Agreement/Work-order.

10. Termination, Cancellation, Suspension and Foreclosure of Contract

The company shall, in addition to other remedial steps to be taken as provided in the conditions of contract, be entitled to cancel the contract in full or in part, if the contractor

a. makes default in proceeding with the works with due diligence and continues to do so even after a notice in writing from the Engineer-in-charge, then on the expiry of the period as specified in the notice

Or

b. fails to achieve a monthly agreed quantity of 70% (Seventy percent) for a period of 6(six) consecutive month or for cumulative period of six months within any continuous period of 18(eighteen) months, save and except to the extent of non-availability caused by i) a Force Majeure event or ii) an act of omission of company, not occurring due to any default of the contractor.

Note: - In such cases the contractor may be Banned for minimum one year from participating in future bidding allowing the present business to continue without going into termination of the contract. (Not to be part of Tender Document- Procedure for banning of business shall be followed as per Guidelines of Banning of Business.)

Or

c. commits default/breach in complying with any of the terms and conditions of the contract and does not remedy it or fails to take effective steps for the remedy to the satisfaction of the Engineer-in-charge, then on the expiry of the period as may be specified by the Engineer-in-charge in a notice in writing

Or

d. fails to complete the work or items of work with individual dates of completion, on or before the date/dates of completion or as extended by the company, then on the expiry of the period as may be specified by the Engineer-in-charge in a notice in writing

Or

e. shall offer or give or agree to give any person in the service of the company or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for act/acts of favour in relation to the obtaining or execution of this or any other contract for the company

Or

f. obtains a contract with the company as a result of ring tendering or other non- bonafide method of competitive tendering

Or

g. transfers, sublets, assigns the entire work or any portion thereof without the prior approval in writing from the Engineer-in-charge. The Engineer-in- charge may give a written notice; cancel/terminate the whole contract or portion of it in default. The approving authority shall be TAA or CMD if originally awarded by empowered Committee of Directors headed by Chairman/FDs/CMD or Board.

The Engineer-in-charge may by giving a written notice, cancel the whole contract or portion of it in default.

10.1 The contract shall also stand terminated under any of the following circumstances:

- a) If the contractor being an individual in the case of proprietary concern or in the case of a partnership firm any of its partners is declared insolvent under the provisions of Insolvency Act for the time being in force, or makes any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors amounting to proceedings for liquidation or composition under any Insolvency Act.
- b) In the case of the contractor being a company, its affairs are under liquidation either by a resolution passed by the contractors company or by an order of court, not being a voluntary liquidation proceedings for the purpose of amalgamation or reorganization, or a receiver or

manager is appointed by the court on the application by the debenture holders of the contractor's company, if any.

- c) If the contractor shall suffer an execution being levied on his/their goods, estates and allow it to be continued for a period of 21 (twenty-one) days.
- d) On the death of the contractor being a proprietary concern or of any of the partners in the case of a partnership concern and the company is not satisfied that the legal representative of the deceased proprietor or the other surviving partners of the partnership concern are capable of carrying out and completing the contract. The decision of the company in this respect shall be final and binding which is to be intimated in writing to the legal representative or to the partnership concern.

10.2 On termination of the contract or on cancellation of the contract, the Engineer- in-charge shall have powers:

a. To take possession of the site and carry out balance work through any other agency.

b. To give the contractor or his representative of the work, 7 (seven) days' notice in writing for taking final measurement for the works executed till the date of cancellation or termination of the contract. The Engineer-in-Charge shall fix the time for taking such final measurement and intimate the contractor in writing. The final measurement shall be carried out at the said appointed time notwithstanding whether the contractor is present or not. Any claim as regards measurement which the contractor is to make shall be made in writing within 7 (seven) days of taking final measurement by Engineer-In-charge as aforesaid and if no such claim is received, the contractor shall be deemed to have waived all claims regarding above measurements and any claim made thereafter shall not be entertained.

c. After giving notice to the contractor to measure up the work of the contractor and to take such whole or the balance or part thereof, as shall be unexecuted out of his hands and to give it to another contractor or take up departmentally, to complete the work. The contractor whose contract is terminated shall not be allowed to participate in future bidding for period of minimum one year.

In such an event, the contractor shall be liable for loss/damage suffered by the employer because of action under this clause and to compensate for this loss or damage, the employer shall be entitled to recover higher of the following:

i)Forfeiture of security deposit comprising of performance guarantee and additional performance security, if any, at disposal of the employer.

Or

ii) 20% of value of incomplete work. The value of the incomplete work shall be calculated for the items and quantities remaining incomplete (as per provision of agreement) at the agreement rates including price variation as applicable on the date, when notice in writing for termination of work was issued to the contractor.

It is being clarified that the above liability is over and above the penalties payable by the contractor on account of shortfall in quantities as per provision of clause 6.

The amount to be recovered from the contractor as determined above, shall, without prejudice to any other right or remedy available to the employer as per law or as per agreement, will be recovered from any money due to the contractor on any account or under any other contract and in the event of any shortfall, the contractor shall be liable to pay the same within 30 days. In case of failure to pay the same the amount shall be debt payable.

In the event of above course being adopted by the Engineer-in-charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased materials, equipments or entered into agreement or made advances on any account or with a view to the execution of work or performance of the contract. And in case action is taken under any of provision aforesaid, the contractor shall not be entitled to recover or to be paid any sum for any work thereof or actually performed under this contract unless and until the engineer-in-charge has certified in writing the performance of such work and value payable in respect thereof and he shall only be entitled to be paid the value so certified.

The need for determination of the amount of recovery of any extra cost/expenditure or of any loss/damage suffered by the company shall not however arise in the case of termination of the contract for death/demise of the contractor as stated in 10.1(d).

10.3 Suspension of Work:

Suspension of work – The Company shall have power to suspend the work. The contractor shall on receipt of the order in writing of Engineer-in -charge (whose decision shall be final and binding on the contractor), suspend the progress of work or any part thereof for such time in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage, or endanger the safety thereof for any of the following reasons:

- a) on account of any default on the part of the contractor, or
- b) for proper execution of the works, or part thereof, for reasons other than the default of the contractor or,
- c) for safety of the works, or part thereof.

The contractor shall, during such suspension properly protect and ensure the works to the extent necessary and carry out the instruction of the Engineer-in-charge. If the suspension is ordered for reasons (b) & (c), the contractor shall be entitled to an extension of time equal to the period of every such suspension plus 25%. This shall also be applicable for completion of the item or group of items of the work for which a separate period of completion as specified in the contract and of which the suspended work forms a part.

The contractor shall carry out the instructions given in this respect by the Engineer-In Charge & if such suspension exceeds 45 (forty-five) days, the contractor will be compensated on mutually agreed terms.

10.4 Foreclosure of contract:

If at any time after acceptance of the tender the company decides to abandon or reduce the scope of work for any reason whatsoever the company, through its Engineer-in-Charge, shall give notice in writing to that effect to the contractor and contractor shall act accordingly in the matter. In the event of abandonment, the contractor shall have no claim to any payment of compensation or otherwise whatsoever, other than those mentioned below: -

- a) to pay reasonable amount assessed and certified by the Engineer-in-Charge of the expenditure incurred, if any, by the contractor on preliminary works at site e.g. temporary access roads, temporary construction for labour and staff quarters, office accommodation, storage of materials, water storage tanks and water supply for the work including supply to labour/ staff quarters, office etc.
- b) to pay the contractor at the contract rates full amount for works executed and measured at site up to the date of such abandonment.
- c) to pay for the materials brought to site or to be delivered at site, which the contractor is legally liable to pay, for the purpose of consumption in works carried out or were to be carried out but for the foreclosure, including the cost of purchase and transportation and cost of delivery of such materials. The materials to be taken over by the company should be in good condition and the company may allow at its discretion the contractor to retain the materials in full or in part if so desired by him and to be transported by the contractor from site to his place at his own cost with

due permission of the EIC.

- d) to take back the materials issued by the company but remaining unused, if any, in the work on the date of abandonment/reduction in the work, at the original issue price less allowance for any deterioration or damage caused while in custody of the contractor.
- e) to pay for the transportation of tools and plants of the contractor from site to contractor's place or to any other destination, whichever is less.

10.4.01 The contractor shall, if required by the Engineer-in-Charge, furnish to him books of accounts, papers, relevant documents as may be necessary to enable the Engineer-in-Charge to assess the amounts payable in terms of clauses 10.4 (a) (c) & (e) of the contract. The contractor shall not have any claim for compensation for abandonment of the work, other than those as specified above.

