval as stipulated in the agreement cannot be made on the basis of recorded measurements, advance payments for alternate running bills may be made to contractors commensurate with the value of work done after obtaining approval of GM, HoD(C)/ GM(Area) in this regard. If no payment is to be made, this fact should be recorded with the reasons thereof in the measurement Book.

6.01 Passing of Bills.

6.01.1 The contractor's bill is to be prepared in the Bill Forms given at Appendix - 12 by the person recording the measurements. Before passing a contractor's bill for payment, the bill is to be checked and pre-audited by the Accounts Officer / Accountant as per the provisions of the respective contracts and standard practice. The accountal checking is done after the technical checking (i.e. check measurement) by the Manager(C) / Dy. Manager(C) and Asstt. Manager(C)/Sr. Officer(C). The designated A.O./ Accountant will ensure that the check measurement by the Manager(C) / Dy. Manager(C) and Asstt. Manager(C)/Sr. Officer(C) has been done as per the norms laid hereinbefore.

In absence of designated executives as above, suitable nomination may be made by GM(C) / SO(C).

6.01.2 The designated A.O./ Accountant will thereafter carryout accountal checking of quantities, rates, amounts of respective items, rate and quantities of recoveries on account of stores issued, hire charges and deduction towards S.D., I.T., S.T. etc.

6.01.3 The designated A.O./ Accountant will prepare the memo of payment in M.B. and Bill Form and pay-order and put up for signature of E.I.C./S.O.(C) who will pass accept the bills for payments as per the delegation of powers of the Engineer-in-charge. A contractors' ledger (Appendix-13) will be maintained by the designated A.O./ Accountant to keep records of all payments made to the contractors. The ledger should be available for inspection by the Engineer-in-charge/ SO(C).

N.B. The contractors bills whether running on A/C or Final, will be signed only by the officers as mentioned in the above clause "Passing of Bills". This will prevent delay in clearance & payment of Bills which gives rise to avoidable disputes with contractors.

In other words the bills in respect of Civil Engineering works will henceforth be sent directly to SO(C) for arranging payment from sub-area/colliery level by the concerned Sr. Manager(C) / Manager(C) / Dy. Manager(C). If required, the SO(C), who is the Engineer-in-charge, may authorise/ sub-delegate some of his financial powers to the Sr. Manager(C) /Manager(C) (as the case may be) for quick disposal of cases.

The stages involved for preparation and payment of Contractor's Bill would be as under :-

- i) Signature of Sub-ord. Engg(C) / E.A(C)/Sr. Overseer(C)/Overseer(C) in MB's, on required pages recording measurements, abstract of bill & the duly filled in bill form.

- ii) Signature of Sr. Officer(C)/ Asstt. Manager(C)/Dy. Manager(C) with appropriate check measurements in MB's & the bill form.
- iii) Signature of Manager(C)/Sr. Manager(C) with appropriate check measurements in the MB's & the bill form.
- iv) Signature of Engineer-in-charge is to be recorded as per definition as at Cl.5.02.1 as a token of acceptance for payment of the bill. The EIC may sign in the abstract of bill in the MB & the bill form. In between stage iii) & iv) accountal checking may be made by the concerned Divisional Accountant.

The above method for preparation & payment of contractors bill in respect of civil works will be followed strictly to ensure proper accountability. Otherwise, any officer not mentioned in the payment stages explained above signing a contractors bill will also be held accountable for correctness of the bill along with all other attributes associated with the contract/work.

6.02 Checking of Bills by Accountant

- i) The functions of the designated A.O./ Accountant attached to Manager(C) / Dy. Manager(C) / Engineer In charge are three fold.
 - a) as an accountant
 - b) as an internal auditor and
 - c) as financial assistant.
- ii) In discharging his duties he is expected to keep himself fully conversant with sanctions and orders passing through the office and with other proceedings of the office and its sub-ordinate offices which may affect the estimates and/ or accounts of the civil works undertaken by the department. The Manger(C) / Dy. Manager(C) / Engineer In charge should see that the Accountant is given the fullest opportunity of becoming conversant with these sanction orders and proceedings to enable him to discharge his duty efficiently.
- iii) if any transaction or order affecting receipts or expenditure is such that might attract audit observations, the Accountant will bring this fact to the notice of the Manager(C) / Dy. Manager(C) / Engineer In charge with his reasons and obtain the orders of that officer. When there is a difference of opinion between the Accountant and the Manager(C) / Dy. Manager(C) / Engineer In charge, a note containing observation of both should be attached with the bill.
- iv) The Accountant should bring to the notice of the Manager(C) / Dy. Manager(C) / Engineer In charge all instances where the expenditure exceeds the financial limitation. if any serious financial irregularity is noticed by the Accountant it should be reported at once for the information of the Manager(C) / Dy. Manager(C) / Engineer In charge and Area Accounts Officer/ designated Accounts officer.
- v) The Accountant has right to seek the advice of the Area Accounts Officer in all matters connected with the accounts of his department or on the application of financial rules and orders concerning which there may be any doubt.
- vi) The Accountant / designated A.O will scrutinise and check the bills for Civil Engineering works prepared by the Subord. Enggr.(C / Engineering Assistant/ Sr.Overseer/ Overseer based upon the detail measurement as recorded in the measurement books and see that the bill is complete in all respect and is in accordance with the work order/ contract agreement. In respect of all the bills for civil construction work the area accounts office/ concerned accounts office will however, exercise necessary pre-audit in addition to the checks/ scrutiny exercised by the accountant.

6.03 Checking of on account bills

Details of checking to be exercised by the Accountant in respect of on account bills relating to civil engineering works are given below:

- i) The work order/ contract agreement should contain signature with date of both parties
- ii) Balance of performance security deposit, if any, is deposited.
- iii) Bank Guarantee submitted against earnest money is refunded and Performance Security has been deposited as per conditions of contract. In addition undertakings given in the bid has been made operative, if applicable.
- iv) Where the work has started before issue of the work order, it should be supported by an "Urgency Certificate" from the competent authority.
- v) The date of measurement should be recorded in the measurement book.
- vi) The period of claim should be recorded in the measurement book
- vii) The accuracy of all arithmetical calculations of the contents recorded in the measurement book should be checked.
- viii) The rates adopted for various items of work should be in accordance with the work order/ contract agreement.
- ix) While checking the first on account bill, it should be ensured that the performance security deposit has been made by the contractor.
- x) The quantities of various works/ items should be within the provision of work order/ contract agreement subject to variation as per cl.5.06 or else covered by proper supplementary agreement/ deviation estimate / revised estimate issued in writing with the approval of competent authority.
- xi) Interim payment for excess work done against an individual item (Ref. Cl. 6.06) should not be more than 10% in excess of quantities of work provided in the work order/ contract agreement on the authorization of Engineer In charge and 20% in excess of quantities of work provided in the work order/ contract agreement on the authorization of GM, HoD(C) or Staff Officer (Civil) as the case may be, subject to overall value of work not exceeding the agreement/ work order value. However rate restrictions for high value items shall be made operative.
- xii) Interim payment allowed on the authorization of GM, HoD(C) or Staff Officer(C) for extra items(ref. Cl. 6.07) of work done should not be more than 10%, of contract agreement/ work-order / approved deviation estimate value, when value of such extra items added together subject to value of total work done including excess quantities and extra items does not exceed the contract/ work-order / approved deviation estimate value. Payment for such extra items shall be made in the running on account bills at the provisional rates as per cl.5.08.1 till these are regularized through deviation estimate / revised estimate.
- xiii) Contract Agreement no. and date, work order no. and date, date of commencement of work and date of completion of work as per agreement, extension of completion time granted by the competent authority, if any, should be correctly indicated in the bill.

xiv) It should be ensured that the bill has been signed by the contractor or the authorised representative of the contractor with date.

xv) It should be ensured that the persons signing the bill has been authorised by the contractor either by the power of attorney or by virtue of partnership deed and that such information has been notified to the Area Accounts Office/ concerned accounts office and EIC's office.

xvi) It should be ensured that a statement of material issued and to be recovered is attached to the bill supported by reference to Store issue challan etc. Generally, all materials used in the work should be recovered and a certificate regarding the balance material should be given. The quantity consumed should be compared with the theoretical requirements to ensure that the required quantity has been used. Where the full quantity of material issued is not recovered, justification for postponing the recovery should be furnished. However, where the recovery for supply of materials has been spread over more than one running "on account" bill by order of competent authority, the compliance of standing instructions should be ensured.

xvii) The rates of recovery for such materials are to be scrutinised with reference to the agreement where a fixed rate has been provided in the agreement and the recovery should be made accordingly. Where the rate of recovery has not been indicated, the valuation will be done on the basis of the latest price to which 20% towards storage, supervision, freight etc. should be added to arrive at the provisional rate of deduction. The final recovery should be made on store issue rates as confirmed through sale bill by the Area Accounts Officer/ Area Store Office of concerned Accounts Officer/ Store Officer.

xviii) It should be ensured that other recoveries such as for supply of coal, rent, water and electricity charges and hire charges of plant and equipment etc. have been made properly.

6.04 Checking of Final Bills

In case of final bills the following additional aspects are to be seen and checked :

i) Certificates of "No Claim" against the contractors by the Engineer-in-Charge.

ii) Certificates of satisfactory completion of work to be issued by the Engineer-in-charge.

iii) Certificate of inspection on completion of work to be issued by the SO(C)/ GM(C) or any other officer nominated by SO(C)/ GM(C) for works valued up to Rs.200 lakhs and by the GM, HoD(C) or any other officer nominated by GM, HoD(C) for the work valued more than Rs.200 lakhs as per cl.5.16.

iv) Certificate of leak proofness in respect of building roofs or similar structure and certificate in respect of the fact that 6 months or one full monsoon has passed after completion of the construction of building/ structure or bridge etc. and that the defects if any has been rectified. This Certificate will be required only if the final bill is presented after expiry of the defect liability period.

v) Indemnity Bond by the contractor against any claim by State Govt .towards Royalty for minor minerals.

vi) It should be ensured that the deviation estimate / revised estimate regularising the variation in quantities and /or extra items executed and the extension of time of completion etc. have been sanctioned by the competent authority.

vii) It should be ensured that a complete list of materials issued to the contractors against the particulars of recoveries already made from the on account bills is enclosed with the final bill.

viii) It should be ensured that all recovery on account of hire charges, electricity, water supply etc. are fully made.

In addition to above, in case of any recorded observations by any authority on any item of works, clearance should be obtained from such authority or authority superior to them before release of final payments.

6.05 Time Schedule for Payment of Bills

The following time schedule for payment of bills, both running on account and final, are prescribed and shall be followed as far as possible :

i) Payment of Running Bills - Within 1 month of presentation of the bill duly Passed & accepted for payment by the EIC.

ii) Payment of Final Bill

a) For works up to 200 lakhs within 2 months of presentation of the bill duly passed & accepted for payment by the EIC.

b) For works over Rs. 200 lakhs within 3 months of present & accepted for payment by the EIC.

The Engineer-in-Charge of work shall be responsible for timely recording of final measurements for completed works, preparation of revised estimates and preparation of final bills. The RE and final bill shall be submitted within 3(three) months of completion of works.

6.06 Payment for Excess Work

During the execution of work divergence between what is planned and what is executed is common and it is possible to limit the deviations to a minimum by close monitoring and timely action as already explained hereinbefore. However due to unavoidable circumstances, the quantities actually executed on the close of work may be different from the original quantities. In order to ensure progress of work with excess of quantities over what was agreed, the SO(C)/ Engineer Incharge and GM, HoD(C) are permitted to authorise interim payment for excess work as follows :

i) Engineer-in-Charge may make interim payment for work done up to 10% in excess, if any, of the quantities of work against individual item as per contract subject to overall value of work not exceeding the contract value.

ii) The GM, HoD(C) of the company and the SO(C) of the Area may authorise interim payment for excess work done, if any, up to 20% in excess of the quantity of individual item of work as per the schedule of quantities of the contract awarded from Company level and Area level respectively subject to overall value of work done does not exceed the contract / approved deviation estimate value.

The above at Sl.no. i & ii are regularised by a deviation estimate or revised estimate sanctioned by the competent authority with the concurrence of finance.

6.07 Payment for Extra item of Work done

It is not always to foresee all the items of works involved in completion of a work at the stage of design and estimation. During the course of work, extra items of work not covered by the Agreement, may require to be carried out for completion of the work. The contractor cannot be asked to wait for the payment till the sanction of

competent authority is received for the deviation estimate or revised estimate.

In all such cases the GM, HoD(C)/ SO(C) of the Area/ Engineer-in-Charge may authorize interim payment for extra items of work for a contract awarded from Company level and Area level respectively provided items of such extra work added altogether is not more than 10% of the agreement value and total work done including excess quantities does not exceed the work order/ agreement / approved deviation estimate value. This is regularized by a sanction of competent authority with concurrence of finance by a deviation estimate or a revised estimate.

Balance amount on account of excess quantity and extra items of work executed shall be paid after deviation estimates/ revised estimate regularizing the extra items and excess quantity of works is sanctioned by the competent authority with FC.

6.08 Payment of Substandard Works

The contractor is required to execute all works according to the specifications laid down in the contract to the satisfaction of Engineer Incharge. If certain items of work are below specifications, the contractor shall be asked to re-do them according to the specifications and if the contractor does not rectify the defects, the work should be got re-done departmentally at the risk and cost of contractor in terms of the relevant clauses of contract. Engineer Incharge may accept such work of below specifications provided he is satisfied with the quality of such works and the strength and structural safety of such works and with the approval of SO(C)/ GM, HoD(C).

In that case Engineer-in-charge shall make such deductions for the difference in value, as in his opinion may be reasonable and to be approved by SO(C)/ GM, HoD(C).

6.09 Issue of Defect Liability Certificate / Completion Certificate

The contractor shall give notice of completion of work, as soon as work is completed to the Engineer-in-charge. The Engineer-in-charge shall within 15 days from the receipt thereof, inspect the work/ inform the SO(C) or GM, HoD(C) for carrying out inspections required as per cl.5.16 and ascertain the defects/ deficiencies, if any, to be rectified by the contractor as also the items, if any, for which payment shall be made at reduced rate.

6.09.1 In the event there are no defects or the defects/ deficiencies are of a minor nature and the Engineer-in-charge and any other officer nominated for the purpose by GM, HoD(C) are satisfied that the contractor has already made arrangements for rectifications, or in the event of contractor's failure to rectify the defects for any reason whatsoever, the defects can be rectified departmentally or by other means and the 50% of the security deposit of the contractor shall be sufficient to cover the cost thereof, EIC will issue the Defect Liability Certificate (Taking Over Certificate with list of defects), as per delegation of power, indicating the date of completion of the work, defects to be rectified, if any, and the items, if any, for which payment shall be made at reduced rate indicating reasons thereof.

6.09.2 If the defect, according to the Engineer-in-charge and any other officer nominated by GM, HoD(C) for the purpose, are of a major nature and the rectification of which is necessary for the satisfactory performance of the contract, he shall intimate in writing the defects and instruct the contractor to rectify the defects/ remove deficiencies within the period and in the manner to be specified therein. In such cases, Defect Liability Certificate (Taking over Certificate with list of defects) will be issued by the Engineer-in-charge, as per delegation of power, after the above rectifications are carried out/ deficiencies are removed by the contractor to the satisfaction of the EIC and any other officer nominated by GM, HoD(C) for the purpose.

6.10 Settlement of Disputes with the Contractor

It is incumbent upon the contractor to avoid litigation and disputes during the course of execution. However, if such disputes take place between the contractor and the department, effort shall be made first to settle the disputes at the company level.

The contractor should make request in writing to the Engineer-in-charge for settlement of such disputes/ claims within 30 (thirty) days of arising of the cause of dispute/ claim failing which no disputes/ claims of the contractor shall be entertained by the company.

Effort shall be made to resolve the dispute in two stages:

In first stage dispute shall be referred to Area GM/GM, HoD(C). If difference still persist the dispute shall be referred to a committee constituted by the owner. The committee shall have one member of the rank of Director of the company who shall be chairman of the committee.

If differences still persist, the settlement of the dispute shall be resolved in the following manner:

Disputes relating to the commercial contracts with Central Public Sector Enterprises / Govt. Departments (except Railways, Income Tax, Customs & excise duties)/ State Public Sector Enterprises shall be referred by either party for Arbitration to the PMA (Permanent Machinery of Arbitration) in the department of Public Enterprises.

In case of parties other than Govt. Agencies, the redressal of the dispute may be sought in the Court of Law.

7. DUTIES & RESPONSIBILITIES

7.00 The Civil Engineering Deptt. as stated in the beginning, is entrusted with the responsibility of providing leadership for various Welfare and Mine development activities including Service Buildings, Haul Roads, Coal handling Plants etc. In addition, the department is in-charge of the maintenance of the assets of the company already existing as Roads, Buildings, Plants, etc. The company has ambitious welfare plans in the form of housing, water supply, community developments etc. and these are executed and maintained by the Civil Engineering Deptt. of the companies. The Civil Engineers at various tiers of the department should therefore know their duties well and discharge them diligently. In discharge of their duties the Engineers at every level shall keep in mind the following guidelines in general.

(i) He should take pride in his profession and quality of the work executed and his goal should be to achieve excellence.

(ii) He should be fully conscious of the responsibilities of his action being a public servant.

(iii) He should know the rules & regulations, specifications thoroughly including the reason for each requirement to enable him to use his judgment.

(iv) In addition to safe guards required as per rules and regulations, he has a moral obligation to provide for the safety, health and comfort of the public affected by his operations.

(v) He is a leader and he should steer the course of the work through exercising effective managerial and technical control. He should be flexible in his approach and keep the overall interest of the work in mind.

(vi) He must communicate effectively upwards, downwards and horizontally maintain his judgment and cool even under trying circumstances.

The duties and responsibilities from Chief of Civil Engineering at CIL downwards is given below :

7.01 DUTIES & RESPONSIBILITIES OF CHIEF OF CIVIL ENGINEERING/ ED(CIVIL) / GM, HoD(C)POSTED AT CIL(HQRs)

7.01.1 The Chief of Civil Engineering posted at CIL(HQRs) is the Head of Civil Engineering Discipline for Coal India and its Subsidiary Companies.

7.01.2 He shall be responsible and answerable to the Chairman and Directors, CIL for proper and efficient working of Civil Engineering Department.

7.01.3 He is functionally in-charge of all construction work of the company.

7.01.4 He will ensure adoption of uniform rules and guidelines so that streamline of methods and practices is achieved for optimum utilisation of resources.

7.01.5 He will be reviewing authority of capital and revenue budgets of Coal India, to ensure priority and economy in Project Implementation and maintenance of assets.

7.01.6 He will have a cell for collection of Civil Engineering Books, journals & Publications on Civil Engineering, Schedule of Rates/ Standard Specifications and terms & Conditions of Civil Engineering Works, Codes &

Manuals etc. relevant to Civil Engineering and utilise them for the purpose of reference in matters relating to standardizations, quality control. He should also communicate technological development in Civil engineering Works to all concerned.

7.01.7 Updating of departmental SOR in due time and correct manner for all types of Civil Engineering Works will be monitored by him for the purpose of overall control.

7.01.8 He will ensure organizational development by appropriate manpower projections and by advising/ assisting the management in matters relating to recruitment, promotions, placements, organising training needs, streamlining the Civil Engineering personnel etc. for efficient functioning of the department. He will recommend requirement of manpower considering the responsibility mentioned hereinafter at different levels based on work load.

7.01.9 He will inspect and oversee the functioning of Civil Engineering Works in the Subsidiaries each quarter and shall hold review meetings with the concerned officials of the Subsidiary at regular intervals.

7.01.10 He will coordinate all Civil Engineering matters requiring liaison with CTE/ CVC, Rlys, DPE, Ministry and other Statutory Bodies.

7.01.11 He will provide expert advice and consultation to Subsidiaries in all matters related to Civil Engineering.

7.02 DUTIES AND RESPONSIBILITIES OF GM, HoD(C) OF THE SUBSIDIARY AS HEAD OF DEPTT.

7.02.1 The GM, HoD(C) is the head of the department of Civil Engineering and is responsible and answerable to Chief Executive of the company for the proper and efficient working of his department. He is also the Adviser to the company in all matters relating to his branch and he is to look after the efficient and economical working of his Department. It is his duty to see that adequate and detailed rules exist or are prescribed for the efficient construction and maintenance and renewal of all structures, works & equipment etc. that are utilised for the company purpose.

7.02.2 He is functionally in-charge of all construction work of the company.

7.02.3 The Capital & Revenue Budget proposals in respect of all Civil Engineering works prepared by various Projects/ Areas should be reviewed by GM, HoD(C) keeping in view the necessity, economy and project report provisions. The GM, HoD(C) sees that the budget allotments are utilised consistent with actual requirements and general economy.

7.02.4 It will be the duty of the GM, HoD(C) to maintain in his office, the Schedule of rates and a book of standard specifications, terms & conditions and to satisfy himself that the rates allowed for the work are competitive. Other standard books like C.P.W.D., N.B.O., B.P.E., State PWD/ PHED, Schedules, Codes, Manuals etc. should be maintained in his office.

The GM, HoD(C) is empowered to take corrective measures for any faults in systems & practices whether in execution of works or in the preparation of accounts by the officers of the Engineering Deptt. which may come to his knowledge. General Manager of the Area/ Project and other concerned officers should be informed of these measures. It will be the responsibility of the GM, HoD(C) to prepare and update departmental SOR for all types of Civil Engg. works with the concurrence of finance.

7.02.5 (i) The GM, HoD(C) will recommend to the Chief Executive of the Company the appointment, placement and career growth of all officers of his department.

(ii) The GM, HoD(C) will recommend to the Chief Executive of the company requirements of technical personnel and training needs in Civil Engineering deptt, considering the work load and responsibilities mentioned hereinafter at different levels.

(iii) The GM, HoD(C) maintains liaison with CIL, B.P.E. Ministry of Coal regarding construction programme of Civil works for Projects/ Areas including works relating to residential buildings & other welfare measures.

7.02.6 The GM, HoD(C) will inspect his office & Staff Officer(c)'s/ Project Officer(C)'s office under his charge atleast once in every month.

7.02.7 The GM, HoD(C) is responsible for all master plan, selection of site for major construction and important structural designs. The responsibility for the technical features of all designs rests with the office of their origin.