11. Carrying out Part Work at Risk & Cost of Contractor.

If the progress of the work or of any portion of the work is unsatisfactory, the Engineer-in-Charge, after giving the contractor 15 days' notice in writing, without cancelling or terminating the contract, shall be entitled to employ another Agency for executing the job or to carry out the work departmentally or contractually through tendering / limited tendering process, either wholly or partly, debiting the contractor with cost involved in engaging another Agency or with the cost of labour and the prices of materials, as the case may be. The certificate to be issued by the Engineer-in-Charge for the cost of the work so done shall be final and conclusive and the extra cost, if any, shall be borne by the contractor. However, when this clause is invoked, penalty will not be applicable other than on account of delayed completion.

The value of the work taken away shall be calculated for the items and quantities taken away at the agreement rates including price variation as applicable on the date, when notice in writing for taking away part work was issued to the contractor. The contractor, from whom part work is being taken out, shall not be allowed to participate in the tendering process if any.

If the expenses incurred by the department is less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

12. Completion Certificate / Defect Liability Certificate

Except in cases where the contract provides for "Performance Test" before issue of Defect Liability certificate, in which case the issue of Defect Liability certificate shall be in accordance with the procedure specified therein, the contractor shall give notice of completion of work, as soon as the work is completed, to the Engineer-in-Charge. The Engineer-in-Charge and or any other Officer, nominated for the purpose by the company, shall within 30 (thirty) days from the receipt thereof, inspect the work 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.

If the defects, according to the Engineer-in-Charge 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 will be issued by the EIC after the above rectifications are carried out/ deficiencies are removed by the contractor to the satisfaction of EIC.

In the event there are no defects or the defects/ deficiencies are of a minor nature and the Engineerin-Charge is satisfied that the contractor has already made arrangements for rectification, or in the event of contractor's failure to rectify the defects for any reason whatsoever, the defects can be rectified by the company departmentally or by other means and the 50% of the security deposit of the contractor shall be sufficient to cover the cost thereof, he shall issue the Defect Liability Certificate (Taking Over Certificate with list of defects)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 there for and with necessary instructions to the contractor to clear the site/place of work or all debris/ waste materials, scaffoldings, sheds, surplus materials etc. making it clean.

12.1 In cases where separate period of completion for certain items or groups of items are specified in the contract, separate Defect Liability certificate for such items or groups of items may be issued by the Engineer-in-Charge after completion of such items on receipt of notice from the contractor only in the event the work is completed satisfactorily in every respect.

Refund of security deposit and payment of final bill shall, however, be made on completion of the entire contract work, but not on completion of such items of work.

12.2 Before the date fixed for completion of work, the work as well as the site of work are to be made clean after removal of rubbish, scaffolding, surplus materials, temporary structures etc.

12.3 In case of contractor's failure to clear the site, the EIC shall have right to get the work done. The cost thereof shall be recovered from the final bill of the contractor.

13. Additional Responsibilities of the Contractor(s)

The cost on account of the "Additional Responsibilities of the Contractors" under this clause is deemed to be included in the tendered rates.

i) The company reserves the rights to let other contractors also work in connection with the Project and the contractor/contractors shall co-operate in the works for the introduction and stores and materials and execution of his/their works.

ii) The contractor/contractors shall keep on the work site during the progress a competent and experienced Resident Engineer exclusively for the work and necessary assistants who shall represent the contractor(s). The contractor shall employ, on the site in connection with the execution and maintenance of the work, technical and managerial staff as mentioned below.

SI.No.	Value of Work	Manpower Requirement
1.	More than 10 Crores	One Resident Engineer (Degree Holder), One Engineer
1.		(Degree Holder), Two Engineers (Diploma Holder)
2	5 Crores to 10 Crores	One Resident Engineer (Degree Holder), Two Engineers
2.		(Diploma Holder)
3.	2 Crores to 5 Crores	One Resident Engineer (Diploma Holder), One Engineer
5.	2 Crores to 5 Crores	(Diploma Holder)
4.	50 lakhs to 2 crores	One Resident Engineer (Graduate/ Diploma Holder)

For works below Rs. 50 lakhs, the deployment of manpower shall be as assessed by Engineer.

The contractor shall intimate the Engineer-in-Charge in writing the names, qualifications, experience and full postal address of each and every technical personnel employed at site by him.

The contractor(s) shall not be allowed to execute the work unless he/they engage the required technical staff as assessed by Engineer-in-charge or as specifically mentioned in the bid. The delay on this account, if any, shall be the contractor's responsibility.

Important instructions shall be confirmed to the contractor(s) in writing. If the contractor/contractors in course of the works finds/find any discrepancy between the drawing, forming part of the contract documents and the physical conditions of the locality or any errors or omissions in drawings except those prepared by himself / themselves and not approved by the Engineer-in-Charge. It shall be his/their duty to immediately inform the Engineer-in-Charge in writing and the Engineer-in-Charge shall verify the same. Any work done after such discovery and without intimation as indicated above will be done at the risk of the contractor/contractors.

iii) The contractor / contractors shall employ only competent, skilful and orderly men to do the work. The Engineer-in-Charge shall have the right to ask the contractor/ contractors to remove from the work site any men of the contractor/contractors who in his opinion is undesirable and the contractor/contractors will have to remove him within 3 (three) hours of such orders.

The contractor shall employ apprentices in the execution of the contract work as required under Apprentices Act.

The contractor shall further be responsible for making arrangements at his own cost, or accommodation and social needs of the staff and workers under his employment.

iv) Precautions shall be exercised at all times by the contractor(s) for the protection of persons (including employees) and property. The safety required or recommended by all applicable laws, codes, statutes and regulations shall be observed by the contractor(s). In case of accidents, the contractor(s) shall be responsible for compliance with all the requirements imposed by the Workmen's Compensation Act or any other similar laws in force and the contractor shall indemnify the company against any claim on this account.

All scaffoldings, ladders and such other structures which the workmen are likely to use shall be examined by the Engineer-in-Charge or his authorized representative whenever they want and the structure must be strong, durable, and safe and of such design as required by Engineer-in-Charge.

In no case any structure condemned by the Engineer-in-Charge or his authorized representatives shall be kept on the work and such structure must be pulled down within three hours of such condemnation and any certificate or instructions, however, shall in no way absolve the contractor/contractors from his/their responsibility, as an employer, as the company shall in no way be responsible for any claim.

The contractor / contractors shall at all times exercises reasonable precautions for the safety of employees in the performance of his/their contract and shall comply with all applicable provisions of the safety laws drawn up by the State Govt. or Central Govt. or Municipalities and other authorities in India. The contractor/contractors shall comply with the provision of the safety hand book as approved and amended from time to time by the Government of India.

v) The contractor / contractors shall familiarize themselves with and be governed by all laws and rules of India and Local statutes and orders and regulations applicable to his/ their work.

vi) The contractor shall maintain all records as per the provision made in the various statutes including Contract Labour (Regulation & Abolition) Act, 1970 and the Contract Labour (Regulation & Abolition) Central Rules, 1971, Minimum Wages Act, Workmen Compensation Act etc. and latest amendment thereof. Such records maintained by the contractor shall be opened for inspection by the Engineer-in-Charge or by the nominated representative of the Principal Employer.

vii) The contractor/ contractors shall provide facilities for the sanitary necessities of all persons employed on the work shall be constructed and maintained in the number, manner and place approved or ordered by the Engineer-in-Charge. The contractor/ contractors shall vigorously prohibit committing of nuisance at any other place. Cost of all works under this item shall be covered by the contractor/contractor's tendered rates.

viii) The contractor/contractors shall furnish to the Engineer-in-Charge or his authorized representative with work reports from time to time regarding the contractor / contractors organization and the progress made by him / them in the execution of the work as per the contract.

ix) All duties, taxes (excluding Goods and Services Tax (GST) & GST Compensation Cess (if applicable) only) and other levies, royalty, building and construction workers cess (as applicable in States) payable by the bidder/Contractor under the Contract, or for any other cause as applicable on the last date of submission of Bid, shall be included in the rates, prices and the total Bid Price submitted by the Bidder. Applicable GST, if any, either payable by bidder or by company under reverse change mechanism shall be computed by system in BOQ sheet as per predefined logic.

All investments, operating expenses, incidentals, overheads, leads, lifts, carriages, tools and plants etc. as may be attendant upon execution and completion of works shall also be included in the rates, prices and total Bid price submitted by the bidder.

However, such duties, taxes, levies etc. which is notified after the last date of submission of Bid and/or any increase over the rate existing on the last date of submission of Bid shall be reimbursed by the company on production of documentary evidence in support of payment actually made to the concerned authorities.

Similarly, if there is any decrease in such duties, taxes and levies the same shall become recoverable from the contractor. The details of such duties, taxes and other levies along with rates shall be declared by the bidder.

The item wise rate quoted by bidder shall be inclusive of all taxes, duties & levies but excluding GST & GST Compensation Cess, if applicable. The payment of GST and GST Compensation Cess by service availer (i.e. CIL/Subsidiary) to bidder/contractor (if GST payable by bidder/contractor) would be made only on the latter submitting a Bill/invoice in accordance with the provision of relevant GST Act and the rules made there under and after online filing of valid return on GST portal. Payment of GST & GST Compensation Cess is responsibility of the service provider/contractor.

Further, any GST credit note required to be issued by the bidder / contractor under the GST provisions should be issued within the time limit prescribed under the GST law.

However, in case bidder/contractor is GST unregistered bidder/dealer or GST registered under composition scheme in compliance with GST rules, the bidder/dealer shall not charge any GST and/or GST Compensation Cess on the bill/invoice. In case of unregistered dealer/bidder, GST, if applicable will be deposited by CIL/Subsidiary directly to concerned authorities in terms with GST provisions.

Input tax credit is to be availed by CIL/Subsidiary as per rule.

If CIL/Subsidiary fails to claim Input Tax Credit(ITC) on eligible Inputs, input services and Capital Goods or the ITC claimed is disallowed due to failure on the part of supplier/vendor of goods and services in incorporating the tax invoice issued to CIL/Subsidiary in its relevant returns under GST, payment of CGST & SGST or IGST, GST (Compensation to State) Cess shown in tax invoice to the tax authorities, issue of proper tax invoice or any other reason whatsoever, the applicable taxes & cess paid based on such Tax invoice shall be recovered from the current bills or any other dues of the supplier/vendor along with interest and penalty, if any.

The rates and prices quoted by the Bidder shall be fixed for the duration of the contract and shall not be subject to variations on any account except to the extent variations allowed as per the conditions of the contract of the bidding document.

The company reserves the right to deduct/ withhold any amount towards taxes, levies, etc. and to deal with such amount in terms of the provisions of the Statute or in terms of the direction of any statutory authority and the company shall only provide with certificate towards such deduction and shall not be responsible for any reason whatsoever.

In case of collection of minor minerals in area (both virgin and non-virgin), acquired by the Company under the Coal Act, the contractor will have to produce a royalty clearance certificate from the District Authorities before full and final payment.

Further, where any damages or compensation becomes payable by either the Company or the bidder / contractor pursuant to any provision of this Agreement, appropriate GST wherever applicable as per the GST provisions in force shall also apply in addition to such damages or compensation.

Note: During the execution of the contract if the GST status of the bidder changes, then the payment of GST, if any, to the contractor will be made as per the GST status declared by the bidder during tender stage based on which cost to company has been ascertained or at actuals, whichever is lower.

x) The contractor / contractors shall make his / their own arrangement for all materials, tools, staff and labourer required for the contract, which shall include cost of lead, lift, loading, unloading, railway freight, recruiting expenses and any other charges for the completion of the work to entire satisfaction of the company.

xi) The contractor / contractors shall make their own arrangement for carriage of all materials to the work site at his/their own cost.

xii) The work shall not be sublet to any other party, unless approved by Engineer-in-Charge, in writing. Prior permission is required to be taken from the owner for engagement of sub-contractor in part work/piece rated work.

xiii) a) No fruit trees or valuable plants or trees with trunk diameter exceeding 150mm shall be pulled, destroyed or damaged by the contractor/contractors or any of his/their employees without the prior permission of the company, failing which the cost of such trees or plants shall be deducted from the contractor/contractors dues at the rate to be decided by the company. The rates quoted are supposed to include clearance of shrubs and jungles and removal of such trees up to 150 mm dia., as will be permitted by the Engineer-in-Charge in writing.

b) Anything of historical or other interest or of significant value unexpectedly discovered on the site is the property of the employer. The Contractor is to notify the Nodal Officer or his nominee of such discoveries and carry out the Nodal Officer or his nominee's instructions for dealing with him.

xiv) The contractor / contractors shall not pay less than the minimum wages to the labourer engaged by him/them as per Minimum Wages Act or such other legislation or award of the minimum wage fixed by the respective State Govt. or Central Govt. as may be in force. The contractor / contractors shall make necessary payments of the provident fund for the workmen employed by him for the work as per the laws prevailing under provisions of CMPF and allied scheme and Miscellaneous Provisions Act, 1948 or Employees Provident Fund and Miscellaneous Provisions Act 1952 as the case may be.

xv) All accounts shall be maintained properly and the company shall have the right of access and inspection of all such books of accounts etc., relating to payment of labourer in online mode including payment of provident fund considered necessary.

xvi) The contractor shall in additions to any indemnity provided by the relevant clauses of the agreement or by law, indemnify and keep indemnified for the following:

a) The company or any agent or employee of the company against any action, claim or proceeding relating to infringement or use of any patent or design right and shall pay any royalties or other charges which may be payable in respect of any article or material included in the contract.

However, the amount so paid shall be reimbursed by the company in the event such infringement has taken place in complying with the specific directions issued by the company or the use of such article or material was the result of any drawing and/or specifications issued by the company after submission of tender by the contractor. The contractor must notify immediately after any claim being made or any action brought against the company, or any agent or employee of company in respect of

any such matter.

b) The company against all claims, damages or compensation under the provisions of payment of Wages Act, 1938, Minimum Wages Act, 1948, Employer's Liability Act, 1938, The Workmen's Compensation Act, 1923, Industrial Dispute Act, 1947, Mines Act as applicable, Employees State Insurance Act 1948 and Maternity Benefit Act, 1961, Acts regulating P.F. or any modification thereof or any other law relating thereto and rules made there under from time to time, as may be applicable to the contract which may arise out of or in consequence of the construction or maintenance or performance of the work under the contract and also against costs, charges and expenses of any suit, action or proceedings arising out of any accident or injury.

c) The company against all losses and claims for injuries or damages to any third party or to any property belonging to any third party which may arise out of or in consequence of the construction or maintenance or performance of the work under the contract and against all claims/demands proceedings/damages, cost charges and expenses whatsoever in respect of or in relation thereto.

xvii)The contractor is under obligation to hand over to the company the vacant possession of the completed building structures failing which the Engineer-in-Charge can impose a levy upon the contractor up to 5% of the total contract value for the delay in handing over the vacant possession of the completed works after giving a 15 (fifteen) days' notice to the contractor.

xviii) **Insurance** – The contractor shall take full responsibility to take all precautions to prevent loss or damage to the works or part thereof for any reasons whatsoever (except for reasons which are beyond control of the contractor or act of God, e.g. flood, riots, war, earthquake, etc.) and shall at his own cost repair and make good the loss/damage to the work so that on completion, the work shall be in good order and condition and in conformity with the requirements of the contract and instructions of the Engineer-in-charge.

The contractor/contractors shall take following insurance policies during the full contract period at his own cost:

a). In the case of construction works, without limiting the obligations and responsibilities under the contract, the contractor shall take insurance policy for the works and for all materials at site so that the value of the works executed and the materials at site up to date are sufficiently covered against risk of loss/damage to the extent as permissible under the law of insurance. The contractor shall arrange insurance in joint names of the company and the contractor. All premiums and other insurance charges of the said insurance policy shall be borne by the contractor.

The terms of the insurance policy shall be such that all insurance claims and compensations payable by the insurers, shall be paid to the Employer and the same shall be released to the contractor in instalments as may be certified by the Engineer-in-charge for the purpose of rebuilding or replacement or repair of the works and/or goods destroyed or damaged for which payment was received from the insurers. Policies and certificates for insurance shall be delivered by the contractor to the EIC for his approval before the starting date. Alterations to the terms of insurance shall not be made without the approval of EIC.

b). Where any company building or part thereof is used, rented or leased by the contractor for the purpose of storing or using materials of combustible nature, the contractor shall take separate insurance policy for the entire building and the policy shall be deposited with the company.

c) The contractor shall at all times during the tenure of the contract indemnify the company against all claims, damages or compensation under the provision of the Workmen's Compensation Act and shall take insurance policy covering all risk, claims, damages, or compensation payable under the Workmen's Compensation Act or under any other law relating thereto.

d) The contractor shall ensure that the insurance policy/ policies is/are kept alive till full expiry of the contract by timely payment of premiums and it/they shall not be cancelled without the approval of the company and a provision is made to this effect in all policies, and similar insurance policies are also taken by his sub-contractors if any. The cost of premium shall be borne by the contractor and it shall be deemed to have been included in the tendered rate.

e) In the event of contractor's failure to effect or to keep in force the insurance referred to above or any other insurance which the contractor is required to effect under the terms of the contract, the company may effect and keep in force any such insurance and pay such premium/premiums as may be necessary for that purpose from time to time and recover the amount thus paid from any moneys due to the contractor.

THE CLAUSE 13(xviii) SHALL BE APPLICABLE FOR WORKS OF ESTIMATED VALUE OF OVER Rs. 50 LAKHS.

xix) Setting Out: The contractor shall be responsible for the contract and proper setting out of the works and correctness of the position, reduced levels, dimensions and alignment of all parts of the work including marking out the correct lay out in reference to the permanent bench mark and reference points. Only one permanent bench mark and basic reference lines shall be marked and shown to the contractor as basic data.