7.02.8 He should guide R&D activities, Standardization and Quality Control in Civil Engineering matters.

7.03 DUTIES & RESPONSIBILITIES OF GM(C) AND CM(CIVIL) IN-CHARGE OF DIVISION

7.03.1 At headquarters while assisting GM, HoD(C) (depending upon jobs in different cells):

- a) Assist GM, HoD(C) in efficient and proper handling of works.
- b) Floating of tenders and allied works.
- c) Preparation/ Updating of Schedule of Rates.
- d) Overall control of estimating and design/ drawing Section.
- e) Overall co-ordination over problem of Civil Engg. works at Headquarters level and follow up action.
- f) Follow up action on accepted tenders relating to civil construction works within the purview of GM, HoD(C), scrutiny and preparation of contract agreement for execution by the GM, HoD(C) and the Contractors.
- g) Scrutiny of revised estimates, claims and court cases relating to civil engineering works.
- h) Disposal of Inspection / Audit reports concerning various works executed.
- i) Preparation and submission of monthly progress reports.
- j) Scrutiny of construction programme, budgets and material budgets.
- k) Co-ordination and follow up action of the various works in Areas/ Projects.
- l) To deal with official correspondence, issue of sanction etc. of GM, HoD(C)'s office.
- m) To do and perform any other duties as may be assigned by GM, HoD(C) from time to time.
- n) He will exercise all powers of GM, HoD(C) or part thereof if so delegated by GM, HoD(C).

7.03.2 While Posted in Field as project officer for execution of major construction works.

He will perform all the functions as a Project Officer and will have all power of Project officer.

7.03.3 While posted in an Area as Staff Officer to Area GM, he will have all function as Staff Officer and exercise the powers as may be delegated to him.

7.04 DUTIES AND RESPONSIBILITIES OF CM(CIVIL) / Sr. Manager(CIVIL) AS STAFF OFFICER(CIVIL)

7.04.1 It will be the duty of the Staff Officer(Civil) to inspect the various works within his Area and to satisfy himself that the system of management prevailing is efficient and economical and the quality of work is according to the specification in the contract.

7.04.2 He is required to ascertain and report to GM of the Area/ Projects and GM, HoD(C) on the efficiency of the subordinate offices and establishment and to see that staff employed under each Manager(C) / Dy. Manager(C) is actually necessary and adequate for its management. He should examine the register of works so as to keep a vigilant watch over the rate of progress of work and he may require the Manager(C) / Dy. Manager(C) to report to him monthly on a work within the sanctioned estimates and ensure that the revised estimate for any work, if required, is submitted in due time to the sanctioning authority.

7.04.3 He should also see that the standard/ approved system of Accounts is maintained throughout his jurisdiction, and see that there is competent administrative approval and sanction of the estimates.

7.04.4 The Staff Officer(Civil) may recommend to the GM, HoD(C) transfer of executives and other technical staff from his Area through the General Manager.

7.04.5 He will be responsible for preparing programme and budgets on all Civil Engineering activities in the area in time and monitor the budget.

7.04.6 He will invite tender for civil engineering works for and on behalf of General Manager and award of work as per delegation of powers, subject to budget provision and observing all other formalities.

7.05 DUTIES AND RESPONSIBILITIES OF MANAGER (CIVIL)/ DY.MANAGER (CIVIL)

7.05.1 The Manager(C) / Dy. Manager(C) / Designated Officer in-charge of the work under his control is responsible to the CM(C)/ Sr. Manager(C) / Staff Officer(C) for execution and management of all works under his jurisdiction in close co-ordination with the concerned Project Officer/ Agent. He should be responsible for the standard quality of work as per specification in the contract agreement.

7.05.2 The Manager(C) / Dy. Manager(C) is required to report immediately to the Project Officer/ Agent and CM(C)/ Sr. Manager(C)/Staff Officer(C) on any serious accident or unusual occurrence under his jurisdiction and to state how he has acted.

7.05.3 The Manager(C) / Dy. Manager(C) should not normally permit deviations from any sanctioned design in the course of execution, except under specific authority, or in the case of emergency when the changes should be forthwith reported to the CM(C)/ Sr. Manager(C) / Staff Officer(C) for competent approval.

7.05.4 Immediately on a work being finished, it will be the duty of the Manager(C) / Dy. Manager(C) to close the accounts in works register/ contractors ledger.

7.05.5 He should process the estimates received from the Asstt. Manager(C)/ Sr. Officer(C) / Sub-ord. Engg.(C) E/A(C)/ Overseer(C) and sent to Staff Officer (C) after due check for competent sanction.

7.05.6 The Manager(C) / Dy. Manager(C) after completion of works should process revised estimates for sanction. He should also see that the final bills are processed and sent to Accounts Deptt. within reasonable time, after completion of work. He is responsible for proper recoveries for the materials issued on sale-account, house rent, electricity, water & hire charges etc. as per the terms of contract.

7.05.7 He is also responsible for proper maintenance of ledgers and accounts for the different work in his jurisdiction.

7.05.8 He is primarily responsible for furnishing information in case of probability of excess over estimated cost of work, and should report any such probability to the CM(C) / Sr. Manager(C) / Staff Officer(C) at once, describing the nature and course of the excess and asking for orders.

7.05.9 He shall carry out checking of measurement as per norms laid down hereinbefore.

7.05.10 He will inspect and approve queries for stone materials, sand and other minor minerals required for civil construction works and determine the lead involved therein.

7.05.11 He will inspect/approve foundation for major residential/ office buildings, minor structures, bridges upto 15m span before allowing laying of foundations. Regarding approval of foundations for major industrial structures like permanent CHPs, Coal Washeries, etc. and bridges above 15m span, he will inspect at first and then obtain approval of the same from CM(C)/ Sr. Manager(C)/SO(C) before allowing concreting . In special cases approval of GM, HoD(C)/ CM(C) (as H.O.D.) may be obtained if necessary.

7.05.12 He will be responsible for furnishing reply to audit paras and other inspection reports concerning Civil Engineering Works. He will maintain a register showing the status of Audit objection raised and settled in due course of time.

7.05.13 He will conduct/arrange investigation and laboratory tests.

7.05.14 He will be responsible for furnishing reply to vigilance queries concerning to his works.

7.05.15 He will be responsible for maintaining records of completion drawings and standard measurements for original work and completion reports for all works under his jurisdiction.

7.05.16 He will maintain a personal diary/ note book to record important points regarding works under his control and also note instructions from his superiors for compliance.

7.06 DUTIES & RESPONSIBILITIES OF SR. OFFICER(C)/ASSTT. MANAGER(C)

7.06.1 The Sr. Officer(C) / Asstt. Manager(C) shall be responsible to the Manager(C)/ Dy. Manager(Civil) for the management and execution of works within his control. He will however maintain close liason with Project Officer/ Agent whenever necessary.

7.06.2 In case, the Sr. Officer(C) / Asstt. Manager(C) is dealing works of a single Project/Colliery which is not under the exclusive control of the Manager(C)/ Dy. Manager(C), he will be under the administrative control of Project Officer/ Agent. He will, however, obtain technical guidance from Manager(C)/ Dy. Manager(C), looking after the works in one or more Colliery/ Projects. He shall be completely responsible for the quality of works according to the specifications as laid down in the contract agreement and approved drawings.

7.06.3 The Sr. Officer(C) / Asstt. Manager(C) with defined area of works will be directly in charge of the construction work and has to look after the work in day-to-day execution. He will be responsible for the maintenance and management of all works within his jurisdiction.

7.06.4 He will do the scrutiny of the estimates prepared by the Sub-ord. Engg.(C) / Engg. Asstt.(C) / Overseer(C) under his charge for the maintenance works on due dates and also for new works. He will submit the complete design/ estimates of the above, as may be necessary.

7.06.5 It is obligatory on the part of Sr. Officer(C) / Asstt. Manager(C) to ensure that the duties laid down for the Sub-ord. Engg.(C)/Engg. Asstt.(C) / Sr. Overseer(C)/Overseer(C) fulfilled properly and in case of lapses, he has to set them right and report to the Manager(C) / Dy. Manager(C). He has to submit necessary returns, accounts and progress reports etc. to the Manager(C) / Dy. Manager(C) in time.

7.06.6 He is responsible for proper recovery for the materials issued on sale account, house rent, electricity and water charges as per the terms of contract. He is also responsible for proper accounts of the materials issued for the departmental works.

7.06.7 He is responsible for the maintenance of all records and registers pertaining to works under his jurisdiction.

7.06.8 He is responsible for processing of revised estimates after completion of works for sanction. He should see that final bills are processed and submitted to the Manager(C) / Dy. Manager(C) in time.

7.06.9 He should bring to the notice of the Manager(C) / Dy. Manager(C) in advance any deviations, extra items, in execution of contract works and obtain proper approval for the same.

7.06.10 He shall carry out checking of measurements as per norms laid hereinbefore. In absence of suitable personnel / executive, they shall also be responsible for recording measurements with approval of GM (C)/HoD of the company for Headquarter works, or SO (C) for area works.

7.06.11 He will take action for working out the requirement of materials for works under his control and take suitable action for procurement as per procedure.

7.06.12 He should always keep his official note book and record every important point regarding works. He should also record in his note book all important instructions given to him by his superior officers for compliance.

7.06.13 He will prepare completion drawings and standard measurements for original works and completion reports for the works.

7.06.14 The Sr. officer (C)/ Asstt. Manager(C) will inspect and approve foundations of minor buildings and also allow concreting.

7.07 DUTIES AND RESPONSIBILITIES OF SUB-ORD. ENGG. (C) / ENGG. ASSTT(C) / SR. OVERSEER (CIVIL)/ OVERSEER (CIVIL)

7.07.1 Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr. Overseer(C) / Overseer(C) is the technical staff at the initial level and is directly incharge of the work at the field levels and have to look after the works assigned to them, by their superiors, from time to time.

7.07.2 The Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr. Overseer(C)/ Overseer(C) is required to maintain

records of labour, materials, tools & plants etc. at site of work. He has to record the measurements of work done or supplies made, prepare bills thereof & keep a clear record of all the stores and tools under his custody. The cost of all materials & hire charges of tools/ equipments issued for the work are to be realised from the contractors bill regularly by the Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr.Overseer(C)/ Overseer(C).

7.07.3 The Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr.Overseer(C)/ Overseer(C) is directly incharge of construction work and has to supervise the works in their day-to-day execution. His exact duties, however, depend upon the instructions of the Sr. Officer(C) / Asstt. Manager(C) and the work on which he is posted.

7.07.4 The Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr.Overseer(C)/ Overseer(C) is the person on the spot in immediate charge of the works. He looks after the execution & management of all works within his section. He takes steps for the maintenance of all buildings/ roads etc in his charge.

7.07.5 The Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr.Overseer(C)/ Overseer(C) prepares estimates for original new works, repairs and maintenance of works on due dates & also for items of special repairs wherever they are necessary and submits them to the Senior officer (C)/ Asstt. Manager(C).

7.07.6 He ensures that there is no expenditure on any work unless all formalities required in connection with the work have been fulfilled.

7.07.7 He should ensure that all works in his charge are carried out in a work-man like manner and according to the contract & departmental instructions. When he notices any defects in any contractor's work, he gets them rectified by the contractor at once, & if the later does not carry out his instructions or the progress is slow, he reports the matter promptly to the concerned Sr. Officer(C) / Asstt. Manager(C) for necessary action. He should always carry his official note book & take it with him during inspection and record every important point regarding works inspected by him. He should also record in his note book all important instructions given to him by his superior officers for compliance.

7.07.8 He is responsible to ensure that the provisions of the contracts are strictly enforced and that nothing is done to nullify or vitiate them.

7.07.9 He takes and records all the measurement of works done or supplies made in his sections in his measurement book & submit the measurement book & bills to the Sr. Officer(C) / Asstt. Manager(C) for early payment/ further necessary actions, unless there is some instructions forbidding him to do so from the higher authorities.

7.07.10 The Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr. Overseer(C)/ Overseer(C) assigned to a work reports immediately to the nearest Police Station as well as to the Sr. Officer(C) / Asstt. Manager(C) / Dy. Manager(C) on the occurrence of serious accident, if any. He inspects every bridge and culvert during and just after rains and ensures that they are not unsafe and that necessary repairs are proposed and carried out timely. During rains, he is to find out if there is any culvert and bridge in his section without adequate water way. He also inspects all building roofs before rains for cleaning of drains. He shall also inspect during the rains and take steps for necessary repairs in case of leakages and dampness.

7.07.11 The Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr. Overseer(C)/ Overseer(C) deputed for construction works should see that the job which he is supervising is done according to the specifications and drawing and orders of his superior officers. He keeps watch on materials, labour and P & Ms available and that required in future. He ensures that the required progress is obtained with the source at his disposal. If there is any shortage, he makes efforts to arrange further requirements. The best way to achieve specified progress is to work out and arrange every materials, P & Ms and labour for required quantities well in advance.

7.07.12 The Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr. Overseer(C)/ Overseer(C) is entirely responsible for all petty stores and site accounts, store, tools & plants in his charge and to see that his stock registers are at all times correct & up-to-date. He sees that articles are kept neatly stocked and that the stocks are made of a uniform dimension to facilitate checking. He ensures that spare bricks, pipes and other building/ road materials in his charge are not left unguarded and unprotected. He does not issue any stores or tools and plants without proper written orders from the Engineer and without obtaining receipts for them from the contractor. He ensures that adequate security arrangements exist as required in every stores.

If on account of any unavoidable circumstances, he finds that there may be some loss to the stores in his possession, he immediately reports the matter to his superior officer. In particular he examines the floors and roofs etc. of the godowns to ensure that there is no dampness or leakage which might involve damage to the stores e.g. setting of cement etc.

7.07.13 It is the duty of the Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr. Overseer(C)/ Overseer(C) to carryout physical verification of stores in his charge & to take proper actions immediately in case of shortages of stores due to theft/ damages and on surplus of stores.

7.07.14 He sees that leveling instruments and theodolites, when not in use are cleaned and kept in their boxes. Other survey instruments are also properly stored so that they do not get damaged. Any damage to an instrument or any defects noticed in the adjustment are reported immediately to the Engineer. The Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr. Overseer(C)/ Overseer(C) is responsible for keeping the instruments in his charge in working order.

7.07.15 He will maintain site order books for each and every work of capital and revenue nature.

7.07.16 He submits periodical progress reports of all works under him to the concerned Engineer(C).

7.07.17 He will prepare deviation estimates for the anticipated deviations from the original agreement well in time and also prepare revised estimate for the works under him.

7.07.18 In case adequate no. of personnel is available at Engg. Asstt. and below level, Subordinate Engineers(Civil) may be allowed to perform responsibilities of Sr. Officer(Civil).

7.08 DUTIES AND RESPONSIBILITIES OF ESTIMATING OFFICER(C)/ ESTIMATOR(C)/ IN-CHARGE (Technical Cell)

7.08.1 He will prepare/ update schedule of rates. He will also make analyzed rates after collecting market rates through an appropriate committee.

7.08.2 He is responsible for the following in respect of the office, he is attached to :

a) Preparation and revision of standard estimates, checking of estimates/ revised estimates received from projects/ areas/ units/ HQ unit and processing the same for sanction

b) Action for call of tenders, preparation and hosting of tender documents.

c) Scrutiny of tenders received and preparation of comparative statement and placing the same before Tender Committee, preparation of work order etc.

- d) Preparation of bill of quantities for the agreements, preparation/ scrutiny of draft agreements.
- e) Responsible for proper accountal & recording of various documents such as tender documents, drawings and other papers. He will maintain the following registers as far as practicable:-
- i) Register of standard estimates/revision thereof.
 - ii) Register of other estimates/revision thereof.
 - iii) Register of tender documents prepared & hosted.
 - iv) Register for tender opening.
 - v) Register for issue of SORs.
 - vi) Register of accounts for "Application form for registration of contractors".
 - vii) Register of applications received regarding registration of contractors.
 - viii) Register of approved suppliers/manufacturers.
 - ix) Register regarding performance of contractors.
 - x) Register of contractors registered under different contracts.

7.08.3 He should assist in court cases and other cases pertaining to the department.

7.08.4 He should scrutinise claims, rate analysis etc.

7.08.5 He is responsible for collection of market rates through approved committee and compilation of different statistics of buildings, roads etc.

7.09 DUTIES & RESPONSIBILITIES OF ACCOUNTS OFFICER/ACCOUNTANT.

7.09.1 The designated Accounts Officer/Accountant shall function as an effective liason between his office and the concerned Area Account Office. He shall be responsible for the financial regularity and maintenance of accounts for transactions of the Deptt. in accordance with the rules.

7.09.2 The functions of the designated A.O/Accountant are three fold: (i) As Accountant, (ii) As Internal Auditor and (iii) As Financial Assistant. In discharging his duties, he is expected to keep himself fully conversant with the sanction and orders passing through the Office and with other proceedings of the Office and its subordinate offices which may affect the estimates &/or accounts of the civil works undertaken by the department.

The Engineer-in-charge should see that he is given the fullest opportunity of becoming conversant with these sanction orders proceeding to enable him to discharge his duty efficiently.

7.09.3 If any transaction or order affecting receipts or expenditure is such as would be challenged in Audit, the Accountant will bring this fact to the notice of the Engineer-in-charge with a statement of his reasons and obtain the orders of that officer. It will then be his duty to comply with his orders.

7.09.4 The designated A.O./ Accountant should bring to the notice of the Engineer-in-Charge all instances, where the expenditure exceeds the financial limitation. If any serious financial irregularity is noticed by the A.O./Accountant it should be reported at once for the information of the E.I.C./ Area Accounts Officer/ concerned Accounts Officer.

7.09.5 The designated A.O./ Accountant has right to seek advice of the Area Accounts Officer/ Chief Accounts Officer in all matters connected with the accounts of his department or the application of financial rules and orders concerning which there may be any doubt.

7.09.6 The designated A.O./ Accountant is responsible for detailed account checking of the individual tenders and for seeing that computation of the individual tenders has been done correctly. He should satisfy himself that the comparative statement correctly incorporates details of the tenders. In case Earnest Money is in the shape of BG, verification of the same shall be done by him. He shall also ensure that validity of the BG is as per provisions of NIT. He shall also ensure extension, if required, in consultation with tender finalizing authority.

7.09.7 The designated A.O./ Accountant will scrutinise and check the bills for Civil Engineering works prepared by the Sub-Ord. Engineer/ Engineering Asstt/ Sr. Overseer/ Overseer based upon the detail measurement books & see that the bill is complete in all respect and in accordance with the contract/ work order.

7.09.8 The designated A.O/ Accountant will function as the representative of Area Accounts Officer concerned and his checking of the bill will form the pre-audit on behalf of the Area Accounts Officer, so far the running on account bills for Civil works are concerned. In respect of all the final bills for Civil works, the Area Accounts Officer, will, however, exercise necessary pre-audit in addition to the checks/ scrutiny exercised by the designated A.O / Accountant.

7.09.9 Details of checking to be exercised by the designated A.O / Accountant in respect of bills relating to Civil Engineering works are given below:-

- i) The Work Order/ Contract Agreement has been signed by both parties.
- ii) Where the work has started before issue of the work order, it is supported by an "URGENCY CERTIFICATE" from the competent authority.
- iii) The date of measurement has been recorded in the Measurement Book.
- iv) The period of claim has been recorded in the M.B.
- v) Check the accuracy of all arithmetical calculations of the contents recorded in the measurement book.
- vi) The rates adopted for various items of work are in accordance with the work order/ contract agreement.
- vii) While checking the first on account bill, ensure that payment towards performance security deposit has been made by the contractor, the particulars thereof should be suitably recorded in the bill. In case Performance Security is in the shape of BG, verification of the same shall be done by him. He shall also ensure that validity of the BG is as per provisions of NIT. He shall also take suitable action for extension of such BG, in consultation with execution authority or as per provisions of agreement, before expiry of its validity. He shall keep the Engineer-in-charge informed about such action.
- viii) The quantities of various works/items are within the provision of Agreement/Work Order or are covered by proper supplementary work order issued in writing by the competent authority.

ix) Agreement No. and date/Work Order No. and date of commencement of work & date of completion of work as per agreement, period of claim, extension of completion time by the competent authority, if any, have been correctly indicated in the bill.

x) Ensure that the bill has been signed by the contractor or the authorised representative of the contractor.

xi) Ensure that the persons signing the bill has been authorised by the contractor either by the Power of Attorney or by virtue of Partnership Deed and that such information has been conveyed to the Area Accounts Officer and Manager(C)/ Dy. Manager(C)'s Office in advance.

xii) Ensure that the bill has been signed by the Sub-ord. Engineer(C) / Engg. Asstt.(C) / Sr.Overseer(C)/ Overseer(C) as the case may be and also signed and endorsed by Sr. Officer(C)/Astt. Manager(C) / Dy. Manager(C) / Manager(C) / Sr. Manager(C) with appropriate check measurements. It is to be ensured that the bill has been signed by the Engineer in Charge as a token of acceptance(CI.6,01.3). Ensure that necessary recoveries including statutory recoveries (Security, Income Tax, Sales Tax on Works contract, etc.) as per provisions of the agreement has been incorporated.

xiii) Ensure that a statement of materials issued and to be recovered is attached to the bill and ensure that all materials issued to the contractors up to the date for which the bill has been prepared have been incorporated therein. However, where the recovery for supply of materials has been spread over more than one running "on account" bill by order of competent authority, ensure that it is in accordance with standing instruction.

xiv) The rates of recovery for such materials have to be scrutinised with reference to the agreement. Where a fixed rate has been provided in the agreement the recovery should be made accordingly. Where the rate has not been indicated the valuation will be done on the basis of the latest price to be obtained from the Area Accounts Office to which 20% should be added to arrive at the provisional rate of deduction for the materials.

However the final recovery should be made on store issue rates as confirmed through sale bill by the Area Accounts Officer/Area Store Officer.

xv) Ensure that other recoveries such as secured advance other advances, supply of coal, hire charges for plant & equipment, water and electricity charges, rent etc. have been made properly.

xvi) In case of final bills the following additional aspects have to be checked:-

- a) Certificate of No claim against the contractor by the Engineer-in-charge.
- b) Certificate of satisfactory completion of work by EIC and or any other Officer nominated by Staff Officer(C) / GM(C) /GM, HoD(C) for the purpose.
- c) Certificate of leak-proofness of roof in respect of buildings or other similar structures.
- d) Indemnity Bond by contractor against any claim by State Govt. towards payment of Royalty for minor materials. Certificate of specific guarantee as per provisions of agreement for specialized item of work is submitted.
- e) Ensure that the revised estimate regularising the variation in quantities and/or extra items executed and the extension of time of completion, as may be necessary, have been sanctioned by the competent authority.
- f) Ensure that a complete list of materials issued to the contractor against the particular work with detail/particulars of recoveries already made from on account bills is enclosed with the final bill.
- g) In case the contractor signs the final bill "under protest" the reasons for such protest have been duly recorded by the contractor on the bill.

7.09.10 He will be responsible for maintenance of bill, register, contractors ledger in respect of civil engineering works separately for each Project.

7.09.11 He is responsible for checking of bills and maintenance of various accounts in respect of civil construction works executed departmentally as per the rules laid down. While exercising the checking/scrutiny of the bills in respect of departmental works, he will further ensure that the same is done in accordance with the detail procedure laid down in preceding paras to the extent applicable.