The contractor shall have all necessary instruments, appliances and labour in connection therewith. If at any time during the progress of work any error is detected in respect of the position, levels, dimensions or alignment of any part of the work, the contractor on being required to do so by the Engineer-in-Charge or his representative shall at the expenses of the contractor rectify such errors to the satisfaction of Engineer-in-Charge unless such error is due to incorrect data supplied by the Engineer-in-Charge.

xx) On receipt of Letter of Acceptance of Tender / Work Order the contractor shall forthwith Register and obtain License from the competent authority under the Contract Labour (Regulation & Abolition) Act 1970, the Contract Labour (Regulation & Abolition) Central Rules, 1971 and submit certified copies of the same to the Engineer-in-Charge and the Principal Employer.

xxi) Deleted.

xxii) The contractor shall, in connection with works, provide and maintain, at his own cost, all lights, security guards, fencing when and where necessary as required by the Engineer-in-Charge for the purpose of protection of the works, materials at site, safety of workmen and convenience of the public.

xxiii) All materials (e.g. stone, moorum and other materials) obtained in the course of execution of the work during excavation and dismantling etc. shall be the property of the company and the same may be issued to the contractors, if required for use in the works at the rates to be fixed by the Engineer-in-Charge.

xxiv)Unless otherwise specifically provided for, dewatering of excavation pits, working areas etc. shall be the contractor's responsibility and is to be carried out at his own cost as per instructions of EIC. The rates quoted by the contractor shall be deemed to include the dewatering costs.

xxv) Approval by the Nodal Officer/Engineer-in-Charge or his nominee: The contractor shall submit specifications and drawings showing the proposed temporary work to the Nodal Officer/Engineer-in-Charge or his nominee, who is to approve them if they comply with the specifications and drawings.

The contractor shall be responsible for design of Temporary Works.

The Nodal Officer/Engineer-in-charge or his nominee's approval shall not alter the contractor's

responsibility for design of the Temporary Works.

xxvi) The contractor shall directly pay the ex-gratia amount of Rs.15.00 (Fifteen) lakhs to the eligible dependent family members of the deceased contractor's worker, who died in mine accident as certified by DGMS, to whom the statutory benefits under Employee Compensation Act, Provident Fund etc. have been paid, as per the terms of contract or through Insurance Company by availing Group Personal Accident Insurance Policy for all its workers before commencement of the contract, which shall be renewed periodically to cover the entire duration of the contract. No reimbursement shall be made on this account by CIL/Subsidiary.

In order to comply with the above provisions, contractor shall immediately on receipt of letter of acceptance/work order shall obtain group personal accident insurance in respect of all the workmen engaged in mining activities for payment of Rs.15.00(fifteen) lakhs in case of death in mine accident. A proof to such effect shall be produced to the satisfaction of the management before commencement of the work. However, the responsibility of payment of special relief/ex-gratia amount shall lie exclusively with the Contractor.

If the contractor fails to disburse the special Relief/Ex-gratia within the due date, the subsidiary concerned may make payment to the eligible dependent as mentioned herein above. However, such amount shall be recovered from the Contractor from his dues either in the same and/or other subsidiaries of CIL".

14. Defects Liability Period:

In addition to the defect/s to be rectified by the contractor as per terms of the contract/ work order, the contractor shall be responsible to make good and remedy at his own expense the defect/s mentioned hereunder within such period as may be stipulated by the Engineer-in-Charge in writing:

a) Any defect/defects in the work detected by the Engineer-in-Charge within a period of 6 (six) months from the date of issue of Defect Liability certificate / completion certificate.

b) In the case of building works or other works of similar nature any defect in the work detected by the Engineer-in-Charge within a period of 6 (six) months from the date of issue of Defect Liability certificate/ completion certificate or before the expiry of one full monsoon period i.e. June to September whichever is later in point of time.

14.1 A programme shall be drawn by the contractor and the Engineer-in-Charge for carrying out the defects by the contractor detected within the defect liability period and if the contractor fails to adhere to this programme, the Engineer-in-Charge shall be at liberty to procure proper materials and carry out the rectifications in any manner considered advisable under the circumstances and the cost of such procurement of materials and rectification work shall be chargeable to the contractor and recoverable from any of the pending dues of the contractors.

The defect liability period can be extended by the company on getting request from the contractor only for valid reasons.

There will be no defect liability period for works like Grass Cutting, Jungle Cutting, Surface Dressing & any other work of similar nature to be decided by the Engineer-in-Charge.

15. Operating and Maintenance Manual:

If "as built" drawings and/or Operating and Maintenance Manual are required the contractor shall supply them by the dates as per instruction of the Engineer-in-charge.

If the contractor does not supply the drawings and/or Manual by the dates as stated above, or they do not receive the Nodal Officer or his nominee's approval, the Nodal Officer or his nominee shall withhold the amount as stated in the agreement.

16. Settlement of Disputes.

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 or 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 through Arbitration (THE ARBITRATION AND CONCILIATION ACT, 1996 as amended by AMENDMENT ACT of 2015).

16A. Settlement of Disputes through Arbitration

If the parties fail to resolve the disputes/differences by in house mechanism, then, depending on the position of the case, either the employer/owner or the contractor shall give notice to other party to refer the matter to arbitration instead of directly approaching Court. The contractor shall, however, be entitled to invoke arbitration clause only after exhausting the remedy available under the clause 16.

In case of parties other than Govt. agencies, the redressal of disputes/differences shall be sought through Sole Arbitration as under.

Sole Arbitration:

In the event of any question, dispute or difference arising under these terms & conditions or any condition contained in this contract or interpretation of the terms of, or in connection with this Contract (except as to any matter the decision of which is specially provided for by these conditions), the same shall be referred to the sole arbitration of a person, appointed to be the arbitrator by the Competent Authority of CIL / CMD of Subsidiary Company (as the case may be). The award of the arbitrator shall be final and binding on the parties of this Contract.

(a) In the event of the Arbitrator dying, neglecting or refusing to act or resigning or being unable to act for any reason, or his/her award being set aside by the court for any reason, it shall be lawful for the Competent Authority of CIL / CMD of Subsidiary Company (as the case may be) to appoint another arbitrator in place of the outgoing arbitrator in the manner aforesaid.

(b) It is further a term of this contract that no person other than the person appointed by the Competent Authority of CIL / CMD of Subsidiary Company (as the case may be) as aforesaid should act as arbitrator and that, if for any reason that is not possible, the matter is not to be referred to Arbitration at all.

Subject as aforesaid, Arbitration and Conciliation Act, 1996 as amended by Amendment Act of 2015, and the rules thereunder and any statutory modification thereof for the time being in force shall be deemed to apply to the Arbitration proceedings under this clause.

The venue of arbitration shall be the place from which the contract is issued.

<u>Applicable Law</u>: The contracts shall be interpreted in accordance with the laws of the Union of India. <u>Contracts with Partnership firm/ Joint Venture</u>:

The Partnership firm /Joint Venture is required to submit written consent of all the partners to above arbitration clause at the time of submission of bid.

17. E-way Bill:

The e-way bill required in connection with supply of goods or services, if any, shall be arranged by the supplier/vendor. However, the e-way bill will be arranged by CIL/Subsidiary if the supplier/vendor is unregistered one or if provisions of the relevant Act and the rules made there under specifically states that the e-way bill is required to be issued by recipient of goods.

18. In the event of recovery of any claim towards LD charges, penalty, fee, fine or any other charges (Except EMD) from the supplier/vendor, the same will be recovered with the applicable GST and the amount shall be adjusted with the payment to be made to the supplier/vendor against their bill/invoice or any other dues.

19. Guidelines for Banning of Business

CIL and its Subsidiary Companies shall follow the following guidelines for effecting 'Banning of Business' with a contracting entity in respect of Works and Services Contracts.