7.09.12 The Accountant should maintain the following records in respect of all works separately for each project except which will be common for all the projects in the department:

- i) Imprest Cash Book.
- ii) Estimate Register.
- iii) Work Order Register.
- iv) Contract Agreement Register.
- v) Bill Register separately for Capital & Revenue works.
- vi) Contractors Ledger.
- vii) Bank Guarantee register.

8. QUALITY ASSURANCE

8.00 Quality assurance encompasses all the measures that are necessary to achieve the quality of a product. Specifically for Civil Engineering construction it implies that there are standards of construction for all works which must be achieved. Knowledge/consciousness about quality is therefore the first prerequisite of quality assurance. Bureau of Indian Standards (BIS) has extensively covered various aspects of civil engineering constructions which must be followed for quality assurance.

To start with specifications covering materials and workmanships should be clearly drawn and laid down as per BIS Codes/other scientific bodies engaged in standardization (like NBO, IRC etc). Drawings should support the specifications in the form of notes, sketches etc. as far as practicable. Workmanship should be similarly covered to the possible extent in the form of acceptable limits of tolerance for any work.

8.00.1 Quality assurance has two important aspects:

- i) Preventive aspect.**
- ii) Corrective aspect.**

The preventive aspect should consist of an organised Quality Control programme with clear standards and guidelines so that everyone knows exactly what he is responsible for. The corrective aspect is basically based on the complaints and Corrective Quality assurance therefore includes taking immediate action to correct flaws, dealing with whatever other problems they may have caused and putting things back normal. Steps must also be taken to see that the same trouble does not recur.

8.00.2 Handling Complaints.

There are four steps in handling complaints:

- i) Restore the required function as quick as possible.
- ii) Investigate the possible cause of complaint to fix responsibility.
- iii) Regain Company's confidence by dispelling bad feelings.
- iv) Adequate action to be taken to prevent recurrence.

8.00.3 During finalising of contract, the responsibility of the contractor to achieve the specified works should be formally recorded in the contract agreement. The Engineers/Supervisory Staff concerned overseeing the work should be conversant with the drawings and specifications in the contract. There should be rolling quality improvement programme in every subsidiary company through training, seminars, quality circles etc

8.00.4 During execution, quality can be assured through sampling of actual work and its comparison with what is specified in the contract. This method of work sampling is confined to mainly monitoring of the followings:

- * Monitoring of quality of materials used in construction.
- ** Monitoring of the workmanship displayed during execution of work in the finished work.

8.01 Quality Assurance of Works.

8.01.1 The quality of the work depends on the materials used and workmanship in the construction. All materials and workmanship shall be as per the specifications described in the contract/work order and shall be subjected from time to time to such tests as the Engineer directs at the place of manufacture, or on the work site or at such other places as may be specified. The contractor shall provide such assistance, instruments, machines, labour and materials as are normally required for testing any work and shall supply samples of materials before use in the works for testing as required by the Engineer. It is advisable that for major works (over Rs.5 Crores)

contractors maintain a field laboratory with equipments (based on type of work) as per provisions of Appendix-14A.

8.01.2 Proforma for Quality Control inspection to be carried out by the concerned Engineers is given at **Appendix-14**.

8.01.3 Guidelines for Technical Audit to be done by the concerned Engineers are given in **Appendix-15**.

8.02 Cost of Samples & Tests.

All samples shall be supplied by the Contractor at his own cost as per contract agreement/work order. The cost of making any test as per contract agreement shall be borne by the contractor. Testing of materials in any govt. Laboratory / Govt. Engineering College / NIT / IIT may be undertaken at the discretion of Staff Officer(C) Area / GM, HoD(C).

8.03 Access to the Works.

The Engineer-in-Charge and any persons authorised by him shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles are being obtained for the works and the contractor shall provide every facility for and every assistance in or in obtaining the rights to such access.

8.04 Inspection of Works.

i) No work shall be covered up or put out of view without the approval of the Engineer or the Engineer's representative and the contractor shall provide full opportunity for the Engineer or the Engineer's representative to examine and measure any work which is about to be covered up or put out of view and to examine foundations before permanent work is placed thereon. The contractor shall give due notice to the Engineer's representative whenever any such work or foundations is ready or about to be ready for examination and the Engineer's representative shall, without unreasonable delay, unless he considers it unnecessary and advises the contractor accordingly, attend for the purpose of examining and measuring such work or of examining such foundations.

ii) The contractor shall uncover any part or parts of the works or make openings in or through the same as the Engineer may from time to time direct and shall reinstate and make good such part or parts to the satisfaction of the Engineer. If any such part or parts have been covered up or put out of view after compliance with the requirement of sub-clause above and are found to be executed in accordance with the contract the expenses of uncovering, making openings in or through and making good the same shall be borne by the employer, but in any other case all costs shall be borne by the contractor.

8.05 Removal of Improper Work and Materials.

i) The Engineer in Charge shall during the progress of the works have power to order in writing from time to time.

a. The removal from the site of any materials which in the opinion of the Engineer, are not in accordance with the contract/work order.

b. The substitution with proper and suitable materials.

- c. The removal and proper re-execution, notwithstanding any previous test thereof or interim payment therefore of any work which in respect of materials or workmanship is not in accordance with the contract.
- d. In case of default on the part of the contractor in carrying out such order, the engineer shall be entitled to employ and pay other agency to carry out the same and all expenses consequent thereon shall be recoverable from the contractor or may be deducted from any amount due or which may become due to the contractor.

8.06 Devaluation of Work.

In lieu of rejecting a work done or materials supplied not in conformity with the contract/work order, the Engineer-in-Charge and any other Officer nominated by GM, HoD(C) for the purpose may allow such work or materials to remain with the approval of GM, HoD(C), provided the Engineer-in-charge is satisfied with the quality of such materials or the strength and structural safety of the work and in that case he shall make such deduction for the difference in value as in his opinion may be reasonable with the approval of GM, HoD(C).

8.07 Final Inspection.

8.07.1 The Engineer-in-Charge shall make final inspection of all work included in the contract/work order or any portion thereof or any completed structure forming part of a Project as soon as practicable after notification by the contractor that the work is completed and ready for acceptance. If the work is not acceptable to the Engineer in Charge at the time of such inspection, he shall inform the contractor in writing as to the particular defects to be rectified before final acceptance can be made.

8.07.2 Final inspection of works shall also be done by SO(C)/Chief Manager(C)/any other officer nominated by SO(C)/GM(C) or CM(C)/any other officer nominated by GM, HoD(C) as per norms laid down hereinbefore. A certificate to this effect shall be recorded by the Officer carrying out the inspection as per Cl. 5.16.

8.08 Defects appearing after acceptance.

Any defects which may appear within the defect liability period and arising in the opinion of the Engineer in Charge from lack of conformance with the drgs. and specifications, shall, if so required by the Engineer in Charge in writing be rectified by the contractor at his own cost within the time stipulated by the Engineer in Charge. If the contractor fails to comply, the Engineer in Charge may employ other agencies to rectify the defects and recover the cost thereof from the dues of the contractor.

8.09 Site Order Book / Hindrance Register.

8.09.1 A Site Order Book is a register duly certified by the EIC regarding number of pages it contains, each page being numbered. Name of work, name of contractor, reference of contract/work order etc. and the aforesaid certificate should be recorded on its first page.

8.09.2 Site Order Books shall be maintained on the sites of works and should never be removed therefrom under any circumstances. It shall be property of the company. The Engineer-in-Charge or his authorised representative shall duly record his observations regarding any work which needs action on the part of the contractor like improvement in the quality of work failure to adhere to the scheduled programme etc. as per contract agreement/work order. The contractor shall promptly sign the Site Order Book and note the orders given therein by the Engineer-in-Charge or his representative and comply with them. The compliance shall be reported by the contractor to the Engineer in Charge or his authorised representative in time so that it can be checked and recorded.

8.09.3 The Site Order Books should invariably be consulted at the time of preparation of running account bills and final bill of the contractor.

8.09.4 Site Order Books are important documents and in case of loss, their write-off may be got sanctioned from SO(C)/GM, HoD(C) as in the case of loss of Measurement Books.

8.09.5 A Hindrance Register shall also be maintained at site to record various hindrances encountered during the course of execution. Hindrance Register will be signed by both the parties. The contractor may also record his observations in the Hindrance Register. In case the contractor has a different opinion for hindrance and a dispute arises, then the matter will be referred to Engineering In charge and or the next higher authority whose decision will be final and binding on the contractor. The decision shall be communicated within 15 days. .

8.10 Samples and Testing of Materials.

All the materials to be used on work such as cement, bricks, aggregates, sand etc. shall be approved by the Engineer-in-Charge in advance and shall pass the tests and analysis required by him, which will be as specified in the specifications of the items concerned and or as specified by BIS or the MORTH standard specifications acceptable to the Engineer-in-Charge. The method of tests are not dealt here.

The testing of construction materials and workmanship of Quality are not dealt here. The relevant IS codes/other relevant codes or provisions in the contract agreement should be consulted during execution of work.

8.11 Quality Control aspect has not been dealt in exhaustive manner in this Manual. During execution of work provisions in the contract agreement and relevant BIS codes/ MORTH specification shall be referred to as per instructions of the Engineer-in-charge.]

9. REGISTRATION OF CONTRACTORS.

9.00 Every subsidiary has to depend on outside agencies for execution of various civil works whose nature and volume is very divergent in nature. It is therefore preferable that a list of Contractors is maintained for assigning the works which arise with time. This pool of Contractors shall be a large and competent group with capabilities to deliver the goods as needed. The process of enlistment of Contractors is explained below. This also helps department to select list of contractors in case of limited tenders.

9.01 Application for Registration.

- i) Contract Management Manual of CIL has suggested registration of contractors for different categories for taking up works above Rs. 50 lakhs. The norms suggested have been extended with some modifications for registration of contractors for taking up works of different values.
- ii) The form of notice inviting application for registration of contractors along with the specimen application form is given separately in Appendix-16 and Appendix-17 respectively.
- iii) The applications received for each type of work and category is entered in the Register of application for Registration of Contractors.
- iv) The screening of applications received shall be carried out by the Technical Cell attached to the Office of GM, Hod(C).
- v) Registration of Contractors will be a regular process. The registration shall be made initially for a period of two years.
- vi) Registration of Co-operative Societies should be encouraged for labour oriented works valued up to Rs. 2 lakhs and registration fees for Co-operative Societies shall be half of the normal registration fees.
- vii) Unemployed Engineers (Degree or Diploma holder in Civil Engineering) may be registered directly in Category-H (for work valued up to Rs. 2 lakhs) and registration fees for such unemployed Engineers shall be half of the normal registration fees.

9.02 Screening of Applications.

Screening of applications for registration should be done on the guidelines suggested as under:

- i) All the applications received are entered in the register kept for the purpose and are scrutinised by the Technical Cell attached to the Office of GM, HoD(C). Technical Cell shall submit the scrutinised applications along with their recommendations to GM, HoD(C) for approval.
- ii) To ensure that all the particulars required are furnished by the applicants, particularly:
 - a) Attested copies of work orders and satisfactory completion certificates of the work done as per particulars required under past experience and work in hand are furnished indicating respective value of each work.
 - b) Documentary evidence in support of registration under register of firms, contract labour laws as applicable and registration with other Government, Semi-government organisations are furnished.
 - c) Details of equipment and machinery available with the applicant as owner or in any other capacity ensuring full control over such equipment/machinery.

- iii) To ensure from the details furnished about past experience, the applicant satisfies the minimum eligibility criteria for registration as specified in the Notice inviting applications.
- iv) Applications which do not satisfy the minimum eligibility criteria for the category applied for, may be considered for registration under any other lower category provided such registration is required for the type of work applied for.
- v) To ensure that the applicant's past experience and technical resources relate to the type of work and category for which registration is applied for are adequate or whether the application may be considered for registration in the lower category.
- vi) To verify whether the volume of transactions as can be determined from the details of past experience i.e value of work executed during the past 5(five) years is comparable with the turnover as per attested copy of audited accounts furnished as also with the volume of transactions recorded through the applicants Bank Accounts as certified by the Banker of the Applicant.

Cases of major variations should be listed(minor variations up to ten per cent may be ignored) which should be subjected to further scrutiny, if necessary, by making reference to the concerned employer or the applicant to clarify the variations.

- vii) To identify the applicants who are presently working with the company or who had worked during any of the preceding three years, from the list of applicants, and recommended for registration.

- a) If the minimum eligibility criteria is satisfied which relates to a similar type of work of the company or of any of the other subsidiaries or Coal India Ltd or any other government or semi-government organisation for which registration is applied.

- b) If the minimum eligibility criteria is satisfied which does not relate to a similar type of work of the company or any of the other subsidiaries or Coal India Ltd. or any other government or semi-government organisation for which registration is applied for, after ensuring the adequacy of experience and technical resources as per item(v) above provided that there is no adverse report against the applicant debarring him from undertaking any work of Coal India Ltd. or any of its subsidiaries.

9.02.1 Renewal, Addition & Deletion of Registration.

- i) Applications for Registration from interested contractors/firms will be received all through the year and processed for registration after necessary screening as per the norms laid down hereinbefore. Such applications may be received by the department after the initial registrations are done and Registration of such contractors/firms are done initially for a period of two years.
- ii) The performance of all the contractors in respect of each work shall be submitted by Manager(c) / Dy. Manager(C) /In-charge of the work on completion of the financial year in the prescribed proforma given at **Appendix-18** to SO(C)/CM(C) and the same shall be reviewed by SO(C)/CM(C) before being put up to GM, HoD(C). Those contractors whose performance are found to be unsatisfactory twice in two years of Registration, his/their name shall stand deleted from the list of Registered Contractors and inclusion of his/their name may be considered by GM, HoD(C) after he gets satisfied and assured about good performance in future.
- iii) Renewal of Registrations will be done on expiry of the validity period of Registration of contractors/firms. Such renewal of Registrations will be done after the scrutiny of the performance reports of the registered contractors/firms with the approval of GM, HoD(C).

9.03 Award of Registration Numbers.

A register of empanelled contractors is prepared and the registration numbers are awarded to them as per approved list. Letters of registration in the standard format intimating registration number and category/type of works for which the contractor is registered is sent to him.

TECHNICAL SPECIFICATIONS

10.00 Technical Specifications to be followed

10.01 Civil Engineering Works

Latest CPWD specification shall be adopted. Presently CPWD specifications 2009 Vol. I & II is in vogue which may be followed. These specifications cover all type of Building Works. The specifications are available as a printed document issued by CPWD and also in soft copy PDF format in CPWD website.

10.02 Electrical Engineering Works

Latest CPWD specification shall be adopted. Presently the following are in vogue:

Part No.	Description	Year Of Issue
I	Internal	2013
III	Lifts And Escalators	2003
V	Wet Riser And Sprinklers System	2006
VI	Heating, Ventilation And Air Conditioning Works	2005

10.03 Roads And Bridges

Standard specifications issued by ministry of surface transport may be followed. Presently MORTH Specifications on roads and bridges 2013 is available. These specifications cover exhaustively various roads and bridge works. (Applicable for important and major roads).

INFORMATION ON EXAMINATION BY CHIEF TECHNICAL EXAMINER'S ORGANIZATION.

11.00 Functions

The Chief Technical Examiner's (CTE) Organization is the technical wing of the Central Vigilance Commission. The CTE's organization conducts inspection of works of PSUs from the vigilance angle on its own or on a complaint being received by / referred to them. The inspections can be carried out by them for works of any magnitude, both in respect of original and repair works.

11.01 Inspection by CTE.

i) Intimation regarding the inspection / examination of works by the CTE is sent to Vigilance department. Such intimations are referred to GM, HoD(Civil). In order to enable the inspection to be carried out properly, various documents relevant to the work are generally asked for by the CTE to be kept ready at site. A list of such documents are given in Appendix-28. This list is not exhaustive / comprehensive. Any other record considered relevant for inspection can be called for by them.

ii) The inspection reports are sent by CTE to the GM, HoD(Civil) to which the concerned Engineer Incharge shall reply through office of GM, HoD(Civil) within the period mentioned in the letter. Matters dealt by higher officers are to be replied by appropriate authority through GM, HoD(Civil).

11.02 Recoveries of Over Payments Pointed out by CTE.

i) Normally the recoveries of overpayments pointed out by CTE should be made within a period of three months from the date of issue of memorandum by CTE. The overpayments arising out of the defects pointed out by the CTE should be promptly assessed and accepted by Divisional Officer whenever agreed to, and the recoveries effected from the money due to the contractor either from R/A bills or from Security or from any other work.

ii) In no case, action to recover the overpayments should be kept pending.

iv) Although the inspection of CTE is a part of the contract, yet the CTE is not a party to the contract. No reference should be made to his inspection / examination of works in any correspondence made with the contractor. Notice for rectification of defects, recoveries etc. shall be issued by the engineer Incharge who is a party to the contract.

12.0 GUIDELINES FOR BANNING OF BUSINESS.

12.1 Introduction

12.1.1 CIL/ Subsidiary, being a Public sector undertaking and “State”, within the meaning of Article 12 of Constitution of India, has to ensure preservation of rights enshrined in Chapter III of the constitution. CIL/Subsidiary has also to safeguard its commercial interests. It is not in the interest of CIL/Subsidiary, to continue business with firms who commit default, deception, fraud and other misconduct in the execution of contract awarded/orders issued to them. In order to ensure compliance with constitutional mandate, it is incumbent on CIL/Subsidiary to observe principle of natural Justice before banning the business dealings with any Agency.

12.1.2 It is incumbent that adequate opportunity of hearing is provided and the explanation, if tendered, is considered before passing any order in this regard keeping in view the facts and circumstances of the case.

12.2 Scope

12.2.1 The procedure of (i) Suspension of Business and (ii) Banning of Business Dealing with agencies, has been laid down in these guidelines

12.2.2 It is clarified that these guidelines do not deal with the decision of the Management not to entertain any particular Agency due to its poor poor/inadequate performance or for any other reason.

12.2.3 The Banning shall be with prospective effect, i.e. future business dealings.

12.3. Definitions

In these guidelines, unless the context otherwise requires:

(i) “Bidder/Contractor/supplier” in the context of these guidelines is indicated as “Agency”.

(ii) “Competent Authority” and “Appellate Authority” shall mean the following:

D(T) CIL/CMD of the Subsidiary Company as the case may be is the Competent Authority to order Suspension of business/banning of business of an Agency if the Ban is applicable within CIL/Subsidiary company.

Chairman CIL is the Competent Authority for banning of business with “CIL and all subsidiary company”.

For all cases of “Banning of Business”, chairman CIL is the **Appellate Authority**.

12.4 Initiation of Banning/Suspension

Action for banning/suspension of business dealings with any Agency should be initiated by the department/unit having business dealings with them after noticing the irregularities or misconduct on their part.

12.5. SUSPENSION OF BUSINESS

12.5.1 If the performance of any Contractor is found to be unsatisfactory, or if the conduct of the contractor (firm) is under suspicion, or in the event of any breach of the conditions as stipulated in the general terms and conditions of the contract, committed by the contractor or a partner of the contractor, the competent authority (CMD of the Subsidiary Company/D(T), CIL as the case may be) may consider whether such default on the part of the contractor, consequence of breach or the allegations are of a serious nature and whether pending full examination/ investigation, it would be advisable to continue business dealing with the firm. If the competent authority decides that it would not be in the interest of the Company to continue such business, pending full investigation/examination, it may suspend business dealings with the firm. The order of suspension should specify whether all subsisting Contracts are suspended or whether the order relates to specific Contracts. The order of suspension would operate for a period of not more than six months unless withdrawn earlier.

The competent authority of the Subsidiary Company/CIL may suspend the entire business dealings covered under the existing contract in whole or any part thereof any time by giving the contractor notice in writing of such effect and the anticipated duration of such suspension.

The concerned deptt. of the Subsidiary Company/CIL should ensure that the final examination/investigation of the case is completed well within period of six months or within the anticipated duration of suspension order notified to the contractor firm whichever is earlier.

12.5.2 The order of suspension must be communicated to all HODs within the Subsidiary /CIL as the case may be. Copy of the order of suspension relating to any Subsidiary Company must be forwarded to the concerned deptt. and Vigilance Deptt. of the concerned Subsidiary Companies and CIL for such action as may be necessary. The concerned deptt. of CIL on receipt of any such suspension order will ascertain the performance of the firm from the other Subsidiary Companies where the firm is executing works under any other contract. On examining the investigation report, CIL will decide whether the suspension order issued by one Subsidiary Company is required to be imposed or extended to other Subsidiary Companies where the firm was executing work against any other contract placed by the Subsidiary Companies. If it is felt necessary to impose suspension of business dealing with the firm by those Subsidiary Companies too, CIL with the approval of Chairman, CIL will issue suspension order suspending business dealings at all the Subsidiary Companies.

12.5.3 During the period of suspension, the competent authority may review the order of Suspension on receipt of a representation from the firm, if any. If the competent authority considers in the light of its review that the order may be revoked, it may do so. Order revoking the suspension order should be communicated to the firm with copy to all concerned.

12.5.4 However, if full investigation/examination is not completed within six months and the competent authority considers that suspension order should continue beyond that period, the firm may be issued a show cause notice by the competent authority giving 21 days time to furnish a written statement of defence. If the reply is not satisfactory, the suspension period beyond six months may be extended till the full investigation is completed. However, it must be ensured that the investigation/examination of the case is not delayed beyond another 3(three) months. Extension of suspension beyond six months should have the approval of D(T), CIL/CMD of the subsidiary company. The investigation must be completed during this period.

12.5.5 It is not necessary to give any show-cause notice or personal hearing to the Agency before issuing order of suspension. If the agency asks for detailed reasons of suspension, the agency may be informed that its conduct is under investigation.

12.6. INVESTIGATION:

12.6.1 After full investigation of the matter is completed, the Subsidiary Company/CIL will take the Following action:

- a) If the facts and evidences justify any penal action against the firm as detailed at para 12.7 , such action should be taken.
- b) Otherwise, the suspension order should be revoked forthwith, under intimation to all concerned.

12.6.2 For further actions the relevant stipulations contained in the relevant clauses of the General terms & conditions of the contract will prevail upon.

12.7. BANNING OF BUSINESS

Banning of business should be considered in the following cases :

- i) If the Directors, Proprietors, Employees, Partners or any Representative of the Agency is/are found guilty of offences involving any security consideration including loyalty to the State, in connection with business dealings with CIL or its Subsidiaries.
- ii) If the Director, Proprietor or Partner, Manager or any Representative of the firm is convicted by a court of law for offences in relation to its business dealing with any State Government/Central Government or any Public Sector Undertaking.
- iii) If there are strong reasons to believe that the Directors, Proprietors, Managers or any Representative of the firm has/have been guilty of malpractices such as bribery, corruption, fraud, substitution of tenders, interpolation, etc.
- iv) Willful suppression of facts or furnishing or wrong information or manipulated or forged documents by the Agency or using any other illegal/unfair means.
- v) Drawing double payment or submitting invoice for double payment for carrying out the same job/work.
- vi) Failure to execute the work as per good Engineering practice or rectify it even after notice. Also failure to adhere to specification.
- vii) Failure to pay legitimate dues to CIL/Subsidiary Companies including Payable debt and when CIL and/or its subsidiary Companies are satisfied that this is not due to any reasonable dispute which would attract proceedings in arbitration or a Court of Law.
- viii) Commission of economic offence like evasion of Service tax, or any other legitimate taxes, levies, duties, etc. imposed by the Government or local authorities etc.

- ix) Continued and repeated failure to meet contractual obligations.
- x) Revision of price and terms of offers within the validity period of the tender on a habitual basis, in order to undermine the decision making process.
- xi) Canvassing and lobbying to get undue favour from the Company.
- xii) Formation of price cartels with other contractors with a view to artificially hiking the price.
- xiii) Any other misdeed which may cause financial loss or commercial disadvantage to the Company.

12.8 PERIOD OF BANNING

12.8.1 The period should be a minimum of three years and should be decided based on the gravity of the offence and the quantum of loss suffered by CIL or the Subsidiary Company.

Copies of all orders of banning of business issued by Subsidiary Companies must be forwarded to CIL and all other Subsidiaries of CIL and CIL Hqrs. Vigilance for such action as may be considered necessary.

12.9. PROCEDURE FOR BANNING

12.9.1 Any proposal of banning of business should be put up by the concerned Executive of the Department to the Head of the Department along with all relevant documents. The HOD, in turn, will have the case investigated, if necessary with the assistance of the Vigilance Department and submit the case with his recommendation to the competent authority i.e. CMD of the Subsidiary Company/D(T), CIL.

In case the competent authority decides that action against a firm is called for, it may recommend issue of a notice to the firm asking it to show cause why it should not be banned for a specified period in view of the allegations against it. Details of the allegations/charges may be appended to the show cause notice and the firm should be asked to submit within 21 days a written statement of defence. All the correspondence with the firm may be made by registered post with A/D. The show cause notice should be sent by the HOD of the concerned Department.

On receipt of a reply of the show cause notice or where no reply is received, the HOD may put up a proposal for either –

- a) Exonerating the firm if the statement of defense of the firm is found to be satisfactory and the charges framed against the firm are not substantiated.
- b) Banning of business dealings with the firm for a specified period.

On receipt of the order of banning of business with any firm by any Subsidiary Company, CIL Hqrs. will consider whether the offence committed by the firm is serious enough to warrant banning of business with the firm across all Subsidiaries of CIL. For this purpose the contracts with other Subsidiary Companies will have to be examined by CIL Hqrs. if it is decided to resort to banning of business of the firm with all Subsidiaries, a fresh show cause notice will have to be issued to the firm giving it reasonable time to reply to the notice. Thereafter, the usual procedure for banning of business is to be followed and a final order is to be issued with the approval of Chairman, CIL.

Any copy of the order of banning of business received from the Subsidiary Companies in the CIL Hqrs. must be put to D(T), CIL within period of 30 days indicating whether further action is to be taken on the same. This time limit is to be observed strictly.

If the competent authority, after going through the proposal of the HOD, decides to ban business dealings with a firm, an order to that effect should be issued to the firm. The order imposing banning on the business dealings with the firm should specifically mention whether the ban would extend to all the Subsidiary Companies, in case it is decided to do so and also the period of banning in number of years.

Copies of the order of the competent authority banning business dealing with any firm should be sent to all HODs of the Subsidiary Companies concerned and during the period of banning, no business dealing can be entered into with the firm. As far as possible, the existing on-going contracts may also be terminated after observing the formalities regarding termination as stipulated in the contracts.

12.10. APPEAL AGAINST DECISION OF COMPETENT AUTHORITY

12.10.1 If after an order is issued banning business with a firm, the firm comes up with any appeal or representation seeking withdrawal or any modification of the order, the matter should be decided by the Appellate Authority.

Such an appeal shall be preferred within one month from the date of receipt of order banning business dealings Appellate Authority would consider the appeal and pass appropriate order which shall be communicated to the Agency as well as Competent Authority.

If after an order is issued banning business with a firm, the firm comes up with any appeal or representation seeking withdrawal or any modification of the order, the matter should be decided under the order of Chairman, CIL.

APPENDICES

APPENDIX-1
(Ref Cl.2.01)

PROFORMA-1

Proforma of particulars to be furnished by the concerned departments when initiating building projects which are to be executed by Company Hqrs./Area/Project/Unit.

General 1

Non-Residential Building

1. Name of Department
2. Name of work
3. Location
4. (a) Whether land is available. If so, what is the area available. Whether the concerned competent authority has certified the suitability of site.

(b) If the land is not available, whether acquisition proceedings have been initiated, & if so, when possession of land is expected.
5. Approximate cost of the project (whether any limit has been fixed regarding the total cost of the project).
6. Whether any budget provision has been made in the current year, if so, what is the amount provided.
7. Schedule of requirements :-
 - a) No. of officers grade wise.
 - b) No. of ministerial and other staff in each room.
 - c) No. of caretakers' and electricians' quarters reqd.
 - d) No. of subordinate technical staff in each room.
 - e) No. of Garages required
 - (i) Open garages
 - (ii) Closed garages
 - f) No. of cycle stands required.
8. Special requirements with approximate floor area :
 - (a) Common Room
 - (b) Conference Room
 - (c) Visitors' Room
 - (d) Canteen
 - (e) Recreation Room
 - (f) Inspecting Officers' Rest Room
 - (g) Post Office of Sub-Post Office
 - (h) Storage space for records, stationery etc.

- (i) Laboratory, workshop, telephone exchange, library, lecture hall etc., as may be specially required.

9. Services with necessary details:

- (a) Whether gas supply is required?
- (b) Whether water supply is required at places other than toilet?
- (c) Whether any power supply is required?
- (d) Whether air-conditioning is immediately required or at a later date?
- (e) Whether telephone conduits are required to be laid?
- (f) Whether acoustic treatment is required and if so, why?
- (g) Whether any arrangements for installation of computer are required?
- (h) Any other special requirements, such as ducts, ceiling, special type of flooring, special type of light fittings, etc.
- (i) Whether any lifts are required:-
 - i) Passengers
 - ii) Goods (Capacity).

10. Number of storeys desired.

11. Whether any provision is to be made for future expansion, vertical or horizontal. If so, rough details to be given.

12. Any other particulars.

- Note:**
- (1) Generally lifts are provided for buildings of four stories and above. If lifts are required for double or three storeyed buildings, reasons for the provisions of the same may be given.
 - (2) In case of laboratories, telephone exchanges, workshops, etc.
 - (3) Attach separate sheets if the space provided in the proforma is not sufficient.
 - (4) In a technical building, relative position of the rooms may be indicated by means of a rough sketch.

PROFORMA 1-B

Proforma of particulars to be furnished by the concerned departments when initiating building projects which are to executed by Company Hqrs./ Area/ Project / Unit.

Hostels.

1. Name of Department.
2. Name of the works.
3. Location
4. Whether land available, if so, what is the area, if not whether land acquisition proceedings have been initiated.
5. Approximate cost of the project (whether any limit has been fixed regarding the cost of the project).
6. Whether any budget provision is made in the current years budget, if so what is the amount provided.
7. Whether rooms are to be single, double or treble seated.
8. General requirements of accommodation.
- 9.

A-Trainee Hostels.

- a) No. of trainees.
- b) No. of visiting faculties, if any.
- c) No. of wardens' quarters.
- d) No. of Staffs' Quarters.
- e) No. of garages, cycle sheds etc.
- f) Whether separate dining halls and kitchen for gents & ladies or for vegetarian & non-vegetarian required.
- g) Special requirements:
 - i) Common room and lounge.
 - ii) Canteen
 - iii) Reading Room and Library
 - iv) Auditorium
 - v) Dispensary
 - vi) Gymnasium.

B- Officers' Hostel

- a) No. and rank of officers and accommodation required for each.
- b) No. of servants' quarters
- c) No. of garages, cycle shed etc.
- d) Whether separate dining halls required.
- e) Special requirements
 - i) Attached bath rooms.
 - ii) Attached kitchenette.
 - iii) Common room and lounge
 - iv) Canteen
 - v) Reading room and library
 - vi) Auditorium
 - vii) Billiard rooms
 - viii) Dispensary and sick bed.
- 9) Any other particulars.

PROFORMA 1-C

Proforma of particulars to be furnished by the concerned departments when initiating building projects which are to be executed by Company Hqrs./ Area/ Project/ Unit.

Residential Building

1. Name of Department.
2. Name of the work.
3. Location.
4. Whether land is available, if so, what is the area; if not whether land acquisition proceedings have been initiated.
5. Approximate cost of the project (whether any limit has been fixed regarding the cost of the project).
6. Whether any budget provision is made in the current years budget, if so, what is the amount provided.
7. Pay Scales of the officers with their numbers for whom the quarters are required.
8. No. of stories desired.
9. Any provision to be made in the lay-out for future expansion, if so, number of quarters with pay scales of officers concerned.
10. What amenities are to be provided. Approximate floor area may be given with any other particulars to be considered :
 - (i) Shopping Centre.
 - (ii) Recreation Centre.
 - (iii) Dispensary or Hospital.
 - (iv) School
 - (v) Any other special requirements.
11. Whether water supply, sewage disposal, electric fittings, etc., to be provided.
12. Whether power plugs are required.
13. Any other particulars.

PROFORMA- 2OFFICE OF THE GM, HoD(C)/SO(C)

The Manager(C) / dy. Manager(C) / Sr. Manager(C)

.....

Subject:

Reference:

The following particulars in connection with the above may kindly be furnished to this office at an early date.

- 1) Dimension of all boundaries and diagonals or angles sufficient to enable to draw out the complete site plan.
- 2) Position of all existing structures or/ and permanent marks such as wells, trees, paths, roads, drains may be clearly indicated on the plan together with their dimension, widths, etc. Any of the above features to be retained may be shown on the plan.
- 3) Any structures existing within 20 fts (6 mtrs). Of the boundaries giving height of the same, also general buildings existing in the near vicinity giving their character, heights and purpose. The sizes of window and door openings, if any, of the structures abutting the site and their right of way and light etc. may be clearly mentioned.
- 4) All roads abutting the site together with their widths, berms and importance with regard to traffic etc.
- 5) All levels, if any, may be marked in relation to all existing roads crown or road level.
- 6) Direction of north as also the general prevailing winds in the different parts of the year. Average rainfall during the year.
- 7) All services available in the localities, such as municipal sewers, water supply (its pressure in relation to height) and electric supply together with their mains, if possible.
- 8) All local Municipal Bye-laws or lay-out schemes affecting the site particularly in relation to the set-back lines on roads, front, rear or side, total built-up area allowed and permissible height.
- 9) All local materials for construction together with their uses in local practice and mode of construction with regard to walling, roofing and general finishes.
- 10) Complete plans, elevation and section of the existing structures together with photographs and brief specification in case extension is desired to the same.
- 11) Any other information pertaining to nature of soil and its capacity, or zone falling in the seismic area etc., may be given.

Note: All information desired above may please be duly signed by the issuing officer.

GM, HoD(C)/SO(C)

Proforma 3 – A

OFFICE OF THE GM, HoD(C)/SO(C)

To**The Sr. Manager(C) / Manager(C) / Dy. Manager(C)**

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Name of the work:

Kindly furnish the following information for the above work as early as possible in order to enable this office to prepare preliminary estimate.

- i) Name and nature of soil strata upto *(3-3.5 meters) where footings are to be founded. If black cotton or filled up soil is met with, depth of such soil.
- ii) Approximate recommended depth of foundation.
- iii) Approximate recommended bearing capacity of soil.
- iv) Whether any special type of foundations are to be provided.
- v) Sub-soil water level (Maximum).
- vi) Any existing building to be dismantled or telegraph or electric poles or cables or sewers to be shifted or thick jungle clearance to *(3-3.5 metres) be done with rough details. Encroachment by foundations of the structures abutting the site, if any, may be indicated with sketches.
- vii) Whether site requires extensive leveling and if so, the cost with approximate details.
- vii) Data regarding high flood levels in case area is liable to flooding.
- ix) Details of external services :-
 - a) Water mains : Whether they are available for our connections and if so, at what distance and of what size. If not specify what type of well to be constructed (open well, etc., with size and depth) and the approximate cost of construction. In case of large requirements of water whether the local body will provide adequate supply.
 - b) Sewer mains: Whether they are available for our connection and if so, at what distance?
 - c) Electric mains:
 - d) Road : Whether any approach road is to be constructed beyond that shown on site plan; if so, of what length? Give specification locally adopted and rate per sq. mtr. of road surface.

e) Storm water drain and culverts : general arrangement of drainage. Any storm water drains required with approximate sizes.

Cost index with detailed calculations, leads of materials and reference to Schedule of Rates applicable.

Nearest Railway Station and distance of site from the Station.

Whether any special provision are required due to special local conditions e.g. stone work instead of brick work, etc.

GM, HoD(C)/SO(C)

1. Copy to the concerned E&M Engineer at Hqrs./ Area/ project/ Unit for intimating the amount required for external electrical services to be provided for in the preliminary estimate. The (prescribed percentage or the) amount should be given separately for connection to electric mains, sub-station equipment, pumping set for water supply & its erection and street lighting etc.

If the provision required for internal electrical services will be different from the usual provision of 12.5 % of the building cost, (or fixed amount)* the additional rates should be given in a specific manner.

GM, HoD(C)/SO(C)

Proforma 3 – B
OFFICE OF THE GM, HoD(C)/SO(C)

To

The Sr. Manager(C)/ Manager(C) / Dy. Manager(C)

.....
.....

Name of the work:

Kindly furnish the following information for the above work of Water Supply Scheme as early as possible in order to enable this office to prepare project estimate for the same :-

1. (a) What is the area in acres to be served by the scheme?
 (b) Present population to be catered for.
 (c) Probable population after 20 years to be catered for .
 (d) Per Capita Water supply required by the sponsoring authorities or Municipal bye-laws.

2. (a) Site plan of the area for which water supply is required showing the building to be served with spot levels at (200 fts/ 60 mtrs.) intervals. The plan should show the layout of the buildings, main roads, service roads etc., and ground formation levels alongside of all roads shall be given at intervals of 60 mtrs.
 (b) If it is anticipated that any additional areas are to be covered in this scheme at any future date, these should be marked in the plan and the requirements given.

3. State if there is any existing filtered water supply in the area or in the vicinity. If so, furnish the following particulars:-
 - i. A key plan showing the area to be served and the nearest main from which water is proposed to be tapped and the point of tapping.
 - ii. State the size of the main and if it is adequate to cater for the additional supply required for the project .
 - iii. Pressure available in the main at the proposed point of tapping and the reduced level of the main at this point.

4. If supply is to be taken direct from the storage reservoir, give the following details :-

- i). Site of the reservoir with reference to the site to be developed for water supply & distance from site.
- ii) Capacity of the reservoir.
- iii) Whether it is capable of meeting the extra demand in the worst summer.
- iv) Reduced level of the reservoir floor and depth of water in reservoir
- v) Longitudinal sections of the proposed alignment of the main from the reservoir to the site with nature of soil and sub-soil

5(a) If there is no water supply in the area, how do you propose to provide water supply :-

- i) From open or tube wells for smaller groups of buildings or colonies :
- ii) From any existing perennial sources of water supply, e.g., river, stream, canal etc. Give the details of dry weather and monsoon flow, low water level and R.F.L. etc. Give details of weirs, if any required, for heading up water in the stream, arrangements for purifications, location of intake-well, filter beds, pumping station etc. Also give an index plan showing the recommended location of water works.

(b) Indicate the size and depth of open or tube wells, expected supply per hour and approximate cost of the installations including cost of delivery main up to site.

6. In case storage or service reservoirs are required, possible location of reservoir to be indicated on an index plan alongwith the ground levels at the site. In case a high level reservoir is to be constructed local restriction regarding maximum heights due to proximity of air-fields if any may be indicated.

7. Information about the quality of water available from the source and suggestions for treatment.

GM, HoD(C)/SO(C)

Copy to:-

- 1) The concerned E&M Engineer Hqrs./ Area/ Unit for intimating the information in connection with the existing electric mains, their distance from the area, type of power available and adequacy of electric energy etc.

PROFORMA 3-COFFICE OF THE GM, HoD(C)/SO(C)

To

The Sr. Manager(C)/ Manager(C)/ Dy Manager(C)

.....

.....

Name of Work :-

Kindly furnish the following information for the above work of sewerage scheme of the area as early as possible in order to enable this office to prepare project estimate for the same.

1. (a) What is the extent of the area for which sewerage scheme is to be designed ?
 - (b) What is existing population?
 - © What is the proposed ultimate density of population?
 - (d) What is the per capita water supply?
2. Give a site plan of the whole area showing the existing and proposed buildings and other structures, spot levels at intervals of (200 ft.)* and ground formation levels alongside of all main and service roads (existing or proposed). *(60 metres).
3. Is there any sewerage system in the area? If any, the following particulars should be furnished :
- (a) Size of the nearest sewer and its distance from the site.
 - (b) Size of the nearest trunk sewer and its distance from the site.
 - (c) Whether the existing sewer is capable of taking the additional sewage from the site to be developed. If not, state alternative proposals for disposal of sewage.
 - (d) If the existing sewer is capable of taking the addl. Sewage, give "L" section of the sewer for a reasonable length showing the I. Ls, gradients and falls, if any, as well as position of manhole to which the proposed sewer from the colony to be developed may be conveniently connected.
 - (e) What is the level of sewage in the manhole (reference to (d) above) for peak discharge.
 - (f) A plan showing the layout of the branch or trunk sewer and proposals for the outfall sewer connecting to manhole with invert and ground levels.
4. Whether the proposed outfall sewer from the area to be developed will have to be designed to carry sewage from any other area also. If so, the additional areas to be served may be shown on the site plan giving their extents with the present and anticipated density of populations.

5. (a) Where a long outfall sewer is necessary, give a plan and longitudinal section of the proposed alignment showing the ground levels.
- (b) What is the nature of the soil and sub-soil along the proposed alignment?
- (c) State the ownership of the land through which the proposed alignment passes.
- (d) Are there any obstructions e.g. railway lines, drainage courses etc., on the alignment? If so, their nature and other relevant details may be given.
6. If there is no sewerage system in the area :
- (a) How do you propose to dispose of the sewage?
- (b) A survey plan showing the likely location of the disposal works (septic tanks or other plants) may be furnished showing the prevailing direction of wind.
- (c) How is the effluent proposed to be disposed of? If there is any natural water-course in which the effluent is proposed to be discharged, the following particulars should be furnished :
- i. Ordinary water level and H.F.L.
 - ii. Specify if there are any objections to discharge the effluent into the water course or Nallah and if so, what alternative do you suggest?
- (d) Nature of soil i.e. whether it is absorbent or otherwise.
7. Any other information in connection with the sewage scheme.
8. Full particulars about any local rules and restrictions regarding sewage disposal.

GM, HoD(C)/SO(C)

PROFORMA 3-DOFFICE OF THE GM, HoD(C)/SO(C)

To

The Sr. Manager(C) / Manager(C) / Dy. Manager(C)

.....

Name of Work :

Kindly furnish the following information for the above work of Storm Water Drainage of the area as early as possible in order to enable this office to prepare project estimate for the same.

1) Give a survey plan of the area for which the Drainage System is to be designed showing the spot levels at intervals of 200 ft., and proposed layout of roads and buildings. Formation levels of ground alongside of the roads and crown levels of roads may be given at intervals of (200 ft.)* (60 mt.)

2 (a) If the area forms a part of a bigger catchment, a site and contour plan of the entire catchment area should be given.

(b) If it is likely that drainage from the upper portion of the catchment enters the area now proposed to be developed, suggest measures to intercept the drainage or indicate the probable additional run off to be allowed for.

3.The maximum intensity of the rainfall in the area and its duration and the total annual rainfall.

4.Nature of the soil and vegetation in the area.

5.Full particulars of any natural water-course or Nallah passing near the area, into which the area under consideration can be drained, together with the H.F.L. in the same at the point or points where it is proposed to discharge the storm water drainage. A plan showing the Nallah and "L" section of the Nallah showing the H.F.L. for about two furlongs above and below the point where it is proposed to discharge the drainage into the Nallah may also be supplied.

GM, HoD(C)/SO(C)

PROFORMA 3-E
OFFICE OF THE GM, HoD(C)/SO(C)

.....

To,

The Sr. Manager(C)/Manager(C) / Dy. Manager(C)

.....

Name of Work :

Kindly furnish the following information for the above work of development of the area as early as possible in order to enable this office to prepare project estimate for the same.

1. Survey plan of the area. The plan should show all local features such as existing structures, nallahs, wells, drains, sewers, water mains, electric mains and cables, telegraph & electric poles, brick kilns, fields, ponds, trees, roads, culverts & bridges, etc.
2. Contour plan of the area with spot levels taken at not more than (200'0* distances. If possible, the levels should be reduced with reference to G.T.S. Bench Mark. Otherwise full description of assumed R.L. of the Bench Mark should be given. *(60 metres)
3. Index plan of the area showing places from where earth for filling the areas, if necessary, may be brought or where the earth obtained from cutting of the area should be disposed of.
4. Crown levels of all the adjoining roads, at suitable intervals.
5. Nature of soil surface as determined by visual inspections.
6. Nature of sub-soil strata as determined by trial pits or trial bores at the rate of one pit or bore for every 20 acres or less. Cross sections of trial pits should be suitably increased.
7. Details of water mains as existing indicating the distance, diameter, pressure in the water mains.
8. Details of existing sewer mains, if available, indicating distances, invert level, diameter & spare capacity of sewer mains.
9. Details of existing storm water drains and culverts, indicating section of drains, slope, spare capacity, invert level etc. It should also be indicated if the area itself is a part of bigger catchments area and thus receives storm water from other areas. If so, full details should be given.
10. Cost index of the place with detailed calculations.
11. Data regarding High Flood Levels, in case area is subject to flooding or is lower than H.F.L.

GM, HoD(C)/SO(C)

APPENDIX –2

[(Ref.Cl.2.02(a)

REPORT ON DETAILED ESTIMATES

OFFICE OF THE

(HQRS./AREA/ PROJECT/ UNIT)

Estimate No. & Date :

Name of work :

Brief description of the project :

Budget provision/ Allocation :

Major Head

Minor Head

Detailed Head

Note: The entries against each of the above should be made in accordance with the classification prescribed.