- 1. Observance of Principle of Natural Justice before banning the business dealings with any contracting entity.
- 2. The contracting entity may be banned in the following circumstances :-
- i) If bidder backs out after notification of opening of price bid and if that bidder is found to be L-1.
- ii) If L-1 bidder fails to submit PSD and APSD, if any and/or fails to execute the contract within stipulated period.
- iii) If L-1 bidder fails to start the work on scheduled time.
- iv) In case of failure to execute the work as per mutually agreed work schedule.
- v) Continued and repeated failure to meet contractual Obligations:
 - a. In case of partial failure on performance, agency shall be banned from future participation in tenders keeping his present contract alive.
 - b. On termination of contract.
- vi) Willful suppression of facts or furnishing or wrong information or manipulated or forged documents by the Agency or using any other illegal/unfair means.
- vii) Formation of price cartels with other contractors with a view to artificially hiking the price.
- viii) The contractor fails to maintain/repair/redo the work up to the expiry of performance guarantee period, when it is specifically brought to his notice.
- ix) Contractor fails to use Mobilisation advance given to him for the purpose it was intended.
- x) Contractor fails to renew the securities deposited to the department.
- xi) The contractor fails to rectify any lapse(s) in quality of the work done within defect liability period.
- xii) Transgression of any clause(s) relating to Contractor's obligation defined in the Integrity Pact wherever such Pact exists.
- xiii) Any other breach of Contract or misdeed which may cause financial loss or commercial disadvantage to the Company.
- 3. Such 'Banning of Business', if and when effected, shall be with prospective effect only. The effect of 'Banning of Business' shall be for future tenders from the date of issue of such Order. However, if any contracting entity is banned after online notification of opening of Price Bid, such a ban will not be effective for that work.
- 4. The banning shall be for a minimum period of one year and shall be effective for the concerned

Subsidiary for the tenders invited at Subsidiary level. Similarly, in case of tenders of CIL HQ, banning shall be for CIL HQ. However, if such 'Banning of Business' has to be made effective for entire CIL and its Subsidiaries then approval of Chairman, CIL shall be required.

- 5. Once a contracting entity is banned, it shall be extended to the constituents of that entity, all partners in case of Joint Venture, all the partners in case of Partnership Firm, own-er/proprietor in case of Proprietorship Firm and all the Directors in case of Limited Company. If such banned owner/Proprietor/ Partner/Director make/form different Firms/entity and attempts to participate in tenders, the same will not be entertained during the currency of such banning.
- 6. The above 'Banning of Business' shall be in addition to other penal provisions of NIT/Contract document.
- 7. **Approving Authority:** The 'Banning of Business' of a contracting entity shall be done with the approval of the Competent Authority as per the details below:
- a) In case the Accepting Authority of the work is Board or Empowered Committee or FDs or CMD of CIL/Subsidiary Company, then the Competent Authority for banning shall be CMD of CIL/Subsidiary Company.
- b) In case the Accepting Authority of the work is up to the level of Director of CIL/Subsidiary Company, then the Competent Authority for banning shall be Director of CIL/Subsidiary Company.
- 8. Appellate Authority shall be one Rank higher than the Competent Authority meant for 'Banning of Business'. In case the banning is done with the approval of CMD of the Subsidiary Company then Chairman, CIL shall be the Appellate authorly.
- 9. Any change on the above may be done with approval of FDs of CIL.
- 10.All the orders of banning or orders passed in appeal shall be marked to GM(CMC) / Civil / concerned HODs of CIL/Subsidiary Company. Further, all such orders will be uploaded in Coal India site as well website of the Subsidiary Company.
- 11. Efforts shall be made by the concerned Department so that such order is linked to e-tender portal of Coal India Limited.

20. The contractor shall submit valid electrical license either in his name or of his authorized representative/supervisor [under whose supervision electrification work (internal and/or external) will be executed] issued by Electrical Licensing Board / Authority of the Indian State / UT, in accordance with Indian Electricity Rule before execution of electrical works, if any.

74

00000



ADDITIONAL TERMS AND CONDITIONS

The following additional terms and conditions are also acceptable to the company. The tenderers are requested not to quote any further additional conditions in the tender.

1. <u>Mobilization Advance</u>

- i) No mobilization advance is payable for works whose estimated value is less than Rs.100.00 lakhs.
- ii) In the case of turnkey work whose estimated value is more than Rs.100 lakhs a maximum of 10% of the total contract value of work will be paid as mobilization advance subject to submission of Bank Guarantee equal to 110% of the advance amount. The mobilization advance shall be paid in two instalments.
- iii) In case of other civil works valued more than Rs.100 lakhs mobilization advance will be paid upto 5% of the contract value subject to submission of Bank Guarantee equal to 110% of the advance amount. The mobilization advance shall be paid in two instalments.
- iv) Interest on mobilisation advance will be charged at the rate of CIL's borrowing rate under cash credit arrangement as on date of disbursement and to be compounded quarterly.
- v) The mobilization advance shall be recovered from the bills of the contractor from the 2nd running account bill onwards @ 20% of the advance amount paid. However, the full amount of mobilization advance with interest will be recovered maximum within scheduled date of completion as per agreement.
- vi) The value of Bank Guarantee may be reduced to the extent such advance is recovered by the company subject to the conditions that the value of Bank Guarantee amount at any time is more than the recoverable outstanding advance. Bank Guarantee shall be irrevocable and from a Scheduled- Bank acceptable to the Company.
- vii) Part Bank Guarantee" (BGs) against the Mobilization Advance shall be taken in as many numbers as the proposed recovery instalments and shall be equivalent to 110% of the amount of each instalment.
- viii) In case of "Machinery and Equipment advance", insurance and hypothecation to the employer shall be ensured.
- ix) Mobilization advance will be given in instalments and subsequent instalments will be released after getting satisfactory utilization Certificate from the contractor for the earlier instalments.

2. Application of Price Variation Clause.

If the prices of materials (not being the materials supplied at fixed issue rates by the company) and wages of labour required for execution of the work increase or decrease, the contractor shall be compensated for such increase or recoveries will be made from the bills for such decrease as per provisions detailed hereafter:

a) The amount of the contract shall accordingly be varied subject to the condition that such compensation for escalation/ de-escalation in price shall be available only for the work done during the stipulated period of the contract including such period for which the con-

tract is validly extended under the provisions of the contract without any penal action. The Price Variation Clause shall not be applicable for works for which stipulated period of completion is six months or less.

- b) The base date for working out such escalation/de escalation shall be the last date on which the bids (inclusive of price part) or revised price bids (inclusive of revised offer) were stipulated to be received.
- c) The compensation for escalation or recoveries to be made shall be worked out at quarterly intervals and shall be with respect to the cost of work done during the previous three months. The first such payment will be made at the end of three months after the month (excluding) in which the tender was accepted and thereafter at three months' interval.
- d) Job specific modification in the formulae of price variation given in the following para(s) can be done with the approval of the CMD of the company
- **2.1 Escalation/ De-escalation for Labour:** The amount paid to the contractor for the work done shall be adjusted for increase or decrease in the cost of labour and the cost shall be calculated quarterly in accordance with the following formula :

$$\frac{1}{\sqrt{L}} = \frac{W}{\sqrt{L}} \times \frac{A}{100} \times \frac{L-L0}{L0}$$

Where :

- VL= Variation in labour cost i.e., increase or decrease in the amount in rupees to be paid or recovered.
- W = Value of work done during the period under reckoning to which the escalation/deescalation relates as indicated in clause-2.4 of the Additional Terms & Conditions of the contract.
- A = Component of labour expressed as percentage of the total value of the work adopted from the Table-1.
- Lo = Minimum wages for unskilled workers payable as per the Minimum Wages Act / Rules of the State or Central Govt., whichever is more, applicable to the place of work as on the last date stipulated for receipt of the bids (inclusive of price part) or revised price bids whichever is later.
- L = Revised minimum wages of unskilled worker corresponding to Lo during the period to which the escalation/de-escalation relates.
- 2.2 Escalation /De-escalation on Materials: The amount to be paid to the contractor for the work done will be adjusted for increase or decrease in the cost of materials and the cost shall be calculated quarterly in accordance with the following formula :

$$\forall m = W \times \frac{B}{100} \times \frac{M - M0}{Mo}$$

Where :

Vm = Variation in the material cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

- W = Cost of work done during the period under reckoning to which the escalation / deescalation relates as indicated in clause-2.4 of the Additional Terms & Conditions of the contract.
- B = Component of material expressed as percentage of the total value of the work adopted from the Table -1.
- M = Average All India Wholesale Price Index for all commodities for the period to which escalation/de-escalation relates as published by the RBI Bulletin, Ministry of Industry & Commerce, Govt. of India.
- Mo = All India Wholesale Price Index for all commodities as published by the RBI Bulletin, Ministry of Industry & Commerce, Govt. of India, relating to the last date on which the bids (inclusive of price part) or revised price bids whichever is later were stipulated to be received.
- **2.3** Escalation/ De-escalation on POL : The amount to be paid to the contractor for the work done shall be adjusted for the increase or decrease in the cost of POL and the cost shall be calculated guarterly in accordance with the formula given below :

$$\forall f = W \times \frac{C}{100} \times \frac{F - F0}{F0}$$

- Vf = Variation in the cost of fuel, oil and lubricants i ncrease or decrease in the rupees to be paid or recovered.
- W = Value of work done during the period under reckoning to which the escalation/ deescalation relates as indicated in clause 2.4 of the Additional terms & Conditions of the contract.
- C = Component of POL expressed as percentage of the total cost of the work taken from Table -1.
- F = Average Index Number for wholesale price for the group of `Fuel, Power, Light & Lubricants' as published by the Economic Adviser, Ministry of Industry, Govt. of India for the period to which the escalation/de-escalation relates.
- Fo = Index number of wholesale price for the group, Fuel, Power, light & lubricants as published by the Economic Adviser, Ministry of Industry, Govt. of India prevalent on the last date of receipt of bids (inclusive of Price Part) or revised price bids whichever is later.
- 2.4 While calculating the value of "W" the following may be noted : The cost on which the escalation will be payable shall be reckoned as 85 % of the cost of work as per the bills to which escalation relates, and from this amount the value of materials supplied or services rendered at the prescribed charges under the relevant provisions of the contract, and proposed to be recovered in the particular bill, shall be deducted before the amount of compensation for escalation or de-escalation is worked out. In the case of materials brought to site for which any secured advance is included in the bill, the full value of such materials as assessed by the Engineer-in-Charge (and not the reduced amount for which secured advance has been paid) shall be included in the cost of work done for operation of this clause. Similarly, when such materials are incorporated in the work and the secured advance is deducted from the bill, the full assessed value of the materials originally considered for operation of this clause should be de-

ducted from the cost of the work shown in the bill, running or final. Further the cost of work shall not include any work for which payment is made at prevailing market rates.