(Sr. Manager(C)/Manager(C)/ Dy. Manager(C)

(Sr. Officer(C) / Asstt. Manager(C)

APPENDIX –3
[(Ref.Cl.2.02(e)]

DETAILS OF MEASUREMENTS

Name of Work :

SI No.	Details of Work	Measurements			Quantities
		L	B	H	

(Sr. Manager(C)/Manager(C)/ Dy. Manager(C)

(Sr. Officer(C) / Asstt. Manager(C)

APPENDIX –4
 [(Ref. Cl. 2.02(g)]

ABSTRACT OF COST : ORIGINAL ESTIMATE

Company :

Hqrs./Area/Project/ Unit:

Name of work

Sl.No	Sub-heads and Items of Work	Quantity	Unit	Rate	Amount	Total

(Sr. Manager(C)/Manager(C)/ Dy. Manager(C)

(Sr. Officer(C) / Asstt. Manager(C)

APPENDIX –6
 [(Ref.Cl.2.02(p))]

PROFORMA – 1

Levelling

- 1) Name of project

- 2). (a) Reference to administrative approval and expenditure sanction and their amounts.
 (b) Provision for leveling.

3. (a) Amount of detailed estimate.
 (b) Rate per square metre in the detailed estimate and how does it compare with provision in administrative approval.

Part I – Engineering Appreciation

4. (a) Total area to be leveled.
 (b) General description of site.
 (c) Are there any low areas which may be left green or developed as lakes or ponds ? If so, can earth for filling be made available from such development ?
 (d) High area to be left with landscaping?

5. (a) Classification and nature of soil.
 (b) Result of trial bores, if any.
 (c) Exact classification of the different strata, if rocky.
 (d) Possibility of blasting, keeping in view local bye-laws and proximity of important buildings.
 (e) Has necessary credit for hard rock been allowed?

6. (a) Are the proposed formation levels such as cutting and fitting balanced.
 (b) (i) Site from where earth is to be brought and its lead, in case of excess filling
 (ii) Amount involved.
 (iii) Royalty payable, if any.

(c) In case of excess cutting :

- (i) Site for the disposal of surplus earth.
- (ii) Extra lead and amount involved.
- (iii) Possibility of selling the earth.

7. Levels of the adjoining sites, roads and buildings as compared to the site being leveled.
8. Do the proposed formation levels obstruct the existing natural drainage ?
9. (a) Are any terrace proposed to economize on earthwork?
(b) If so, do the proposals have the concurrence of the concerned competent authority?
10. Have the proposals for development/ layout been approved by local authority?

Part II – Materials

11. Special T & P like heavy earth-moving machinery needed for the execution of the project.

PROFORMA –2
Filtered Water Supply

1. Name of the project.
2. (a) Reference to administrative approval and expenditure sanction and their amounts.
(b) Provision for ancillary works such as overhead reservoirs, pumps, etc.
3. (a) Amount of detailed estimate
(b) Rate per sq. metre in the detailed estimate and how does it compare with provision in administrative approval.

Part I – Engineering Appreciation

4. Area covered (Give details of areas covered if any, which have not been provided for in the A/A, future extensions, etc.).
5. (a) Population :
(b) Basis of assessment :
(c) Future increase.
6. (a) Source of Water Supply:
(b) Has permission of the local body to tap water from their source been obtained ?
(c) Will sufficient quantity be available for areas under consideration?
(d) Distance of the source from the periphery of the Scheme.
(e) Brief description of the system of water supply from intake to the distribution stage.
7. (a) Rate of supply with break-up showing allowance for industrial, horticulture and other uses.
(b) Is unfiltered water supply available ?
(c) If not, what, and on what basis, provision has been made for extra water required for lawns, parks, etc.
8. (a) Pressure available at source :
(b) If required pressure is not available state proposals to augment it.
9. Design formula adopted, value of the co-efficient of rugosity adopted in design.
10. Layout of mains
 - (a) Closed ring or tree type pattern with dead ends (Give reasons for choice).
 - (b) Type of buildings and numbers of storey commended.
 - (c) Minimum head available in the distribution system; and is it suitable ?
 - (d) Has minimum size of pipes required as per rule of the local body and concerned authority of the deptt. been provided ?

11. Has the concerned authority of the deptt. been consulted with regard to the number of fire hydrants, their location and type?
12. Capacity and design particulars of overheads tanks, sump wells, pumps, etc.
13. Has adequate provision of luice valves, reflux valves, air valves, scoure valves and public hydrants been made ?
14. Have the lines been taken sufficiently deep to keep the air valve spindles flush with the ground level ?
15. Has provision been made for laying the pipe or digging the trenches under sub-soil water level.
16. Is cutting through rock involved ?
17. Has provision been made for crossing roads and nallahs, where necessary ?
18. Are there any obstructions such as transmitting station, aerodrome, etc. which necessitate diversion ?

Part II – Materials.

19. Requirements of different sizes/ type of pipes and specials and method of procurement.
20. Requirements of pig. Lead.
21. Have requirements of pumps and accessories been determined in consultation with the concerned E&M Engineer ? Give details.
22. Requirements of other materials/tools and plants.

PROFORMA –3

Unfiltered Water Supply

1. Name of the project..
2. (a) Reference to administrative approval and expenditure sanction and their amounts.
(b) Provision for unfiltered water supply.
(c) Provision for ancillary works such as overhead reservoirs, pumps, etc.
3. (a) Amount of detailed estimate.
(b) Rate per sq. metre in the detailed estimate and how it compares with revision in administrative approval.

Part 1 – Engineering Appreciation

4. Total area of development scheme.
5. Area of grassy lawns.
6. Basis of working out requirements of water needed for horticultural purpose.
7. Source from which the unfiltered water is proposed to be tapped.
8. (a) Is the water suitable for horticultural purposes ?
Has this been ascertained from laboratory tests ?

(b) Degree of salinity if the water is saline.
9. If supply is proposed to be tapped from existing unfiltered/ filtered water mains :

(a) Have the mains the capacity to supply the required quantity ?
(b) Is the pressure in the existing mains enough to serve the area ?
10. If the source of supply is from wells/ tube wells indicate :
(a) possibility of pumping from existing open well, if any
(b) feasibility of digging open wells
(c) possibility of putting tube wells, if open wells are not suitable;
(d) exploratory work done earlier in the proximity of the area to determine feasibility of providing wells/ tube wells.
11. Have the development / layout proposals been approved by the local authorities?

12. Design formula adopted for designs, value of coefficient of rugosity adopted in designs.
13. Layout of mains :
 - (a) Closed ring pattern or tree type with dead ends.
 - (b) Reason for choice.
 - (c) Minimum head available in the distribution system and is it suitable?
 - (d) In case fire hydrants have been provided in unfiltered water lines, has the concerned authority been consulted with regard to the number of fire hydrants, their location and type?
14. Capacity and design particulars of overhead tanks, sump, wells, pumps, etc.
15. Has adequate provision of sluice valves, reflux valves, air valves, scoured valves been made?
16. Have the lines been taken sufficiently deep to keep the sluice valve spindles flush with the ground level?
17. Has provision been made for laying the pipe line or digging the trenches under sub-soil water level?
18. Is cutting through rock involved?
19. Has provision been made for crossing roads and nallahs, where necessary?
20. Are there any obstructions such as transmitting station, aerodrome, etc. which necessitate diversion?

Part II – Materials

21. Requirement of different sizes/ types of pipes and specials and method of procurement.
22. Requirement of pig. Lead.
23. Have requirements of pumps & accessories been determined in consultation with the concerned E&M Engineer.
24. Requirement of any other materials/ tools and plants.

PROFORMA – 4

Sewerage

1. Name of Project.
2. a) Reference to administrative approval and expenditure sanction and their amounts.
b) Provision for sewerage.
c) Provision for ancillary works such as pumps, sumps, pump houses, connection to existing ducts, septic tanks, etc.
3. a) Amount of detailed estimates.
b) Rate per sq. metre as per the detailed estimate and how it compares with provision administrative approval.

Part I – Engineering Appreciation

4. Area covered (give details of areas covered, if any, which have not been provided for in A/A: future extensions, etc.)
5. (a) Population.
(b) Basis of assessment.
(c) Future increase.
6. Sewer:
 - (a) Shape of sewer
 - (b) Minimum size used.
 - (c) Slopes adopted
 - (d) Self cleansing velocity not possible, have flushing arrangements been made?
 - (e) Minimum velocity attained in the design.
 - (f) Is designed discharge three times the average discharge?
 - (g) Brief description of the system of sewerage.
 - (h) Design formula and coefficient of rugosity adopted.
7. Manholes :
 - a. Minimum depth of starting manholes.
 - b. Types of manholes (rectangular, circular, arch type).
 - c. Types of manhole covers used (whether heavy, medium, light) and principles governing their use.
 - d. Has location of manholes been fixed on the consideration that :
 - i. each manhole should serve maximum number of plots.
 - ii. Manholes provided at bends change in diameter and gradients.
 - (i) Maximum distance between two manholes.
 - (j) Distance of vent shafts; has provision for these been made in the estimates?

- (k) Has provision been made for drop connection?
- (l) What is the maximum velocity in the sewer? (up to 2.44 mtrs. per second avoids erosion of invert).

10. Disposal :

a. Arrangement for disposal of sewerage

- b. Has permission of local body been sought if discharge is led into an existing sewer direct?
- c. Distance of the existing duct from the last manhole in the area.
- d. Do the invert levels permit connection to existing duct by gravity? If not, has provision been made for pumping the sewage?
- e. If pumping is necessary :
 - (i) has provision been made for sumps, pumps, pump house and rising mains?
 - (ii) Is electricity available ?
 - (iii) Is arrangements for a prime mover in an emergency breakdown required.

f. Details of sumps with regard to capacity, diameter.

- g. (i) Details of pumps with regard to capacity, horse power, type of pumps (vertical or horizontal)etc.
- (ii) Efficiency factor assumed in the design of pumps.

(h) Details of pump house, rising mains, etc. In case connection to existing duct has not been provided :-

- (i) has provision for septic tank, trenches been provided?
- (ii) have soak pits or dispersion trenches been provided?
- (iii) What is the type of soil?

(g) Maximum and minimum depths below ground level of the ground water table.

(h) Arrangements for disposal of treated effluents

(i) If sewers are to be laid in filling or across nallahs, have supports to firm ground been provided?

(j) Have sewers and water mains been planned on opposite sides of the road.

(k) Where sewers cross nallah, barrel, etc. has the design been appropriately made?

(l) In case of stage development schemes or where delay in the procurement of equipment is anticipated, have temporary arrangement been made for disposal work?

9. (a) Has provision been made for concreting upto haunches or around?

(b) If so, on what basis ?

10. Is provision of excavation under sub-soil water necessary?

11. Has provision been made for laying concrete and sewers under sub-soil water?

12. Is cutting through rock involved?

13. Has provision been made for crossing roads and nallahs?

Part II - Materials

14. Requirements of different types/ sizes of pipes and specials.

15. Requirements of different types of manhole covers.

16. Have requirements of pumps been determined in consultation with the concerned E&M Engineer.

17. requirements of any other materials/ tools and plants.

PROFORMA –5

Roads

1. Name of Project.
2. (a) Reference to administrative approval and expenditure sanction and their amounts.
(b) Provision to cover the portion of work for which detailed estimate has been prepared.
3. Amount of detailed estimate.

Part I – Engineering Appreciation

4. Reference to approval of the layout and alignment by the competent authority.
5. Justification for the choice of the alignment indicating inter-alia, obligatory points.
6. (a) Standards to be followed for :
 - (i) Cross section of the road (indicating number of lanes)
 - (ii) Class of road.
- (b) Have suitable road junctions and crossing been designed and provisions made in the estimate?
- (c) Has provision been made for road signs?
7. Nature of sub-grade and sub-grade preparation suggested.
8. Earth works: cutting & filling balance, if not, what is the
 - (a) Quantity of surplus/ deficit earth
 - (b) Site and lead for disposal of surplus earth (in case of excess cutting).
 - (c) Source for obtaining earth required and lead (in case of excess filling).
 - (d) Royalty payable, if any.
9. Methods and salient features of road crust.
10. (a) Soling
(b) Wearing coat.
(c) Surface treatment.
11. (a) Cross section between building lines showing lines showing the hard crust edging (if any), berms, provisions for future widening (if any) storm water drains and their outlets and other services both to be provided immediately and in the near future.
(b) Existing services, if any.
12. Details of bridges including class of loading for which they have been designed, culverts and other structures provided.
13. Details of land acquisition.
14. Phasing of the Project.
15. (a) Rate of cost :
 - (i) Per unit length for different types of roads
 - (ii) Per unit of the area developed.

- (b) (i) Total cost of the work.
(ii) Comparison of total cost with respect to provision in preliminary estimate.

Part II – Materials

16. Soling Stone :
- Total quantity
 - Name of quarry.
 - Distance of quarry from site (Does schedule rate for supply of soling stone indicate this lead? If not, has provision been made for extra lead).
 - Market rate at quarry.
 - Prevalent carriage charges.
17. Stone ballast :
- Total quantity
 - Name of quarry.
 - Distance of quarry from site (does schedule rate for supply of stone ballast indicate this lead?)
 - Market rate of quarry
 - Prevalent carriage charges.
18. Bitumen :
- Total quantity
 - Arrangements for procurement.
19. Cement :
- Total quantity.
 - Arrangements for procurement.
20. Steel :
- Total quantity.
 - Arrangements for procurement
21. Pipes :
- Total quantity
 - Arrangements for procurement.
22. Tools and Plants :

Sl.No.	Equipment with details	Source of procurement	Cost	Foreign exchange

PROFORMA – 6
Horticultural Works

1. Name of the Project.
2. (a) Reference to administrative approval and expenditure sanction.
(b) Amount provided for horticulture work.
3. Amount of detailed estimate

Part I – Horticultural Appreciation

4. Brief scope of the work contemplated.
5. Total area of the development scheme.
6. Area of the garden/ greenery.
7. Detailed landscape plan of the area quoting reference of approval of the same.
8. Type of soil :
 - (a) Nature (i) Saline or alkaline (ii) Full of kankar, moorum or building rubbish
 - (b) P. H. Value
9. (a) Source of supply of earth if top soil is proposed to be replaced by good sweet earth.
(b) Site for dumping the replaced earth
(c) Proposal, if any, to apply cowdung or fresh cowdung to (1.5m – 4.5m) depth in case the soil is alkaline.
(d) Is the area duly leveled for the development of horticulture works.

Part II - Drainage

10. Is the drainage from room provided in such a way as to drain off the flow of rain water on the back of the house and not on the lawn ?
11. Are the levels and slopes of bajri paths and lawns suitably adjusted.
12. Do levels permit a slope in the lawns between 1/12 and 1/100?
13. Is storm water drain available in the vicinity to catch rain water from the lawns?
14. Suggestions, if any, for improving drainage of lawns.

Part-III – Water Supply.

15 (a) Is the unfiltered water supply proposed to be tapped from existing unfiltered water mains?

(b) Is adequate supply of unfiltered water available?

(c) Area where tube wells proposed to be installed? (It should be kept in mind that (3000 gallons)* of water per acre of green per day will be required). *(13,500 litres)

16 Have unfiltered water mains and distributaries been laid and hydrants installed?

Part IV – External Services.

17. Have all the external services including roads, storm water drains, sewerage and electric wire been provided before horticultural works are taken up?

PROFORMA – 7

Electrical Distribution Lines

1. Name of Project.
2. (a) Reference to administrative approval and expenditure sanction and their amounts
(b) Provision to cover the component part for which the detailed estimate has been prepared.
3. Amount of detailed estimate.

Part I - Engineering Appreciation

4. Brief specification of the system.
5. Average rate per sq. metre of (i) detailed estimate. (ii) Preliminary estimate.
6. (a) Agency for execution.
(b) Departmental charges.
7. Special T&P required
8. (a) Is supply proposed to be taken from the existing L.T. Net work of the supply authority?
(b) If yes, is element of cost of service connection based on estimate from the supply authority?
* (c) If L.T. supply not available, how is electric supply proposed to be obtained
9. Provision for further expansion and its extent.
10. Tariff. (H.T. bulk, L.T. bulk, or retail L.T.) applicable.
11. In case of bulk supply, has provision been made for :
(a) Equipment ?
(b) Buildings for sub-stations and switching stations ?
12. Has the concerned authority been consulted for local switching of 11(b)?
13. Is stand-by required, if yes, has provision been made for it?
14. Statutory requirements of over-head or underground cables.
15. Details of phasing, if any, or different portions of work in consonance with the progress of civil work.
16. Special remarks, if any.

* Give a brief description of the system as in the example below:-

“..... Supply is proposed to be taken from the L.T. feeders of the local electricity undertaking by means of over-head/ underground line. The distribution is proposed to be carried out by over-head lines carried on PCC/Steel tubular/rail poles. Copper/ Aluminum conductors of size will be run for the main roads and of Size on the other roads. For roads having a width of metres, the lines will be taken along with central verge with double armed brackets for lighting fixtures. For roads with a width of metres, a staggered layout will be adopted.

Also indicate the arrangements adopted for sectionalising and isolating portions of the network for the purpose of maintenance and repairs.”

* In case of composite lines carrying street light and L.T. distribution line, the basis of allocation of cost to street lighting and L.T. distribution lines should be given.

PROFORMA –8

Street Lighting

1. Name of Project.
2. (a) Reference to administrative approval and expenditure sanction and their amounts.
(b) Provision to cover the component for which this detailed estimate has been prepared.

Part I – Engineering Appreciation

3. Brief specification of the system.
4. Average rate per square metre of :-
(i) Detailed estimate
(ii) Preliminary estimate.
5. (a) Agency for execution
(b) Departmental Charges.
6. Special T&P required
7. Brief particular of source of power supply.
8. Provision of future expansion and its extent.
9. Tariff applicable
10. Phasing of different portions of the work in consonance with the progress of civil work.
11. Has the location of poles been decided in consultation with Director of Horticulture and the landscape architect?
12. Special remarks, if any.

Give brief description of the system as in the example below:-

"..... Incandescent High pressure mercury vapour/ Fluorescent lamps/ Sodium lamps will be provided on roads. The type of fittings shall be enclosed/ open/ semi-open tubes and these will be suspended / fixed on brackets. The system of wiring will be with over-head copper/ aluminum conductors of sizes/ connection to poles will be given by means of underground cables of..... sizes and joints shall be provided in a suitable recess at the bottom of the poles. RCC/Steel tubular Types poses will be used. For the major roads of widths..... Poles will be located on the central verge with double are brackets for the lighting fixtures.

For minor roads, poles will be located in a spacing of pattern with an average spacing of An average illumination of of is arrived at on the main roads. Also indicate scheme of controlling lights, i.e. switching equipment."

In case of composite lines carrying street light and L.T. distribution lines, the basis of allocation of costs to street lighting and distribution lines should be given.

Part II –Information Regarding Procurement of Materials.

Sl	Principal items to be supplied by the deptt for use on the work	Available with Central / Area / Unit Stores or to be indented	Items to be specially procured for the work / details of procurement		Foreign Exchange Required
			Source	Time	

N.B

- 1) For major and important items give full technical description of specification in column
- 2) For items to be imported, give a separate item-wise note on justification and the inescapability of expenditure on foreign exchange.
- 3) If any special difficulty is likely to be encountered in procuring important materials, give a note suggesting steps that may be taken to overcome them.

PROFORMA – 9

Town Planning & Housing Scheme

(The following information should be available before a town planning scheme can be prepared).

- key plan of the area showing :
- (a) location of site in relating to adjoining land uses.
 - (b) type of development on adjoining plots.
 - (c) number of storeys (on adjoining plots).

APPENDIX – 7
[Ref.Cl.2.02.1(iii)]

Subsoil Investigation for Civil Engineering Projects

1.00 Foundations in Civil Engineering structures receive the load from superstructure and transmit these to the ground below. The safety of a structure is highly dependent on the safety of its foundation and error of judgment in proper design and construction of foundation can lead to serious problems. Foundation failures occupy the pride of place in the annals of Civil Engineering failure. In the design of any foundation. It is soil which is the weaker bearing material and it is primarily the strength of soil which must be reliably assessed to safely transmit the load on it.

2.00 Bearing Capacity

Commonly, foundations are designed on the basis of safe or allowable bearing capacity, which is a scaled down value of assessed ultimate bearing capacity of soil. Usually a factor of safety of 3 is adopted to derive safe bearing capacity from ultimate bearing capacity.

3.00 Settlement Characteristics

In addition to bearing capacity of foundation, one has to decide the settlement and differential settlement permissible in a structure for its serviceability. Once the limits of tolerable settlements are fixed, tests should be conducted on soil samples to determine settlement characteristics of the soil essential to predict settlement characteristics of the soil essential to predict settlement under actual loads. The predicted settlement should be checked with allowable settlement and foundation design should be modified if necessary to satisfy limits.

4.0 Subsoil Investigation

The subsoil investigation is primarily aimed at determination of bearing capacity and settlement characteristics as explained above. Bureau of Indian Standard (BIS) has extensively codified the procedure for conducting various field/ laboratory tests to be conducted for the above purpose. Engineer Incharge/ Department should follow these codes whenever subsoil investigation is needed.

4.01 It is essential that subsoil investigation is carried out in important projects by specialized agencies who have proven expertise in this field.

Subsoil investigation report should comprise of the following :

- i) A brief description of the project along with nature of loads on foundations.
- ii) A general description of the geomorphological nature of the terrain along with major discontinuity, if any.
- iii) Description of various field tests carried out with nature of instrumentation.
- iv) Description of laboratory tests carried out with characteristics of samples (disturbed and undisturbed, representative).
- v) Determination of ground water table.
- vi) Logical analysis and presentation of test data.
- vii) Assessment of safe bearing capacity.
- viii) Settlement computation.

ix) Recommendations on the type of foundation suitable for the suggested structure.

4.02 It is not possible to define the number of bore holes needed for a project since the size of the project as well as loading pattern and its severity cannot be the same everywhere. However, a minimum of 2 to 3 bore holes is recommended in sites with uniform soil deposits. For important projects, these requirements should be revised upwards depending on the nature of the problem.

4.03 Subsoil water plays a very important part in the construction of foundations and the durability of the foundation is also dependent on the nature of water in a site. Since presence of corrosive chemicals drastically reduce the expected life of a structure, it is essential that test of water samples should be conducted along with subsoil investigation as explained above. The BIS also provides adequate information on the method of testing of water which should be followed.

4.04 Special Foundation

For severely loaded structures and poor soil condition special foundations such as piles/ well foundation/ raft becomes necessary. For such special foundation the investigation should cover the specific requirement of these special foundations. For pile foundation in particular, the method of field test of piles is covered in relevant IS codes and this should be followed. There are many coalfields particularly in the Western part of the country where black cotton soil is encountered. This soil has got large swelling characteristics and potential for excessive settlement. Assessment of mineralogical characteristic of the soil and determination of swelling potential are necessary when black cotton soil is encountered. Relevant BIS codes shall be consulted in such a situation. Design of under reamed piles for black cotton soil should conform to the provision of relevant IS code.

APPENDIX – 8
 [REF. Cl. 2.04]

REGISTER OF ESTIMATES

Name of Company :

Name of Area :

Name of Unit :

Sl. No.	Date of preparation of estimate	Estimate No.	Name of the work	Amount	Awarded Amount & Date	Revised Estimate Amount & Date
1	2	3	4	5	6	7

APPENDIX-9

(ref. CL.2.05)

STANDARD SCHEDULE OF CONTRACT PERIODS FOR BUILDING WORKS.

Sl.No.	Number of Storeys	Time Period(Months)
1	Upto 4 Storeys	8 to 12
2	Beyond 4 and Upto 6 Storeys	12 to 15
3	Beyond 6 Storeys	16 to 21

NOTE: Basement may be treated equivalent to one storey.

NOTE:

1) This schedule is to serve as a general guideline for fixing contract periods for building work under normal conditions, in company Hqrs. like Kolkata, Dhanbad, Ranchi, Bilaspur etc. or any other places where the building trade is well organized. For small and out of the way places in coalfields where normal facilities for construction of buildings may be lacking, contract periods should be fixed suitably after taking into consideration the total conditions. **For works other than building works completion time schedule may be computed based on the above guidelines and other guiding factors** Based on experience and value of work

2) When the contract period runs through monsoons, extra period may be allowed for the same on the assumption that progress during monsoons is about half of the progress in fair weather. For example in Delhi where the monsoons last for about 2 months, 1 month may be added, and in places like Kolkata and Bombay where monsoons last for four months, two months, 1 month may be added, and in places like Kolkata and Bombay where monsoons last for four months, two months may be added.

3) Where a basement is to be provided, an extra period of 1 to 2 months may be added depending on the extent of basement and depth of sub-soil water table.

4) Extra period may be allowed for works having special features such as (i) domes, Shells and coffered roofs (ii) extensive stone work, stone veneering and sculpturing and (iii) special finishes and architectural feature.

5) In case of work consisting of a number of small units, such as a group of residential quarters, scattered over a large area, an extra period of 1 to 3 months may be allowed depending on the number of units and their disposition.

6) When work is to be executed in congested areas and on small sites, the period may be suitably increased because of difficulties in storage of building materials.

APPENDIX – 10
[REF. Cl.4.03.1(vii)]**BID REGISTER.**

CIL/Subsidiary Company

Year

Sl. No	Name of Work	Ref. NIT No.	Start date of Download	Last date of submission	Date of Award.

NB: Register to be maintained at the Office of Notice Inviting Authority.

PROFORMA FOR REPORTING LOSS OF M.B. FOR ITS WRITE-OFF.

1. The date on which the M.B. was lost.
2. In whose custody it was lost.
3. Detailed circumstances leading to its loss.
4. What efforts were made to trace the M.B.
5. By whom the last measurements were recorded.
6. Whether the measurements have been checked up to the required %-age by the Superior Officer as required under the rules. If not, why?
7. If any register is maintained to watch the movement of the M.B.
8. Whether the M.B. contained the details of any work for which payment has not been made or all the works have been finalized.
9. Whether any audit objection or contractors dispute relating to the M.B. is pending and if so nature thereof, and how it is proposed to settle up.
10. Whether work is susceptible for measurement again; if not, what are the basis on which the Dy. Manager/Manager/In-charge of work proposes to make final payment for the outstanding bills.
11. Whether the S.O./Dy.G.M. is satisfied that by writing of fresh measurement on the basis of other subsidiary record, if any, the Company will not be put to any loss and there will be no dispute from any quarter. If no, what steps be suggested to safeguard against any such shortcoming,
12. Details of disciplinary action taken against the persons responsible for the loss.
13. Details of remedial measures taken to avoid recurrence of such cases.
14. Any other remarks.

FORMAT FOR CONTRACTORS BILL FOR CIVIL ENGINEERING WORKS.

..... Coalfields Ltd.

UNIT.

ORIGINAL/DUPLICATE.

- 1. On A/c. or final :
- 2. Name of Work :
- 3. Estimate No. of work :
- 4. Agreement/Work Order No.& Date. :
- 5. Name of Contractor :
- 6. Date of Commencement of the Work :
- 7. Date of completion of the work as per Agreement/Work Order:
- 8. Extension of time granted, if any, with reference to the order :
- 9. Actual Date of completion of the work :
- 10. Claims for work done from..... to.....

Description of Work	QUANTITIES OF WORK			Rate & Unit	AMOUNTS			Remarks
	Paid for as per last bill	Since last bill	Up to date		Paid as per last bill	Since last bill	Total upto date	
1	2	3	4	5	6	7	8	9
				TOTAL				

Deduct amount of previous Bill : -----
 Gross amount of this Bill : -----

Dated Signature of Contractor

Certified that the foregoing claims are correct and have been ascertained by actual measurement by

Sri..... on..... And recorded at page..... if Measurement Book No..... and that no contractor's measurement has been accepted and that the work has been satisfactorily performed.

MEASUREMENT ACCEPTED

Signature of Manager/Dy. Manager(C) Asstt. Manager/Sr. Officer(Civil) Subordinate Engg.

Contractor Engg. Asst.(Civil)

/Sr. Overseer©/Overseer©

Recording measurement

Received the sum of Rupees..... As per foregoing details

Rs.

Witness

STAMP

Contractor

Certified that there are no claims outstanding against the Contractor for this work of on a/c. of materials supply, House Rent, Water Charges, Electric Energy supply etc.

Manager/Dy. Manager(C) Asstt. Manager/Sr. Officer(Civil) Subordinate Engg./Engg. Asst.(Civil)

/Sr. Overseer©/Overseer©

Certified that I have no claims outstanding against the Department for this work and the claim preferred through this bill is in full and final settlement of my claim (*to be filled in case of final bills)

Contractor.

Head of Accounts	Amounts
Debits	
TOTAL DEBITS	
CREDIT	
Security Deposit	
Value of Stores	
(As per details attached)	
other recoveries	
(details attached)	
TOTAL CREDIT	
Net amount of the bill	-----

Certified for payment of Rs.(Rupees

Chief Manager(Civil) / Sr. Manager(Civil)

Bill duly checked, audited and passed for payment of Rs..... (Rupees) only and necessary deductions have made

Designated Accounts Officer (CE Bills)

PROFORMA FOR QUALITY CONTROL INSPECTION.

1. General

- 1.1 Name of work
- 1.2 H.O/Area/Unit.
- 1.3 Inspecting Officer
- 1.4 Assisted by
- 1.5 Date of present inspection
- 1.6 Reference to memos of previous inspection.

2. Particulars of Work:-

Estimated cost put to tender

- 2.2 Tendered amount
- 2.3 Agreement No.
- 2.4 Name of contractor
- 2.5 Registration category/type of contractor
- 2.6 Date of start of work.
- 2.7 Date of completion
- 2.8 %age progress of work at the time of inspection.

3) Routine Quality Control:-

- 3.1 Quality control aids.
- 3.1.1. Is field staff equipped with:

- a) Copy of agreement with relevant specifications(detailed as well as special)
- b) Copy of preliminary estimate, detailed estimate and management
- c) Up-to-date architectural as well as structural drawings.
- d) Testing facilities with the help of necessary field instruments/equipments (List of equipments available at site including level, theodolite etc. may be given)

4) Observations on quality of work after intensive inspection. Enumerate the defects/drawbacks/deficiencies noticed in the work sub-head wise.

- 4.1 Earthwork
- 4.2 Concrete work
- 4.3 R.C.C work
- 4.4 Brickwork
- 4.5 Stonework
- 4.6 Steelwork
- 4.7 Flooring (including marble work, if any)
- 4.8 Roofing
- 4.9 Finishing
- 4.10 Misc.
- 4.11 Services etc.

5. Quality & Testing of materials/products.

5.1 Comment on –

- 5.1.1 Testing facilities available with the Department at site.
- 5.1.2 Testing facilities arranged with other Department/Institutions.
- 5.1.3 Testing facilities further required to be arranged.
- 5.1.4 Is material/product of make borne on approved list of Department/BIS.
- 5.1.5 Are tests carried out on materials/products found satisfactory? If not, intimate results to CGM©/GM©/SO© for re-consideration of approval.

Testing:-

- 5.2.1 Are all mandatory tests being carried out at the frequency mentioned in the agreement/specifications?
- 5.2.2 No. of tests failed and approx. quantity rejected.
- 5.2.3 General observations on tests, viz. erratic results, consistently low or high results etc.
- 5.2.4 Follow up action taken on unsatisfactory results, with lapses in prompt follow-up action.
- 5.2.5 Samples tested by Engr.©/EE©/Incharge of work and their results. (Sample should invariably be taken where material/product does not appear to conform to the latest results).

6. Comments on adequacy of resources employed by the contractor at site for timely completion of work.

APPENDIX-14A

List of equipments for Field Testing Laboratory.

A. Building Works.

1) Balances

- i) 7 Kg to 10 kg, semi-self indicating type – accuracy 10 gm.
- ii) 500 gm capacity, semi-self indicating type – accuracy 1 gm.
- iii) Pan balance – 5 kg. – accuracy – 10 gm.

2) Oven – Electrical operated, Thermostatically controlled up to 110 ° C.

3) Sieves – as per IS 460-1962

- i) size – 100 mm, 80 mm, 63 mm, 50 mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75 mm.
- ii) size – 2.36 mm, 1.18 mm, 600 micron, 425 micron, 300 micron, 212 micron, 150 micron, 90 micron, 75 micron.S

4) Sieve shaker capable of 200 mm and 300 mm dia sieves manually operated.

5) Equipment for slump test – slump cone, steel plate, tamping rod, steel scale.

6) Dial Gauge – 25 mm travel.

7) Compression Testing Machine – manually operated.

8) Graduated Measuring Cylinders – 200 ml capacity – 3 nos.

9) Enamel Trays (for efflorescence test for bricks).

B) Road Works.

1) Balances

- i) 7 Kg to 10 kg, semi-self indicating type – accuracy 10 gm.
- ii) 500 gm capacity, semi-self indicating type – accuracy 1 gm.
- iii) Pan balance – 5 kg. – accuracy – 10 gm.
- iv) Chemical Balance, 100 gm., accuracy – 0.1 gm.
- v) Platform Scale - 300 kg. capacity.

2) Oven – Electrical operated, thermostatically controlled upto 200 °C for determination of loss on heating of bitumen.

3) Sieves – as per IS 460-1962

- i) size – 100 mm, 80 mm, 63 mm, 50 mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75 mm.
- ii) size – 2.36 mm, 1.18 mm, 600 micron, 425 micron, 300 micron, 212 micron, 150 micron, 90 micron, 75 micron.

- 4) Sieve shaker capable of 200 mm and 300 mm dia sieves electrically operated.
- 5) Dial Gauge – 25 mm travel.
- 6) Load Frame – 5 Te capacity, electrically operated.
- 7) Aggregate impact test apparatus as per IS : 2386-Part IV – 1963.
- 8) Compaction Apparatus as per IS : 2720-Part VII – 1974.
- 9) Sand Pouring Cylinder as per IS : 2720 – Part-XXVIII – 1974.
- 10) Sampling Tins with Rods, 100 mm dia x 50 mm Ht., ½ Kg capacity and Moisture Tins.
- 11) Distant Reading Thermometers.
- 12) Graduated Cylinder – 1000 ml capacity.
- 13) Enamel Tray.
- 14) Laboratory Mixer, about 0.02 cum capacity, electrically operated.

Field Testing Instruments

- (1) Steel Tape. – 3 m (2) Vernier Calipers (3) Micrometer Screw -25 mm Gauge.
- (4) Plumb Bob (5) Spirit Level (6) Wire Gauge (Circular) disc.
- (7) Foot Rule (8) Nylon thread (9) Rebound Hammer
- (10) Dynamic Penetrometer (11) Screw Driver (12) Magnifying Glass
- (13) Plastic Bags(Sample) (14) Meggar (15) Moisture Meter(Timber Test)
- (16) Ball Pin Hammer-100 gm (17) Earth Resistance Tests.

GUIDELINES FOR TECHNICAL AUDIT OF CIVIL ENGG. WORKS.

1. General details of work:

- 1.1 A/A, & E/S, amount for the work and corresponding provision available for this work in the sanction.
- 1.2 Amount of detailed estimate.
- 1.3 Item rate/percentage rate/turnkey Tender.
- 1.4 No. of tenders received and tendered amount (Call of tender)
- 1.5 Authority accepting the tender.
- 1.6 Justification for tender; has proper evaluation been carried out of the conditions, if any, given by the tenderers, while accepting the tender?
- 1.7 Is the detailed estimate technically sanctioned on the basis of complete set of architectural and structural drawings.

2. Deviation from plan, drawings:

- 2.1 Deviations, if any.
- 2.2 Reason thereof, financial implications and sanction of competent authority.

3. Deviation in quantities of items – Including Abnormally high/low rate items.

- 3.1. Reasons for deviations.
- 3.2 Sanction of competent authority for the deviation.

4. Extra & substituted items –

- 4.1 Amount of items sanctioned so far.
- 4.2 Justification of items (proper or not)
- 4.3 (Derivation of rates (proper or not)
- 4.4 Sanction of competent authority.
- 4.5 Any minus extra items paid? Details thereof with reasons.

5. Issue of materials:

- 5.1 Theoretical consumption commensurate with work executed and quantity lying at site?
- 5.2 Check recovery made from the last running bill/final bill and short recovery made, if any.
- 5.3 Any material not stipulated issued.
- 5.3.1 Sanction/approval of competent authority for such issue.
- 5.3.2 Approval of rate under three rate formula.
- 5.4 Machinery issued to contractor if any
- 5.4.1 Details of recovery made for hire charges.
- 5.4.2 Is recovery made commensurate with calculation of no. of hours/days for which recovery should have been made.

6. Payment to contractor –

- 6.1 Amount of last bill paid to the contractor.
- 6.2 Normal frequency of payment.
- 6.3 Test check of measurements by Engr.©/EE©/Sr.EE© or any other officers as per norms.
- 6.4 Part rates paid, justification for the same
- 6.5 Advances to contractor
- 6.6.1 Reasonableness of secured advances w.r.t. materials lying at site
- 6.6.2 Reasonableness of advance for unmeasured work.
- 6.6.3 Hypothecation documents safe custody of materials for which advances have been given.

APPENDIX – 16
[Ref. Cl. 9.01(ii)]

..... COALFIELDS LIMITED
OFFICE OF THE GM, HoD(Civil)

Notice Inviting Application for Registration of Contractors.

..... Coalfields Limited invites applications from bonafide & experienced Contractor(s) for registration on satisfying the eligibility criteria mentioned hereunder and in the prescribed application form issued to him for different categories of work. The registration shall be valid for two years from the date of registration.

TYPE OF WORK AND CATEGORY.

The registration of contractors can be made for different types of works (depending on nature of work e.g. civil etc.) and category (depending on value of single contract) as mentioned hereunder:-

Category (Value-wise)	Eligibility to tender for	Value of at least one contract executed during any of the preceding five years.	Minimum total value of works executed during the past five years	Price of application form(s)(not refundable).
1	2	3	4	5
Category-A	Estimated value above Rs.20 crores.	Rs. 10 Crores and above	Rs.20 crores	Rs. 3000/-
Category-B	Estimated work value above Rs. 10 crores & up to 20 Crores.	Rs. 5 crores and above	Rs. 10 crores	Rs. 2000/-
Category-C	Estimated work value above Rs.5 crores & up to 10 crores.	Rs. 2.5 crores and above	Rs. 5 crores	Rs. 1500/-
Category-D	Estimated work value above Rs. 2 crores & up to 5 Crores.	Rs. 1 crore and above	Rs. 2 crores	Rs. 1000/-
Category-E	Estimated work value above Rs.50 lakhs & up to 2 crores	Rs. 25 lakhs and above	Rs. 50 lakhs	Rs. 750/-
Category-F	Estimated work value above Rs. 10 lakhs and up to 50 lakhs	Rs. 5 lakhs and above	Rs. 10 lakhs	Rs. 500/-
Category-G	Estimated work value up to 10 lakhs	Rs. 2 lakhs and above	Rs. 4 lakhs	Rs. 250/-
Category-H	Estimated work value Rs. 2 lakhs & below	For new entrants to contract work		Rs. 100/-

<u>Sl.No.</u>	<u>Type of work for registration</u>	<u>Category for which registration is required</u>
1)	Civil Works: Construction of residential/ non-residential/ service/ industrial buildings, office complex, Hospital Complex, Workshops, Store bldgs., Development works etc..	
2)	Services: Utilities including water supply, sewerage, sanitary, internal electrical works, roof water proofing, pest control, maintenance works etc.	
3)	Civil Works: Construction of roads, bridges, railway sidings, CHPs, washeries and other such civil engineering works	
4)	Turnkey Contracts: Planning, investigation, design, engineering, construction, supply, erection, testing, trial & commissioning of Washeries	
5)	Turnkey Contracts: Planning, investigation, design, engineering, construction, supply, erection, testing, trial & commissioning of Coal Handling Plant.	
6)	Turnkey Contracts: Planning, investigation, design, engineering, construction, supply, erection, testing, trial & commissioning of Water Treatment Plants including Environmental Management Projects.	
7)	Turnkey Contracts: Planning, investigation, design, engineering, construction, supply, erection of machinery/equipments & handing over after satisfactory performance test of major workshop/stores complex.	
8)	Transportation Works: Transportation of coal, sand, cement, steel and other materials etc.(separate form to be used for each type of work as above).	
9)	Underground Works: Shaft sinking, incline drirage & other underground civil engineering works.	

Availability of Forms:

The forms may be obtained on payment as prescribed above by cash, or by Bank Draft drawn in favour of On any nationalized Bank payable at its branch From the office of the (address) from(date) to(date) during working days/hours.

Instructions to Applicants:

1) This registration is without prejudice to the company's right to publication of open general notices in News papers inviting tenders from time to time for individual work and to the company's general terms & conditions of contract. The registered contractors may obtain tender document for submission of tender on receipt of intimation of issue of tender notice (the company does not take responsibility for receipt of intimation of the tender notices by

the registered contractors) or in response to the company's open general notice inviting tenders which shall be considered along with the other tenders received by the company.

2) The applicant should not apply for registration for more than one category (value-wise) for a particular type of work as detailed above. However, he may apply for more than one type of work of the same category for which separate application form will have to be obtained on payment of application fee. The company reserves the right to reject the application or to register an applicant at its sole discretion in a category lower than the category for which he has applied for registration.

3) The applicant shall furnish further documentary evidence, clarifications if required, by the company, in support of his eligibility.

4) The applicants who shall be registered by the company after scrutiny of the applications, will be informed of their registration in de course.

5). The company reserves the right to reject any application without assigning any reason whatsoever and the company's decision in the matter of registration shall be final.

6) Registration under a particular category does not guarantee automatic consideration of one's offer for a particular Tender; which will be decided on the basis of qualification criteria laid down in the NIT for that particular work.

(Authority calling for registration)

APPLICATION FORM FOR REGISTRATION OF CONTRACTORS.
..... **COALFIELDS LIMITED.**
OFFICE OF THE GM, HoD(Civil)

Notice No.

Date:

Category	Estimated value of work	Price of application Forms (Not refundable)
'A'	Estimated work value above Rs. 20 crores.	Rs. 3,000/-
'B'	Estimated work value above Rs. 10 crores & up to 20 crores.	Rs. 2,000/-
'C'	Estimated work value above Rs. 05 crores & up to 10 crores.	Rs. 1,500/-
'D'	Estimated work value above Rs. 02 crores & up to 05 crores.	Rs. 1,000/-
'E'	Estimated work value above Rs. 50 lakhs & up to 02 crores.	Rs. 750/-
'F'	Estimated work value above Rs. 10 lakhs & up to 50 lakhs.	Rs. 500/-
'G'	Estimated work value above Rs. 02 Lakhs & up to 10 lakhs	Rs. 250/-
'H'	Estimated work value up to Rs. 02 lakhs.	Rs. 100/-

(Separate form to be filled in for each type of work under one category)

Particulars to be furnished by the Applicant:

- 1) Name and address (Regd, Office) of the applicant.
- 2) Date of commencement of the business:
- 3) Ownership Status:
 - i) Whether partnership (furnish copies of Deed)
 - ii) Whether company (furnish copies of Memorandum)
 - iii) Whether Government/Semi-Government Organisation/Public Sector Undertakings.

Sl.No.	Type of work for registration	Category for which registration is required/ applied
i)	Civil Works: Construction of residential/non-residential/ service bldgs./Industrial bldgs./Workshops,/ Store bldgs./Office Complex/Hospital Complex/ Development works etc..	
ii)	Services: Utilities including water supply, sewerage, sanitary, roof water proofing, pest control, maintenance works, internal electrical works etc.	
iii)	Civil Works: Construction of roads, bridges, railway sidings, CHPs, & coal washeries and other such civil engineering works	
iv)	Turnkey Contracts: Planning, investigation, design, engineering, supply, erection, testing, trial & commissioning of Coal Washeries	
v)	Turnkey Contracts: Planning, investigation, design, engineering, supply, erection, testing, trial & commissioning of Coal Handling Plants.	

vi)	Turnkey Contracts: Planning, investigation, design, engineering, supply, erection, testing, trial & commissioning of Water Supply Treatment Plants & Environmental Management Projects.	
vii)	Turnkey Contracts: Planning, investigation, design, engineering, constructions, manufacture/supply, erection of machinery/equipments & handing over after satisfactory performance test of Store/ workshop complex.	
viii)	Transportation Works: Transportation of coal, sand, cement, steel and other materials etc.	
ix)	Underground Works: Shaft sinking, incline drivage & other underground civil engineering works.	

(Note: Separate form is to be obtained for each type of work)

5. Details of Experience (with special reference to work done in CIL & its subsidiaries)

A. Details of works executed during past 5 (five)years.

Sl. No.	Year	Name of work with work-order ref. & brief description	Value of work	Name of employer	Date of commencement of work	Date of completion of work	Reasons for delay, if any.

Attach attested copies of : 1) Work order, (2) Satisfactory completion certificate.

B. Details of works presently as hand

Sl. No.	Year	Name of work with work-order ref. & brief description	Value of work	Name of employer	Date of commencement of work	Date of completion of work	Reasons for delay, if any.

Attach attested copy of work order.

- Notes: i) The work experience should relate to the type & category (value-wise) of the work for which registration is applied for.
 ii) Minimum eligibility criteria should be fulfilled as per the note given hereafter.