2.5 In the event the price of materials and/ or wages of labour required for execution of the work decreases, there shall be downward adjustment of the cost of work so that such price of materials and/or wages of labour shall be deductible from the cost of work under this contract and in this regard the formulae herein before stated under this clause shall mutatis/mutandis apply. No such adjustment for the increase / decrease in material price and/ or wages of labour before mentioned would be made in case of contracts in which the stipulated period of completion of the work is six (6) months or less.

2.6 Application of Price Variation Clause during extended period of Contracts.

The Price Variation Clause as stated above will be applied for extended time frame of a contract by following the principle stated as under:

- i) Normally, if and when it is understood that a contract is not going to be completed within the scheduled time period, the contract is kept operative by extending the time of completion provisionally. During this provisional extended period the operation of the Price Variation Clause will remain suspended.
- ii) If and when it is decided at the end of the successful completion of the work that the delay was due to causes not attributable to the contractor, then the Price Variation Clause will be revived and applied as if the scheduled date of completion has been shifted to the approved extended date.
- iii) If it is decided at the end of successful completion of the work that the delay was due to the fault of the contractor then the Price Variation Clause will not be revived for the purpose of escalation but shall be revived and applied for the purpose of de-escalation and no further payment will be made to the contractor on account of any escalation during this period but recovery shall be made for de-escalation, if any. Additionally, the Clause related to Compensation for delay will be applied.
- iv) If it is decided at the end of successful completion of work, the delay was partly due to the fault of the contractor and partly due to the fault of the employer and thereby Liquidated Damages (LD)/compensation due to delay is imposed then price variation clause for the purpose of escalation shall not be revived for this extended period, but shall be revived and applied for the purpose of de-escalation.

No payment will be made by applying "FROZEN INDICES "under any circumstances.

Table – 1

si	Particulars	A% (Labour Component)	B% (Material Component)	C% (POL Component)	Remarks
1	For building works	25	75	Nil	
2	For Road works	15	80	05	
3	For external sewerage, External water supply, and external electrification	10	90	Nil	
4	For external water supply, external sanitary and external electrification (through labour rate contract)	75	25	Nil	
5	For steel structural works	15	85	Nil	
6	For steel structural works with Deptt. free supply of rolled steel sections (through labour rate contract)	75	25	Nil	
7	For Coal Handling Plant Civil Works	25	75	Nil	
8	For under-ground civil works such as Incline Drivage, Shaft Sinking etc.	35	65	Nil.	
9	For only labour oriented works of maintenance nature.	100	Nil	Nil	

Value of A, B & C in the escalation formula in the additional terms & conditions for Civil Works :

For all other works not listed above, the component of labour, material and POL of the total cost of work shall be as specifically indicated in the tender document.

SPECIAL TERMS AND CONDITIONS

(1) Detail Scope of Work:

The Scope of the Work would essentially cover, but not limited to visiting the sites and survey of Roof Tops of the identified sites, Design, Engineering, Manufacture, Supply, Storage, Civil Works, Erection, Testing, Commissioning, ensuring net metering as per the concerned State/ UT Policies, Quality Control of the total 1415 kWp Grid Connected Solar PV Rooftop Project at 10 different areas of ECL consisting 26 different sites as below including Operation and Maintenance (O & M) of the Project for a period of 05 (Five) years.

(2) Location detail:

SI No.	Area/ Work Shop	Location/ Building De- tail	Assessed Capacity (kWp)	Address./ DISCOM
		Office Building		Dist- Paschim
1	Sripur Area (W.B.)	Guest House Building	30	Burdwan, WB
		Auditorium	15	(WBSEDCL)
		Area Office	70	
2	Sonepur Bazari Pro-	Project Office	10	Dist- Paschim
2	ject (W.B.)	Hostel	20	Burdwan, WB (WBSEDCL)
		Guest House	10	
		Khottadihi Agent Office	20	
	3 Pandaveswar Area (W.B.)	Pandaveswar Area Office	20	Dist- Paschim
3		Pant Nagar Hospital	150	Burdwan, WB (WBSEDCL)
		Vivekananda Hostel	10	
4	Jhanjra Area (W.B.)	Chinese Hostel	60	Dist- Paschim Burdwan, WB (WBSEDCL)
5	Bankola Area (W.B.)	Area Hospital	300	Dist- Paschim
		Area School	30	Burdwan, WB (WBSEDCL)
6	Kajora Area (W.B.)	Kajora Area Hospital	225	Dist- Paschim Burdwan, WB (WBSEDCL)
7	Mugma Area (Jhar- khand)	Office Building	20	Dist- Dhanbad, Jhar- khand (JBVNL)
		Urja Nagar Hospital	70	
		Rajmahal House	55	Dist- Godda, Jhar-
8	Rajmahal Area (Jharkhand)	Area Office	15	khand
	(0.1.2.1.1.0.1.0.)	Pit Office	50	(JBVNL)
		CHP GM Office	15	

		CHP Control Room	15	
9	Poniati W/s	Workshop	36	Dist- Paschim Burdwan, WB (WBSEDCL)
10	Mines Rescue Sta- tion	Office Building	94	Dist- Paschim Burdwan, WB (WBSEDCL)
11	S P Mines Area	Hospital	10	Dist- Deoghar, Jhar- khand
11	3 F Willes Alea	Area Office	55	(JBVNL)
TOTAL : 26 locations		1415		

** The estimated site capacity of each location may differ/ change as per site conditions. However, the overall tendered Capacity i.e. 1415 kWp shall not change.

(3) All component of Roof Top Solar Project shall be Indigenous only.

(4) Single Responsibility:

The Project cost shall include all the costs related to above Scope of Work. Bidder shall quote for the entire facilities on a "single responsibility" basis such that the total Bid Price covers all the obligations mentioned in the Bidding Documents in respect of Design, Supply, Erection, Testing and Commissioning including Warranty, Operation & Maintenance (for a period of 5 years), GST, goods and services including spares required if any during O&M period. The Bidder has to take all permits, approvals and licenses, Insurance etc., provide training and such other items and services required to complete the scope of work mentioned above. The fixed project cost should be quoted while accounting for the cost of grid-connectivity and net metering application/ security deposit etc. All costs associated with netmetering will have to be borne by the successful bidder.

(5) Fixed Project Cost:

The Project cost shall remain firm and fixed and shall be binding on the Successful Bidder till completion of work. No escalation will be granted on any reason whatsoever. The bidder shall not be entitled to claim any additional charges, even though it may be necessary to extend the completion period for any reasons whatsoever.

(6) Project cost includes Taxes etc:

The Project cost shall be inclusive of all duties and taxes, insurance etc. The prices quoted by the firm shall be complete in all respect and no price variation/ adjustment shall be payable by ECL. However, statutory variation of taxes and duties may be paid by ECL is found applicable.

(7) Inclusion in O&M job:

The Operation & Maintenance of Solar Photovoltaic Power Plant would include wear, tear, overhauling, machine breakdown, insurance, and replacement of defective modules, invertors/ Power Conditioning Unit (PCU), spares, consumables & other parts for a period of 5 years.

(8) Insurance:

The Bidder shall be responsible and take an Insurance Policy for transit-cum-storage-cumerection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materi-

als at site, erection, testing and commissioning. The bidder shall also take appropriate insurance including watch and ward during O&M period.

The Bidder shall also take insurance for Third Party Liability covering loss of human life, engineers and workmen and also covering the risks of damage to the third party/material/equipment/properties during execution of the Contract. Before commencement of the work, the Bidder will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. Liquidation, Death, Bankruptcy etc., shall be the responsibility of bidder.

(9) WARRANTIES AND GUARANTEES:

The Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The bidder shall provide warrantee covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of 5 years from the date of commissioning. The successful bidder has to transfer all the Guarantees/ Warrantees of the different components to ECL. The responsibility of operation of Warrantee and Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be joint responsibility of the Successful bidder and the owner of the project and ECL will not be responsible in any way for any claims whatsoever on account of the above.

(10) TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP

The design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/ Indian Standards as detailed in Technical Specification Part. Where appropriate Indian Standards and Codes are not available, other suitable standards and codes as approved by the MNRE shall be used.

The specifications of the components should meet the technical specifications mentioned in Technical Specification Part.

Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule for efficient and smooth operation and maintenance of the SPV plant.

(11) OPERATION & MAINTENANCE (O & M) GUIDELINES TO BE MANDATORILY FOLLOWED BY BID-DERS:

The bidder shall be responsible for all the required activities for successful operation and maintenance of the Rooftop Solar PV system for a period of 5 years from the date of commissioning of the plant.

For system sizes above 25 kWp, below mentioned guidelines, shall be followed in addition:

 \rightarrow O&M of Solar Power Plant shall be compliant with grid requirements to achieve committed energy generation.

 \rightarrow Deputation of qualified and experienced engineer/ technicians till the O&M period at project site.

 \rightarrow Periodic cleaning of solar modules. The modules shall be cleaned with a periodic interval of 15 days or as and when required as per actual site conditions. It's the responsibility of the bidder to get the modules cleaned during O & M Period. Roof Top Owner is responsible for such obligation of bidder so as to achieve guaranteed CUF.

 \rightarrow Periodic checks of the Modules, PCUs and BoS shall be carried out as a part of routine preventive and breakdown maintenance.

 \rightarrow Immediate replacement of defective Modules, Invertors/PCUs and other equipment as and when required.

 \rightarrow Supply of all spares, consumables and fixtures as required. Such stock shall be maintained for all associated equipments and materials as per manufacturer's / supplier's recommendations.

 \rightarrow All the testing instruments required for Testing, Commissioning and O&M for the healthy operation of the Plant shall be maintained by the Bidder. The testing equipment must be calibrated once in a year from NABL accredited labs and the certificate of calibration must be kept for reference as required.

 \rightarrow If negligence/ mal-operation on part of the Bidder's operator results in failure of equipment, such equipment should be repaired/ replaced by the Bidder free of cost.

 \rightarrow Co-ordination with ECL/ DISCOM / CEIG as per the requirement for Joint Metering Report (JMR). The person in charge present at site from bidder's side shall take a joint meter reading in the presence of representative of ECL on a monthly basis.

 \rightarrow Online Performance Monitoring, controlling, troubleshooting, maintaining of logs & records. A maintenance record register is to be maintained by the operator with effect from Commissioning to record the daily generation, regular maintenance work carried out as well as any preventive and breakdown maintenance along with the date of maintenance, reasons for the breakdown, duration of the breakdown, steps taken to attend the breakdown, etc.

 \rightarrow If any jobs covered in O&M Scope are not carried out by the contractor/ Bidders during the O&M period, the Engineer-In-Charge shall take appropriate action as deemed fit. Failure to adhere to above guidelines will result in penal action including debarring from participation in next tender.

METERING AND GRID CONNECTIVITY

Metering and grid connectivity of the roof top solar PV system under this scheme would be the responsibility of the Bidder in accordance with the prevailing guidelines of the WBSEDCL / or CEA (if available by the time of implementation). ECL shall facilitate connectivity; however, the entire responsibility lies with bidder only.

PLANT PERFORMANCE EVALUATION

The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the GHI levels of the location during the O&M period. PR should be shown minimum of 75% at the time of inspection for initial commissioning acceptance. Minimum CUF of 15% should be maintained for a period of 5 years for fulfilling one of the condition for release of PBG for the O&M part. The bidder should send the periodic plant output details to ECL for ensuring the CUF. The PR will be measured at Inverter output level during good radiation conditions.

PAYMENT TERMS

PBG shall be 5% of the total awarded value (including GST) and must be deposited within 21 days from issue of LOA as per clause 4.2 of Condition of Contract. Total Project cost shall be divided in two part as follows:

(A) 95% of the Awarded Value shall be considered as cost for Supply, Installation, commissioning and Testing and payment shall be made on supply, installation, commissioning and testing of individual roof top solar plant (location wise) after acceptance by concerned AE (E&M) of Area/ Agent of Work Shop (who shall be the acceptance authority) after recovery of 5% of **award value** as retention money. (Total award value divided by 1415 shall be consi9dered as the awarded rate. Accordingly, the capacity

of individual project, finally implemented, shall be considered as awarded value for each individual project.

- (B) Balance 5% of the Awarded Value shall be treated as O&M Cost. For this:
 - ➔ The Successful Bidder shall have to furnish a Bank Guarantee equal to 5% of the Awarded Value (including GST) on or before the completion of installation and commissioning which shall be valid for 5 years thereafter.
 - → ECL shall release the O&M cost on yearly basis (equal part for each year) on successful completion of O&M of each year by the successful bidder.
 - → ECL shall release the BG of O&M part (5% of project cost) after completion of entire O&M period of 5 years if completed by the Successful Bidder.
 - → Release of PBG and Retention Money shall be governed by clause 4.3 and 4.5 of Condition of Contract.

ECL shall be liable to encash the BG due to any non-performance of any obligation of the CON-TRACTOR as mentioned in this NIT and Tender Document.

"Capacity Utilization Factor" (CUF) means the ratio of the actual output from a solar plant over the year (kWh) to the maximum possible output from it for a year (kWh) under ideal conditions.

CUF = Actual Plant Output in kWh over the year/ (Installed Plant Capacity in kW* x 365 x 24)

Monthly CUF: Monthly Plant output in kWh/ (Installed Plant Capacity in $kW^* x$ number of days in a month x 24)

"**Performance Ratio**" (**PR**) means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured.

PR =

(Measured output in kW / Installed Plant capacity in kW) x (1000 W/m2 / Measured radiation intensity in W/m2)

Availability of ITC:

(a) Locations for which ITC shall NOT be Available:

SI No.	Area/ Work Shop	Location/ Building De- tail	Assessed Capacity (kWp)	Address./ DISCOM
1		Guest House Building	30	Dist- Paschim
2	Sripur Area (W.B.)	ripur Area (W.B.) Auditorium		Burdwan, WB (WBSEDCL)
3	Sonepur Bazari	Hostel	20	Dist- Paschim
4	Project (W.B.)	Guest House	10	Burdwan, WB (WBSEDCL)
5	Pandaveswar Area	Pant Nagar Hospital	150	Dist- Paschim
6	(W.B.)	Vivekananda Hostel	10	Burdwan, WB (WBSEDCL)

7	Jhanjra Area (W.B.)	Chinese Hostel	60	Dist- Paschim Burdwan, WB (WBSEDCL)
8	Bankola Area	Area Hospital	300	Dist- Paschim
9	(W.B.)	Area School	30	Burdwan, WB (WBSEDCL)
10	Kajora Area (W.B.)	Kajora Area Hospital	225	Dist- Paschim Burdwan, WB (WBSEDCL)
11	Rajmahal Area	Urja Nagar Hospital	70	Dist- Godda, Jhar-
12	(Jharkhand)	Rajmahal House	55	khand (JBVNL)
13	S P Mines Area	Hospital	10	Dist- Deoghar, Jharkhand (JBVNL)
	TOTAL : 13	locations	985	

(b) Locations for which ITC shall be Available:

SI No.	Area/ Work Shop	Location/ Building Detail	Assessed Capacity (kWp)	Address./ DISCOM
1	Sripur Area (W.B.)	Office Building	10	Dist- Paschim Burdwan, WB (WBSEDCL)
2	Sonepur Bazari Pro-	Area Office	70	Dist- Paschim
3	ject (W.B.)	Project Office	10	Burdwan, WB (WBSEDCL)
4	Pandaveswar Area	Khottadihi Agent Office	20	Dist- Paschim
5	(W.B.)	Pandaveswar Area Office	20	Burdwan, WB (WBSEDCL)
6	Mugma Area (Jhar- khand)	Office Building	20	Dist- Dhanbad, Jhar- khand (JBVNL)
7		Area Office	15	
8	Rajmahal Area	Pit Office	50	Dist- Godda, Jhar-
9	(Jharkhand)	CHP GM Office	15	khand (JBVNL)
10		CHP Control Room	15	
11	Poniati W/s (West Bengal)	Workshop	36	Dist- Paschim Burdwan, WB (WBSEDCL)
12	S.P.Mines (Jhar- khand)	Area Office	55	Dist- Deoghar, Jhar- khand (JBVNL)
13	Mines Rescue Sta- tion	Office Building	94	Dist- Paschim Burdwan, WB (WBSEDCL)
	TOTAL : 13	locations	430	

SAFETY CODE

- 1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper that ¼ to 1 (¼ horizontal and 1 vertical).
- 2. Scaffolding of staging more than 3.6 m (12ft). above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm (3ft) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- 3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft) above ground level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
- 4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm (3ft).
- 5. Safety means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m (30ft) in length while the width between side rails in rung ladder shall in no case be less than 20 cm (11 ½") for ladder upto and including 3 m (10ft) in length. For longer ladders, this width should be increased at least ¼" for additional 30 cm (1ft.) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person.
- 6. Excavation and Trenching: All trenches 1.2 m (4ft) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100 ft.) in length or fraction thereof. Ladder shall extend from bottom of the trench to at least 90 cm (3ft) above the surface of the ground. The side of the trenches which are 1.5 m (5ft) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m (5ft) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.
- 7. Demolition: before any demolition work is commenced and also during the progress of the work,a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.