Signature of Applicant.

The applicant shall have to fulfill following criteria to be eligible for registration in the category of works applied for

Category (Value-wise)	Value of at least one contract executed during any of the preceding five years	Minimum total value of work executed during the past 5 years.
Category 'A'	Rs. 10 Crores & above.	Rs. 20 Crores.
Category 'B'	Rs. 05 Crores & above.	Rs. 10 Crores.
Category 'C'	Rs. 2.5 Crores & above.	Rs. 05 Crores.
Category 'D'	Rs. 1 Crore & above.	Rs. 02 Crores.
Category 'E'	Rs. 25 lakhs & above.	Rs. 50 lakhs.
Category 'F'	Rs. 05 lakhs & above.	Rs. 10 lakhs.
Category 'G'	Rs. 02 lakhs & above.	Rs. 04 lakhs.
Category 'H'	For new entrants to contract work.	

(Unemployed Engineers may be registered directly in Category-H)

6	Financial Resources	Particulars.
	<p>The applicants should provide documentary evidence to prove availability of adequate financial resources to execute contracts of the relevant category (value-wise) for which registration is applied for:-</p> <p>a) Attested copy of audited balance sheet of last 5 years. b) Any Nationalised Bank's reference/certificate for satisfactory conduct of accounts indicating volume of transactions, assets owned etc. c) Income tax clearance certificate for the last five(5) years or any other evidence of being a bonafide tax payer (copy attested by a Gazetted Officer to be attached)</p>	

7	Technical Resources	Particulars.
	<p>a) List of technical personnel available with the applicant with their qualifications</p> <p>b) List of plant & machinery/equipment etc. available with the applicant as required for the type of work for which registration is applied.</p> <p>c) Details of collaboration agreements for foreign technology/knowhow, if any.</p> <p>d) Details of machines/equipments supplied to different parties with documentary evidence in support of satisfactory performance of the equipments e.g. machinery/equipments required for construction of washery, coal handling plant, water supply/treatment plant, workshop etc.</p>	
8	<p>a) Whether any relative of the owner/applicant or any of the partners of the applicant firm is related to any of the officers employed in Coal India or any of its subsidiaries. If so furnish name of the applicant/owner/partner and the name, designation and place of posting of the officer employed in CIL and its subsidiaries companies.</p> <p>b) Whether any relatives of the owner/applicant or any of the partners of the applicant firm are active trade union leaders of CIL & its subsidiary company's. If so mention the name of the applicant/owner/partner and the trade union leader & field of the operation/activities.</p>	
9	<p>Other Details:</p> <p>a) Details of registration/enlistment with Government/semi-Government/Public Sector Organisations currently valid, if any.</p> <p>b) Certificate of Registration is per Statutory requirement under Registrar of firms & Contract Labour Laws as may be applicable.</p> <p>c) Name of Bankers.</p> <p>d) Any other particulars as may be relevant.</p>	

(Signature of Applicant)

Notes:

- 1) Separate sheets may be attached furnishing details indicating the relevant item number in the application form, if necessary.
- 2) The Notice inviting application for registration in response to which this application is submitted, is without prejudice to the company's right to the publication of open notice from time to time for individual work and to the general terms and conditions of contract as applicable thereon.
- 3) Each application should be submitted in a separate closed cover indicating name & address of the applicant at the LEFT SIDE bottom superscribing.

Type of Work :

Item No. :

Category :
(A,B,C,D,E,F,G,H)

Address of - The authority calling for registration.

4. Erasing/over-writing, if any, may disqualify the applicant. Corrections, where necessary shall be made by crossing out and re-written & attested with full signature & date.
5. Application should be properly filled-up in English/Hindi & submitted as per instruction. Otherwise this is liable for rejection.
6. Applicant should not apply for more than one category for a particular type of work. Separate application forms should be used for different type of work of the same category.
7. Application for registration should be submitted for the category(ies) required as specified in the Notice inviting application and as per instruction contained.
8. Canvassing in any form is prohibited and applications submitted by the applicants who report to canvassing shall be disqualified.

PERFORMANCE REPORT OF CONTRACTORS.

Period of report: To

PART – I.

1. Contractor
- a) Name
 - b) Address
 - c) Details of Registration (Category and Type)

2. Work
- a) Name
 - b) Agreement amount
 - c) Date of Commencement
 - d) Date of Completion
 - e) Progress till report.

PART-II Sr. Manager(C) / Manager (C) / Dy. Manager(C)'s Assessment

- 1) Quality of Work (Very Good, Good, Average, Poor, Very Poor)
 - a) Materials used.
 - b) Structural Work
 - c) Finish
 - d) Speed of execution.

- 2) Sub-standard/defective work executed (Yes/No, if yes, approx. value below)
 - a) Defective work rejected.
 - b) Sub-standard work accepted at reduced rates.

- 3) Was Work delayed? (Yes/No, If yes.....)
 - a) Were reasons beyond control of contractor?
 - b) Was delay due to lack of contractor's resources or lack of adequate efforts by contractor.

- 4) Behaviour of Contractor.

- 5) Is contractor financially sound? (yes/No.)

- 6) Is contractor litigious ? (Does he habitually prefer boosted up claims for arbitration?)

- 7) Overall performance of contractor (Very Good, good, Average, Poor, Very Poor)

(Sr. Manager(C) / Manager (C) / Dy. Manager(C)

PART-III Staff Officer(C)/CM(C)'s Remarks.

- 1) Does SO(C)/ CM(C) agree with Sr. Manager(C) / Manager (C) / Dy. Manager(C)'s report and assessment?
(Yes/No. Specify points of disagreement, if any).
- 2) SO(C)/ CM(C)'s overall assessment of contractor
(Very good, Good, Average, Poor, Very poor)
- 3) Does SO(C)/ CM(C) recommend any disciplinary action against the contractor?
(Warning, Demotion, suspension of business for a specific period, removal from list).

SO(C)/ CM(C)

PART-IV. GM, HoD(C)'s Remarks:

(GM, HoD(C))

SPECIMEN LETTER GRANTING EXTENSION OF TIME.

To

.....
.....

(Name and Address of the Contractor)

SUB:

Contract Agreement/Work Order No..... Dt.....

Dear Sir,

Please refer to your letter No..... dt..... in connection with grant of extension of time of completion for the work.....

The scheduled date of completion of the above mentioned work is As stipulated in the Agreement/Work Order No..... dt.....

Extension of time of completion for the above mentioned work is granted upto without prejudice to the rights of (name of the company) as provided in the above contract agreement including right to recover Compensation for delay as per Cl..... of the agreement.

Notwithstanding extension of time granted herein above all the terms and conditions of the contract/agreement of including the term time of completion of work which is essence of the contract shall remain unaltered.

Yours faithfully

APPENDIX- 20
(Ref. Cl. 6.2 PART II)

**PROFORMA FOR INTIMATING THE CONTRACTOR
REGARDING LEVY OF COMPENSATION.**

TO

.....
.....

(Name & address of the Contractor)

SUB: Contract No..... dated.....

Dear Sir,

In terms of the above Contract the date of completion of the above work was but on your application the time of completion of the above work was extended up to without prejudice to the rights of the company to recover compensation for delay.

In accordance with the provisions of the said Contract it is determined that you are liable to pay Rs..... (In words) as and by way of compensation for delay in completion of the work.

The above compensation is levied for a period of and at the rate of Rs..... on the estimated cost of work under the Contract and you are hereby called upon to pay a sum of Rs..... to the company within Failing which the aforesaid amount will be recovered set off by the Company from the security deposit lying with the company.

Yours faithfully,

APPENDIX 21
(Ref. Cl 6.08).

**SPECIMEN OF LETTER BY THE ENGINEER-IN-CHARGE TO CONTRACTOR
FOR PROVISIONAL REDUCTION IN RATE FOR SUBSTANDARD WORK.**

REGISITERED POST/A.D.

No.

date.....

To
M/S.....
.....

Dear Sir(s),

Subject: (Complete name of work) Agreement No

1) The..... (Name of the Company) considers that the items of work (specified in the statement appended herewith) relating to the work of undertaken by you in terms of the above agreement have not been executed in accordance with the prescribed specifications and/ or in a workman like manner and, therefore, cannot be accepted in terms of the above said agreement for payment at the rates specified in the agreement.

2) The (Name of the Company) is willing to consider acceptance of the same should you agree to receive payment at rates suitably reduced taking in consideration of substandard nature of the said items of work. The Area Engineer of this work will determine as to what suitable reductions in the rates should be made from the agreed rates for the said items. His decision shall be final. Pending such decision of the Area Engineer, however, the payment for the said items of work will be made at the provisional rates indicated against each item.

3) If you agree to the aforesaid conditions for acceptance of payment for the said items of work, you may please return the enclosed form duly executed by you.

4) If no reply is received from you within three weeks of the date of issue of the letter, it shall be presumed that the offer is not acceptable to you. In the said event, the offer shall stand withdrawn without prejudice to the rights and remedies of the (Name of the Company) in terms of the contract.

Enco: Proforma for Acceptance (Appdx.22)

Yours faithfully,

Engineer-in-Charge
For and on behalf of
(Name of the Company)

APPENDIX- 22
(Ref. Cl. 6.08)

**SPECIMEN OF LETTER OF CONTRACTOR’S ACCEPTANCE OF PROVISIONAL
REDUCTION OF RATE FOR SUBSTANDARD WORK.**

No.

Date:

To

.....
.....

Sir,

Subject: (Complete name of work)_____

Reference: Your letter No......

I/We have carefully read the terms and conditions offered in your letter dated..... and they are acceptable to me/us.

Pending the decision of the Area Engineer of the final rates of payment against the items of work specified in the statement attached to your above letter which will be final and binding,. I/We agree to the same being paid at the provisional rates indicated against each of the said item of work for the above work as mentioned in your statement.

Yours faithfully,

Contractor(s).

NOTICE FOR RECTIFICATION OF DEFECTS.

REGISTERED POST/A.D.

No.

Date:

To
M/s./Shri.....
Address of the Contractor
.....
.....

Subject:..... (Complete Name of the Work)
Agreement No. & Date.....

Dear Sir(s),

- 1) WHEREAS the above work has been awarded to you under the subject contract and the same is in progress/the same has been completed.
- 2) whereas the items of works as detailed in schedule attached herewith have been executed with unsound, imperfect and unskillful workmanship with materials of inferior description and that materials and/ or articles provided for the execution of the work are unsound and of a quality inferior to that contracted for.
- 3) WHEREAS the material and/or articles provided by you for execution of the work as detailed in the schedule hereto are unsound and of quality inferior to that contracted for.
- 4) NOW you are hereby called upon to rectify or remove and reconstruct forthwith each item of work as detailed in the said schedule of work in whole or in part as the case may require with sound, perfect and the skilful workmanship and/or with materials and articles of sound and proper quality as per contract at your own cost and charge.
- 5) IEngineer-in-Charge in exercise of the powers conferred on me by the aforesaid agreement, for and on behalf of the (*Name of the Company*) hereby give you Notice to remove the cause set out above within Days to my satisfaction failing which action will be taken against you under the relevant Clause of the Agreement.

Encl: On Schedule

Yours faithfully,

Engineer-in-Charge
Area for and on behalf of the
(Name of the Company)

PROFORMA OF BANK GUARANTEE FOR RELEASE OF RETENTION MONEY/BID SECURITY DEDUCTED @5% FROM RUNNING BILL IN LIEU OF RECEIVING PAYMENT AGAINST THE SECURITY DEPOSIT ACCRUED ANNUALLY BY PAYING THE RUNNING BILL AT 95%, i.e. THE RETENTION MONEY DEDUCTED @ 5% FROM RUNNING BILL

To

.....
.....

Re: Bank guarantee in respect of contract No.....

Dated..... between (Name of the)

And (Name of the contractor)

WHEREAS

..... (Name and address of the Contractor) (herein after called "the Contractor") has entered into a contract dated.....(herein after called the said contract) with (name of the Company) (hereinafter called "the Company") to execute (name of the contract and brief description of work) on the terms and conditions contained in the said contract.

It has been agreed that the Contractor shall furnish a Bank Guarantee from a Schedule bank for a sum of Rs..... as security for release of equivalent amount of Retention Money/Bid Security as per terms and conditions of the said contract.

We..... (name of the Bank) having its branch/Office at..... have, at the request of the Contractor, agreed to furnish this bank Guarantee by way of Bid Security.

NOW, THEREFORE, we the..... Bank (herein after called The Bank) hereby, unconditionally and irrevocably, guarantees and affirms as follows:

The Bank do hereby irrevocably guarantees and unconditionally agree with the Company that if the contractor shall in any way fail to observe or perform the terms and conditions of the said contract or shall commit any breach of its obligation there under, the Bank shall on its mere first written demand, and without any objection, demur and without any reference to the contractor, pay to the company the said sum of or such portion as shall then remain due with interest without requiring the Company to have recourse to any legal remedy that may be available to it to compel the Bank to pay the sum, or failing on the company to compel such payment by the contractor.

Any such demand shall be conclusive as regards the liability of the Contractor to the Company and as regards the amount payable by the Bank under this guarantee. The Bank shall not be entitled to withhold payment on the ground that the Contractor has disputed its liability to pay or has disputed the quantum of the amount or that any arbitration proceeding or legal proceeding is pending between the Company and the Contractor regarding the claim.

The Bank further agree that the Guarantee shall come into force from the date hereof and shall remain in force and effect till the period that will be taken for the performance of the said Contract which is likely to be day of but if the period of Contract is extended either pursuant to the provisions in the said Contract or by mutual agreement between the contractor and the company, the Bank shall renew the period of the Bank Guarantee failing which it shall pay to the company the said sum of Rs..... or such lesser amount of the said sum of Rs..... as may be due to the company and as the company may demand.

This Guarantee shall remain in force until the dues of the company in respect of the said sum of Rs..... and interest are fully satisfied and the Company certifies that the Contract has been fully carried out by the Contractor and he has discharged the guarantee.

The Bank further agrees with the company that the company shall have the fullest liberty without consent of the Bank and without affecting in any way the obligations hereunder to vary any of the terms and conditions of the said contract or to extend time for performance of the said contract from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the contractor and to forbear to enforce any of the terms & conditions relating to the said Contract and the Bank shall not be relieved from its liability by reason of such failure or extension being granted to the Contractor or to any forbearance, act or omissions on the part of the company or any indulgence by the Company to the Contractor or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of relieving or discharging the Guarantor.

The Bank further agrees that in case this Guarantee is required for a longer period and it is not extended by the Bank beyond the period specified above the Bank shall pay to the company the said sum of Rs..... or such lesser sum as may then be deemed to the Company and as the Company may require.

Notwithstanding anything contained herein the liability of the Bank under this Guarantee is restricted to Rs..... The Guarantee shall remain in force till the day* of* and unless the Guarantee is renewed or claim is preferred against the Bank on or before the said date all rights of the Company under this Guarantee shall cease and the Bank shall be relieved and discharged from all liabilities hereunder except as provided in the preceding Clause.

* the date of guarantee shall cover a minimum period of one year or suitable period i.e. 90 days beyond the defect liability period whichever is more. Defect liability period shall be derived based on provisions of contract.

Any notice by way of request, demand or otherwise hereunder maybe sent by post/e-mail/Fax addressed to the bank branch/operative branch, which shall be deemed to be a sufficient demand notice. Bank shall effect payment thereof forthwith.

This Guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor. The Bank has under it is constitution power to give this guarantee and Shri who has signed it on behalf of the Bank has authority to do so.

Signed and sealed this.....day of.....at.....

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code number)

(address)

“The Bank Guarantee as referred above shall be operative at our branch at..... payable at.....

(NIT shall specify town/city of the operative Branch. Bank Guarantee shall specify name of the branch with address of the specified town/city)”

NOTE:- The department shall ensure extension of guarantee period in case of extension of time.

PROFORMA OF BANK GURANTEE FOR PERFORMANCE

SECURITY

To

.....
.....

Re: Bank Guarantee in respect of Contract No.....Dated..... Between
..... (Name of the company) and (Name of the Contractor)

WHEREAS

..... (Name and address of the Contractor) (herein after called "the Contractor") has entered into a contract made as per letter of acceptance.....dated.....(herein after called the said contract) with (name of the Company) (hereinafter called "the Company") to execute (name of the contract and brief description of work) on the terms and conditions contained in the said contract.

It has been agreed that the Contractor shall furnish a Performance Security in the shape of Bank Guarantee from a Schedule bank for a sum of Rs..... as security for due compliance and performance of the terms and conditions of the said contract.

We..... (name of the Bank) having its branch/Office at..... have, at the request of the Contractor, agreed to furnish this bank Guarantee by way of performance Security.

NOW, THEREFORE, we the..... Bank (herein after called The Bank) hereby, unconditionally and irrevocably, guarantees and affirms as follows:

The Bank do hereby irrevocably guarantees and unconditionally agree with the Company that if the contractor shall in any way fail to observe or perform the terms and conditions of the said contract or shall commit any breach of its obligation there under, the Bank shall on its mere first written demand, and without any objection, demur and without any reference to the contractor, pay to the company the said sum of or such portion as shall then remain due with interest without requiring the Company to have recourse to any legal remedy that may be available to it to compel the Bank to pay the sum, or failing on the company to compel such payment by the contractor.

Any such demand shall be conclusive as regards the liability of the Contractor to the company and as regards the amount payable by the Bank under this Guarantee. The Bank shall not be entitled to withhold payment on the ground that the Contractor has disputed its liability to pay or has disputed the quantum of the amount or that any arbitration proceeding or legal proceeding is pending between the company and the Contractor regarding the claim.

The Bank further agree that the Guarantee shall come into force from the date hereof and shall remain in force and effect till the period that will be taken for the performance of the said Contract which is likely to be day of but if the period of Contract is extended either pursuant to the provisions in the said contract or by mutual agreement between the contractor and the company, the Bank shall renew the period of the Bank Guarantee failing which it shall pay to the company the said sum of or such lesser amount of the said sum of as may be due to the company and as the company may demand.

This Guarantee shall remain in force until the dues of the company in respect of the said sum ofand interest are fully satisfied and the Company certifies that the Contract has been fully carried out by the Contractor and discharged the guarantee.

The Bank further agrees with the company that the company shall have the fullest liberty without consent of the Bank and without affecting in any way the obligations hereunder to vary any of the terms and conditions of the said contract or to extend time for performance of the said contract from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the contractor and to forebear to enforce any of the terms and conditions relating to the said Contract and the Bank shall not be relieved from its liability by reason of such failure or extension being granted to the Contractor or to any forbearance, act or omissions on the part of the company or any indulgence by the Company to the Contractor or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect or relieving or discharging the Guarantor.

The Bank further agrees that in case this Guarantee is required for a longer period and it is not extended by the Bank beyond the period specified above, the Bank shall pay to the company the said sum of or such lesser sum as may then be deemed to the Company and as the Company may require.

Notwithstanding anything contained herein the liability of the Bank under this Guarantee is restricted to Rs..... The guarantee shall remain in force till the day*..... of*..... and unless the guarantee is renewed or claim is preferred against the bank on or before the said date all rights of the Company under this guarantee shall cease and the Bank shall be relieved and discharged from all liabilities hereunder except as provided in the preceding Clause.

* The date of guarantee shall cover a period of minimum one year or 90 days beyond the date of completion whichever is more.

Any notice by way of request, demand or otherwise hereunder maybe sent by post/e-mail/Fax addressed to the bank branch/operative branch, which shall be deemed to be a sufficient demand notice. Bank shall effect payment thereof forthwith.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor.

The Bank has under its constitution power to give this Guarantee and Sri..... who has signed it on behalf of the Bank has authority to do so.

Signed and sealed this.....day of.....at.....

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code number)

(address)

"The Bank Guarantee as referred above shall be operative at our branch at..... payable at.....

(NIT shall specify town/city of the operative Branch. Bank Guarantee shall specify name of the branch with address of the specified town/city)”

NOTE:- The department shall ensure extension of guarantee period in case of extension of time.

APPENDIX-26

(Ref. Cl.1 Additional Terms and Conditions Part II)

**PROFORMA OF BANK GUARANTEE FOR
MOBILISATION/ LUMP-SUM ADVANCE.**

M/s. Coal India Limited

10, Netaji Subhas Road,, Calcutta

Or

.....

(Name of the Subsidiary Company with address).

Dear Sir,

In consideration of Coal India Limited/Subsidiary Company having its Registered Office at (hereinafter called "the Company" which expression shall unless repugnant to the subject or context includes its successors and assigns) having agreed under the terms and conditions of the Contract No..... dated..... Entered into between Coal India Limited/Subsidiary Company and M/s having its Registered Office at (hereinafter called "the Contractor" to make mobilisation advance/lump-sum advance to the tune of Rs..... subject to submission of the Bank Guarantee for equal amount from any Nationalised/ Schedule Bank , We Bank (hereinafter referred to as the said Bank) having its Registered Office at do hereby undertake and agree to pay the Company to the extent of Rs..... on demand stating that the amount claimed by the Company is due and payable by the contractor for the reasons of non-refund and or non-recovery of the amount with interest thereon and to unconditionally pay the amount claimed by the company on such demand without any demur to the extent aforesaid.

2. We, Bank agree that the Company shall be the sole judge as to whether the said Contractor has failed/neglected in refunding the amount advanced by the Company and/or extent of loss and damages caused to or suffered by the Company on account of the amount advanced not being recovered in full and non-utilisation of the said advanced amount or part thereof for the purpose of performance of the contract and interest payable thereon and the decision of the company in this behalf shall be final and binding on us.

3) We, the said Bank further agree that the Guarantee herein contained shall remain in full force and effect upto and any claim received after the said date shall in no case bind the Bank.

4) The Company shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee or indemnity from time to time vary any of the terms and conditions of the said contract or to extend the time of performance by the said contractor or to postpone any time and from time to time any of the powers exercisable by it against the said contractor and either to enforce or to forbear from enforcing any of the terms and conditions governing the said contract or securities available to the company and the said Bank shall not be released from its liability under these presents.

5. Notwithstanding anything contained herein the liability of the said Bank under this Guarantee is restricted to Rs..... and this Guarantee shall come into force from the date hereof and shall remain in full force and effect till unless the written demand or claim under this Guarantee is made by the Company with us on or before all rights of the Company under this Guarantee shall cease to have any effect and we shall be relieved and discharged our liabilities hereunder.

6. We, the said Bank lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the company in writing and agree that any change in the constitution of the said contractor or the said Bank shall not discharge our liability hereunder.

7. This guarantee issued by Sri..... who is authorized by the Bank.

Under jurisdiction of court only.

PROFORMA of BANK GUARANTEE INLIEU OF
BID SECURITY/EARNEST MONEY

To

.....
.....

Dear Sir,

1. In consideration of the notice issued by, having its registered office at(hereinafter called “ the Company” which expression shall unless repugnant to the subject or context includes its successors and assigns) having agreed to accept from M/s.....having its registered office at.....(herein after called ‘the said Bidder’ which expression shall unless repugnant to the subject or context includes its successors and assigns) a Bank Guarantee from a Nationalized/Scheduled Bank in lieu of deposit of Bid Security/Earnest Money in Bank Draft amounting to Rs..... for the due fulfillment of the terms and conditions contained in the Bid No.....dated..... We.....Bank (hereinafter referred to as the Bank) having its office/Branch at do hereby undertake to pay to the company an amount not exceeding Rs.....on demand by the company, for the reason of any breach by the Bidder of any of the terms and conditions contained in the said Bid. The decision of the company as to whether any such breach having been committed by the Bidder shall be final and binding on us.

2. We.....Bank do hereby undertake to pay an amount due and payable under this guarantee without any demur merely on a demand from the company stating that the amount claimed is due from the Bidder for the reason of breach by the said Bidder of any of terms and conditions contained in the said Bid or for the reason of the Bidder failing to keep the Bid valid. Any such demand made on the Bank shall be conclusive. As regards the amount due and payable by the Bank under this Guarantee shall be restricted to an amount not exceeding.....

3. We, the said Bank further agree that the Guarantee herein contained shall come into force from the date hereof and shall remain in full force and effect till a demand or claim under this guarantee is made on us in writing on or before the.....**..... We shall be discharged from all liability under this Guarantee thereafter.

- ** The Bidder shall allow guarantee upto bid validity period plus 90 days considering date of submission / revised submission, if any or up to as fixed by the Notice inviting authority.

4. We, the said Bank lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the company in writing and agree that any change in the constitution of the said Bidder or the Bank shall not discharge our liability hereunder.

5. The bank has under its constitution power to give this guarantee and Sri who has signed it on behalf of the bank, has authority to do so.

Signed and sealed this.....day of.....at.....

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code number)

(address)

“The Bank Guarantee as referred above shall be operative/payable at our branch at.....

(NIT shall specify town/city of the operative Branch. Bank Guarantee shall specify name of the branch with address of the specified town/city)”

Signature of the authorized person For and on behalf of the Bank.

APPENDIX-28
(Refer clause 11.01)

List of Documents considered essential for Inspection by CTE and which may be called for Examination of a Work.

1. Web-site Notice and Press Cuttings including corrigendum, if any (Full page).
2. Register of Sale of Tender.
3. Register of Opening of Tender.
4. Reference to Financial Sanction and approval of Competent Authority (preliminary estimate, if any / detailed estimate).
5. Approved NIT.
6. Rejected Tenders and comparative statement for other tenders.
7. Details of Negotiation, if any.
8. Tender Committee Recommendation along with justification Statement.
9. Related Financial Concurrence and approval for Award.
10. Original Contract.
11. Guarantee Bond towards security, Mobilization Advance etc. including extension of validity.
12. Insurance Policies.
13. Guarantees for Water tightness, Termite proofing etc.
14. Standard Specification.
15. Standard Schedule of Rates.
16. Drawings, Architectural and Structural.
17. All connected MBs, Level Books, Field Books and Lead Chart.
18. All R/A Bills with connected Statement.
19. Statement showing details of check measurement.
20. Materials at site account / dismantled materials record.
21. Site Order Book / Hindrance Register / Log Book etc.
22. Details of extra Items / Substituted Items / Deviated Quantities.
23. Office Correspondence files and Inspection Note, if any.
24. Complaint Records.
25. Any other documents relevant to the work.

APPENDIX-29

SAMPLE GUARANTEE BOND

This agreement made this..... day of two thousand between M/s..... (hereinafter called the Guarantor of the one part) and the other Ltd. (Name of the Subsidiary the other part).

Whereas this agreement is supplementary the contract (hereinafter called the contract) dated..... made between the Guarantor of the one part and subsidiary the other part, whereby the contractor, inter alia, undertook to render the buildings and structures in the said contract recited, completely..... (termite proof / leak proof etc.).

Whereas the Guarantor agreed to give a guarantee to the effect that the said structure will remain (termite proof / leak proof etc.) for years to be reckoned from the date after the maintenance period / completion period prescribed in the contract expires.

During this period of guarantee the Guarantor shall make good all defects and for that matter, shall replace at his risk and cost such wooden members as may be damaged by termites, and in case of any other defect being found he shall render the building termite proof at his cost to the satisfaction of the Engineer In charge, and shall commence the works of such rectification within 7(seven)days from the date of issuing notice from the Engineer In charge calling upon him to rectify the defects, failing which the work shall be got done by the department by some other contractor at the Guarantor's cost and risk, and in the latter case the decision of the Engineer In-charge as to the cost recoverable from the Guarantor shall be final and binding.

That if the Guarantor fails to execute the (*anti-termite* treatment / leak proof treatment etc.) or commits breaches hereunder then the Guarantor will indemnify principal and his successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reason of any default on the part of the Guarantor in performance and observance of this supplemental agreement. As to the amount of loss and / or damage and / or cost incurred by the subsidiary, the decision of the Engineer-in-charge will be final and binding on the parties.

In witness whereof these presents have been executed by the obligator and by for and on behalf of the Ltd. (Subsidiary) on the day, month and year first above written.

Signed, sealed and delivered by Obligator in the presence of –

1)

2)

Signed for and on behalf of the subsidiary by In the presence of –

1)

2)

SAMPLE FORM FOR SITE ORDERS BOOK / HINDRANCE REGISTER.**Name of Work :****Date of Commencement:****Period of Completion:**

Sl. No.	Remarks of the Inspecting Officer or contractor.	Action Taken and by whom	Remarks
1	2	3	4

APPENDIX-31**GENERAL GUIDELINES FOR FIXING REQUIREMENT OF MANPOWER.**

- a. Head Quarter shall have GM, HoD(Civil) supported by adequate number of GM(Civil) / Chief Manager(Civil) to independently handle Execution Cell (supervised at Head Quarter), Tender Cell, Quality Control Cell and Maintenance Cell. These officers shall have adequate supporting Executives.
- b. Areas shall have Executives of the level of one Chief Manager(Civil) supported by adequate Sr. Manager(Civil) / Manager(Civil) / Dy. Manager(Civil) along with Subordinate Engineers(Civil) / Engg. Asstt.(Civil)
- c. There shall be at least one Sr. Officer(Civil) / Asstt. Manager(Civil) at Unit Level supported by adequate Subordinate Engineer(Civil) / Engg. Asstt.(Civil) / Sr. Overseer(Civil) / Overseer (Civil)

Sl. No.	Value of Work (Annual)	Manpower Requirement
1	Value of work more than Rs.10 Crores (Capital) / Rs. 3 Crores (Revenue)	One Engineer of the level of E-5 / E-6 and one Engineer of the level of E-4 / E-5 and one Engineer of the level of E-2 / E-3 and supported by adequate Subordinate Engineer(C) /Engg. Asstt.(C).
2	Value of work Rs.5 Crores to Rs.10 Crores (Capital) / Rs. 1.5 Crores to Rs.3 Crores (Revenue)	One Engineer of the level of E-4 / E-5 and one Engineer of the level of E-2 / E-3 and supported by adequate Subordinate Engineer(C) /Engg. Asstt.(C).
3	Upto Rs.5 Crores (Capital) / Rs. 1.5 Crores (Revenue)	One Engineer of the level of E-4 and one Engineer of the level of E-2 / E-3 and supported by adequate Subordinate Engineer(C) /Engg. Asstt.(C).

Note: Bidders may be asked to provide following manpower

Sl.No.	Value of Work	Manpower Requirement
1.	More than 10 Crores	One Resident Engineer(Degree Holder), One Engineer (Degree Holder), Two Engineers (Diploma Holder)
2.	5 Crores to 10 Crores	One Resident Engineer (Degree Holder), Two Engineers (Diploma Holder)
3.	2 Crores to 5 Crores	One Resident Engineer (Diploma Holder), One Engineer (Diploma Holder)
4.	50 lakhs to 2 crores	One Resident Engineer (Graduate/ Diploma Holder)

APPENDIX-32

**PROFORMA OF
INDENTURE FOR SECURED ADVANCE OR CREDIT**

THIS INDENTURE made this day of between..... (hereinafter called the contractor) which expression shall where the Context as admits or implies be deemed to include his executor / administrators and assign of the one part andCoalfields, having its registered office at..... (hereinafter called the Engineer) which expression shall where the context so admits or implies be deemed to include its successors and assign of the other part.

Whereas by an agreement dated (hereinafter called the said agreement), the contractor has agreed to construct.....

And whereas the Contractor has applied to the Engineer that he may be or be given credited for materials brought by him to the site of the work subject to the said agreement for use in construction of the work.

NOW THIS INDENTURE WITNESSETH that in pursuance of the said agreement and in consideration of the sum of Rs..... (Rupees only) paid to the contractor by the Engineer. The receipt where the Contractor hereby acknowledges and of such advance or credited (if any) as may be made to him as aforesaid the Contractor hereby covenants and agrees with the Engineer and declares as follows:-

1. That all sums given as advance or credit by the Engineer to the Contractor as aforesaid shall be employed by the Constructor in or toward the execution of he said works and for no other purpose whatsoever.
2. That the material for which the advance or credit is given are offered to and accepted by the Engineer as security and are absolutely the Contractor's own property and free from encumbrances of any kind the Contractor will not make any application for or receives further advance or credit on the security or material which are not absolutely his own property and free from encumbrances of any kind and the Contractor shall indemnify the Engineer against any claims to any material in respect of which advance or credit has been made to him as aforesaid.
3. That the said material and all other material on the security of which any further advance or advances or credit may be given as aforesaid (hereinafter called the said materials) shall be used by the Contractor solely in the execution of the said works in accordance with the direction of the Engineer and in terms of said agreement.
4. That the Contractor shall make at his own cost all necessary and adequate arrangement for the proper safe custody and protection against all risks of the said material and that until used in the construction as aforesaid the material shall remain at the site of the said works in Contractor's custody and on his responsibility and shall at all times be open to inspection by the Engineer. In the events of the materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in greater degree than in due to reasonable use and wear thereof the Contractor will replace the same with other materials of like quality of repair and make good the same as required by the Engineer.
5. The said material shall not on any account be removed from the site of work expect with the written permission of the Engineer.
6. That the advance shall be repayable in full when or before Contractor receives payment from the Engineer of the price payable to him for the said work under the term and provisions of the said agreement. Provided that if any intermediate payments are made to the Contractor on account of work done then on the occasion of

each payment the Engineer will be at liberty to make a recovery from the Contractor's bill from such payments by deducting there from the value of the said materials than actually used in the contraction and in respect of which recovery has not been made previously. The value of this purpose being determined in respect of each description of materials at the rates at which the amounts of the advance as made under these presents was calculated.

7. That the Contractor shall at any time make at any default in the performance of observance in respect of any of the terms and provisions of he said agreement or of that provisions the total amount of the advance or advances that may still be owing to the Engineer, shall immediately on the happening of such default be repayable by the Contractor to the Engineer together with interest thereon at 12% p.a. from the date of respective dated to such advance or advances to the date of payment and with all costs. Damages and expenses incurred by the Engineer in or for recovery hereof or the Contractor hereby covenants and agrees with the Engineer to repay and pay the same respective to him accordingly.
8. That the Contractor hereby charges all the said materials with the repayment to the Engineer of all sums advances or credit as aforesaid and all costs. Charges, damages and expenses payable under these presents PROVIDED ALWAYS it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and wherever the covenant for payment and repayment herein before contained shall be become enforceable and the money owing shall not be paid in accordance therewith. The Engineer may at any time thereafter adopt all or any of the following courses he may deem best:-
 - a. Seize the utilize the said material or any part thereof in the completion of the said works in accordance with the provision in that behalf contained in the said agreement debating the Contractor with the actual cost of effecting such completion and the amount due in respect of advance or credit under these presents and crediting the Contractor with value of work done as if he has carried it out in accordance with the said agreement and the rates thereby provided if the balance is against the Contractor is to pay the same to the Engineer on demand.
 - b. Remove and sell by public action the seized materials or any part thereof and out of the money arising from the sale repay the Engineer under these presents and pay over the surplus (if any) to the Contractor.
 - c. Deduct all or any part of the moneys owing from any sums due to the contractor under said agreement.
9. Except in the event of such default on the part of contractor as aforesaid, interest or the said advance shall not be payable.
10. That in the event of conflict between the provisions of these presents and the said agreements, the provision of these presents shall prevail and in the event of any dispute or difference arising over the construction or effect of these presents, the settlement of which has not been hereinbefore expressly provided for the same shall so far as is lawful be subject to jurisdiction of Delhi courts only.

IN WITNESS whereof the said the Engineer and the Contractor hereunto set their respective hands and seals the day year first above written.

Signed, Sealed and delivered by

Contractor

The Engineers.

APPENDIX-33**PROFORMA OF JOINT VENTURE AGREEMENT**

(On Non-Judicial Stamp paper of appropriate value as per provision of the Stamp Act applicable in the concerned state)

This Joint Venture agreement is made on thisday of.....

AMONGST/BETWEEN

M/s....., having its registered Office at
 Represented by Shri.....(Name and Designation) of M/s.....Who has power of Attorney to enter into Joint Venture with.....and Sign all documents/ agreements on behalf of M/s..... (hereinafter referred to as”.....”)

AND

M/s....., having its registered Office at
 Represented by Shri.....(Name and Designation) of M/s.....who has power of Attorney to enter into Joint Venture with.....and Sign all documents/agreements on behalf of M/s..... (hereinafter referred to as”.....”).

AND

M/s....., having its registered Office at
 Represented by Shri.....(Name and Designation) of M/s.....who has power of Attorney to enter into Joint Venture with.....and Sign all documents/agreements on behalf of M/s..... (hereinafter referred to as”.....”).

The expressions M/sand M/s.....and M/sshall, wherever the context admits, mean and include their respective legal representatives, successors-in-interest and assigns and shall collectively be referred to as “Joint Venture /Parties” and individually as “Joint Venture Partner/Party”.

WHEREAS M/s.....and M/s.....agreed to form a Joint Venture in order to join their forces to obtain best results from the combinations of their individual resources of technical and management skill, finance and equipment for the benefit of the project and in order to submit the Bid for the work of “.....”

(Hereinafter referred to as “Project”) under.....(Name of Company(hereinafter referred to as “the principle Employer”).

The Parties hereby enter into this Joint Venture Agreement (hereinafter referred to as “Joint Venture agreement”) to jointly prepare and submit the Bid for the Project and in the event of securing the Project from the Employer, to execute the Project in accordance with the Contract terms and conditions, to the satisfaction of the Principal Employer.

NOW THEREFORE, the parties, in consideration of the mutual premises contained herein, agree as follows:

1) FORMATION AND TERMINATION OF THE JOINT VENTURE.

The parties under this Agreement have decided to form a Joint Venture to submit the Bid for the above Project and execute the Contract with the Principal Employer for the Project, if qualified and awarded.

- a) The name and style of the Joint Venture shall be “.....”
(hereinafter called the “Joint Venture ”)
- b) The Head Office of the Joint Venture shall be located at..... and the site office will be located at the site of the Project. All communication regarding the project will be made to..... Telephone Nos.....
- c) Neither of the parties of the Joint Venture shall be allowed to sign, pledge, sell or otherwise dispose all or part of its respective interests in the Joint Venture to any party including the existing partner of the Joint Venture.
- d) The terms of the Joint Venture shall begin as on the date first set forth above and shall terminate on the earliest of the following dates.
 - i) The Joint Venture fails to obtain qualification from the Employer.
 - ii) The Contract for the Project is not awarded to the Joint Venture.
 - iii) The Employer cancels the Project.
 - iv) The Project is completed including defects liability period to the satisfaction of the Employer and all the parties complete any and all duties, liabilities and responsibilities under or in connection with the Contract and the Joint Venture agreement.

2) LEAD PARTNER.

M/s..... shall be the Lead Partner of the Joint Venture and is In-charge for performing the contract management. M/s..... shall be attorney of the parties duly authorized to incur liabilities and receive instructions for and on behalf of any and all partners in the Joint Venture and also all the partners of the Joint Venture shall be jointly and severally liable during the bidding process and for the execution of the contract as per contract terms with the employer in accordance with the power of attorney annexed. All Joint Venture partners M/s.....; M/s..... & M/s..... nominate and authorize Shri..... (name and designation) of M/s..... to sign all letters, correspondence, papers & certificates and to submit the Pre-qualification Application / Bid documents for and on behalf of the Joint Venture.

3) REPRESENTATIVE OF THE PARTNERS OF THE JOINT VENTURE.

Each constituent party of the Joint Venture appoints the following personnel as the representative of the relevant party with full power of attorney from the Board of Directors of the concerned company, or from the partners of the entity, or from the proprietor.

<u>JV Partner</u>	<u>Name</u>	<u>Position in the respective Company</u>
M/s.....
M/s.....
M/s.....

4) **PARTICIPATION SHARE & WORK RESPONSIBILITIES.**

4.1 The parties agree that their respective participation share (hereinafter called 'Participation Share') in the Joint Venture shall be as follows:

M/s..... :% (.....per cent)
 M/s..... :% (.....per cent) and
 M/s..... :% (.....per cent)

4.2 The Parties shall share the rights and obligations, risk, cost and expenses, working capitals, profits or losses or others arising out of or in relation to execution of the Project in proportion to their share of participation in the Joint Venture except as otherwise agreed.

4.3 The parties shall jointly execute the works under the Project as an integrated entity and allocate responsibilities as regards division of work between themselves by organizing the adequate resources for successful completion of the Project. However all parties shall remain jointly and severally responsible for the satisfactory execution of the Project in accordance with the Contract terms and conditions.

5) **JOINT AND SEVERAL LIABILITIES.**

All partner of Joint Venture shall be liable jointly and severally during the Pre-qualification and Bidding process; and in the event the contract is awarded, during the execution of the Contract, in accordance with Contract terms.

6) **WORKING CAPITAL**

Each party shall contribute working capital for equipment, labour and material or any expenses incurred for execution of the Project or any other investment required in connection with the execution of the project proportionate to the participation ratio.

7) **BID SECURITY:**

Bid Security, Performance Security and other securities shall be paid by the Joint Venture except as otherwise agreed.

8) **PERSONNEL & EQUIPMENT**

Team of Managers / Engineers of all the partners of the Joint Venture will form part of the core management structure and assist in execution of the project. The list of Personnel and equipment proposed to be engaged for the project by each Party will be decided by the management committee.

9) **NON PERFORMANCE OF RESPONSIBILITY BY ANY PARTY OF JOINT VENTURE .**

a) As between themselves, each Party shall be fully responsible for the fulfillment of all obligations arising out of its scope of the work for the Project to be clarified subject to the Agreement between the Parties and shall hold harmless and indemnified against any damage arising from its default or non-fulfillment of such obligations.

- b) If any Party fails to perform its obligations described in this Agreement during the execution of the Project and to cure such breach within the period designated by the non-defaulting party, then the other party shall have the right to take up work, the interest and responsibilities of the defaulting party at the cost of the defaulting party.
- c) Stepping into the shoes of the existing partner of Joint Venture with all the liabilities of the existing partner from the beginning of the contract with the prior approval on Northern Company.
- d) Notwithstanding demarcation or allotment of work of between/amongst Joint Venture partners, Joint Venture shall be liable for non-performance of the whole contract irrespective of their demarcation or share of work.
- e) In case bid being accepted by Company, the payments under the contract shall only be made to the Joint Venture and not to the individual partners.

10) BANK A/C.

Separate Bank A/c. shall be opened in the name of the Joint Venture in a scheduled or Nationalized Bank in India as per mutual Agreement and all payments due to the Joint Venture shall be received only in that account, which shall be operated jointly by the representative of the Parties hereto. The financial obligations of the Joint Venture shall be discharged through the said Joint Venture Bank Account only and also all the payments received or paid by company to the Joint Venture shall be through that account alone.

11) LIMIT OF JOINT VENTURE ACTIVITIES.

The Joint Venture activities are limited to the bidding and in case of award, to the performance of the Contract for the Project according to the conditions of the Contract with the Employer.

12) TAXES.

Each Party shall be responsible for its own taxes, duties and other levies to be imposed on each party in connection with the Project. The taxes, duties and other levies imposed on the Joint Venture in connection with the Project shall be paid from the account of the Joint Venture.

13) EXCLUSIVITY

The Parties hereto agree and undertake that they shall not directly or indirectly either individually or with other party or parties take part in the Bid for the said Project. Each Party further guarantee to the other party hereto that this undertaking shall also apply to its subsidiaries and companies under its direct or indirect control.

14) MISCELLANEOUS:

- a. Neither party of the Joint Venture shall assign, pledge, sell or otherwise dispose all or part of its respective interests in the Joint Venture to all third party without the Agreement of the other party in writing.
- b. Subject to the above clause, the terms and conditions of this agreement shall be binding upon the parties, the Directors, Officers, Employees, Successors, Assigns and Representatives.

15) APPLICABLE LAW

This agreement shall be interpreted under laws and regulations of India.

IN WITNESS Whereof the Parties hereto have hereunder set their respective hands and seals the day, month, year first above written.

For

For.....

Signature _____
(Name & Address)

Signature _____
(Name & Address)

(Official Seal)

(Official Seal)

Place

Place.....

Date

Date

Witness
Signature

Witness
Signature

(Name & Address)

(Name & Address)

APPENDIX-34

MANDATE FORM FOR ELECTRONIC FUND TRANSFER / INTERNET BANKING PAYMENT.

1. Name of the Bidder :

2. Address of the Bidder :

City..... Pin Code.....

E-mail Id

Permanent Account Number

3. Particulars of Bank:

Bank Name		Branch Name	
Branch Place		Branch City	
Pin Code		Branch Code	
MICR No.			
(Digital Code number appearing on the MICR Band of the cheque supplied by the Bank. Please attach Xerox copy of a cheque of your Bank for ensuring accuracy of the Bank Name, Branch Name and Code Number.			
RTGS CODE			
Account Type	Savings	Current	Cash Credit
Account Number(as appearing in the Cheque Book.			

4. Date from which the mandate should be effective.

I hereby declare that the particulars given above are correct and complete. If any transaction is delayed or not effected for reasons of incomplete or incorrect information. I shall not hold Company responsible. I also undertake to advise any change in the particulars of my account to facilitate updation of records for purpose of credit of amount through SBI Net / RTGS transfer. I agree to discharge responsibility expected of me as a participant under the scheme. Any bank charges levied by the bank for such e-transfer shall be borne by us.

Place :

Date:

Signature of the Party / Authorised Signatory

 Certified that particulars furnished above are correct as per our records.

Banker's Stamp

Date

Signature of the Authorised official from the Bank)