- b) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
- c) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
- 8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned: The following safety equipment shall invariably be provided.
 - i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
 - ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.
 - iii) Those engaged in welding works shall be provided with welder's protective eye-shields.
 - iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
 - v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warming signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measures are adhered to:
 - a) Entry for workers into the line shall not be allowed except under supervision of the Engineering Assistant or any other higher officer.
 - b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
 - c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
 - d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.
 - e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
 - f) The area should be barricaded or condoned of by suitable means to avoid mishaps of any kind. Proper warming signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
 - g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
 - h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.

- i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.
- j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
- k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non-sparking gas engines also could be used but they should be placed at least 2 meters away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
- I) The workers engaged for cleaning the manholes / sewers should be properly trained before allowing to work in the manhole.
- m) The workers shall be provided with Gumboots or non-sparking shoes bump helmets and gloves non-sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
- n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
- o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
- p) The extents to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
- vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:
 - a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
 - b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
 - c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.
 - d) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
 - e) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - f) Overall shall be worn by working painters during the whole of working period.

- g) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
- 9. When the work is done near any place where there is risk of drowning, all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
- 10. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:
 - i) (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.

(b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.

- ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
- iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.
- 12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
- 13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
- 14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
- 15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.

16. Notwithstanding the above clauses from (1) to (15), there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

17.

TECHNICAL SPECIFICATIONS

Technical Specifications to be followed:

Civil Engineering Works

Latest CPWD specification shall be adopted. Presently CPWD specifications 2019 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.

Electrical Engineering Works

Latest CPWD specification shall be adopted. Presently the following are in vogue:

Part No.	Description	Year Of Issue
I	Internal	2013
	Lifts And Escalators	2003
V	Wet Riser And Sprinklers System	2006
VI	Heating, Ventilation And Air Conditioning Works	2017

The proposed projects shall be commissioned as per the technical specifications given below. Any shortcomings will lead to cancelation of award of work and forfeiture of EMD and PBG or as decided by the TIA. Domestic Modules are to be used failing which it will be assumed that system is not matching the requirement of the scheme and bidder's PBG shall be forfeited. Competent Authority's decision will be final and binding on the bidder.

A Grid Tied Solar Rooftop Photo Voltaic (SPV) power plant consists of SPV array, Module, Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables, Junction boxes, Distribution boxes and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable. Solar PV system shall consist of following equiments/components.

- \rightarrow (a) Solar PV modules consisting of required number of Crystalline PV cells.
- ightarrow (b) Grid interactive Power Conditioning Unit with Remote Monitoring System
- \rightarrow (c) Mounting structures
- \rightarrow (d) Junction Boxes.
- \rightarrow (e) Earthing and lightening protections.
- \rightarrow (f) IR/UV protected PVC Cables, pipes and accessories

1. SOLAR PHOTOVOLTAIC MODULES:

i) The PV modules used should be made in India.

ii) The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-1 - requirements for construction & Part 2 - requirements for testing, for safety qualification or equivalent IS.

a) For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701.

b) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 300 Wp and above wattage. Module capacity less than minimum 300 watts shall not be accepted.

c) Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.

d) PV modules must be tested and approved by one of the IEC authorized test centres.

e) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminium.

f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid. ECL shall allow only minor changes at the time of execution.

g) Other general requirement for the PV modules and subsystems shall be the Following:

I. The rated output power of any supplied module shall have positive tolerance in range of 5 watt.

II. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.

III. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.

IV. I-V curves at STC should be provided by bidder.

Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each modules. This should be inside the laminate only.

a) Name of the manufacturer of the PV module

b) Name of the manufacturer of Solar Cells.

c) Month & year of the manufacture (separate for solar cells and modules)

d) Country of origin (separately for solar cells and module)

e) I-V curve for the module Wattage, Im, Vm and FF for the module

f) Unique Serial No and Model No of the module

g) Date and year of obtaining IEC PV module qualification certificate.

h) Name of the test lab issuing IEC certificate.

i) Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001

Warranties:

a) Material Warranty:

i. Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than five (05) years from the date of sale to the original customer ("Customer")

ii. Defects and/or failures due to manufacturing

iii. Defects and/or failures due to quality of materials

iv. Non conformity to specifications due to faulty manufacturing and/or inspection processes.

If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at the Owners sole option. b) Performance Warranty:

i. The predicted electrical degradation of power generated not exceeding 20% of the minimum rated power over the 25 year period and not more than 10% after ten years period of the full rated original output.

ARRAY STRUCTURE

a) Hot dip galvanized MS mounting structures may be used for mounting the modules/ panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum insolation. However, to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.

b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed (like Delhi-wind speed of 150 kM/hour). It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed.

c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.

d) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Protection towards rusting need to be provided either by coating or anodization.

e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels.

f) Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.

g) The minimum clearance of the structure from the roof level should be 300 mm, for RCC type roof,

h) Ballast type structures can be used only for plants for capacity more than 40 kWp.

JUNCTION BOXES (JBs)

a) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JBs shall be such that input & output termination can be made through suitable cable glands.

b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads Conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility.

c) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs)/ SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.

d) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification.

e) All fuses shall have DIN rail mountable fuse holders and shall be housed in thermoplastic IP 65 enclosures with transparent covers.

DC DISTRIBUTION BOARD:

a) DC Distribution panel to receive the DC output from the array field.

b) DC DPBs shall have sheet from enclosure of dust & vermin proof conform to IP 65 protection. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

AC DISTRIBUTION PANEL BOARD:

a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.

b) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.

c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz

e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.

f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.

g) Should conform to Indian Electricity Act and rules (till last amendment).

h) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions.

Variation in supply voltage : +/- 10 % Variation in supplyfrequency: +/- 5 Hz

PCU/ARRAY SIZE RATIO:

a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.

b) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

PCU/ Inverter:

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit (PCU)". In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary. Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:

Switching Devices	I G B T/ MOSFET
Control	Microprocessor /DSP
Nominal AC output voltage and fre-	415V, 3 Phase, 50 Hz (In case single phase inverters are of-
quency	fered, suitable arrangement for balancing the
	phases must be made.)
Output frequency	50 Hz
Grid Frequency Synchronization range	+/- 5 Hz
Ambient temperature considered	-20o C to 50o C
Humidity	95 % Non-condensing
Protection of Enclosure	IP-20(Minimum) for indoor.
	IP-65(Minimum) for outdoor.

Grid Frequency Tolerance range	+/- 5 Hz
Grid Voltage tolerance	-0.20.15
No-load losses	Less than 1% of rated power
Inverter efficiency(minimum)	 >93% (In case of 10 kW or above with in-built galvanic isolation) >97% (In case of 10 KW or above without inbuilt galvanic isolation)
Inverter efficiency (minimum)	> 90% (In case of less than 10 kW)
THD	< 3%
PF	> 0.9

a) Three phase PCU/ inverter shall be used with each power plant system (10kW and/or above) but in case of less than 10kW single phase inverter can be used.

b) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.

c) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.

d) Built-in meter and data logger to monitor plant performance through external computer shall be provided.

e) Anti-islanding (Protection against Islanding of grid): The PCU shall have anti islanding protection in conformity to IEEE 1547/UL 1741/ IEC 62116 or equivalent BIS standard.

f) Successful Bidders shall be responsible for limiting dc injection into the grid and load as per the CEA/state regulations.

g) The PCU/ inverter generated harmonics, flicker, DC injection limits, Voltage Range, Frequency Range and Anti-Islanding measures at the point of connection to the utility services should follow the latest CEA (Technical Standards for Connectivity Distribution Generation Resources) Guidelines.

h) The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2 (1,2,14,30)/ Equivalent BIS Std.

i) The MPPT units environmental testing should qualify IEC 60068-2 (1, 2, 14, 30)/ Equivalent BIS std. The junction boxes/ enclosures should be IP 65 (for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.

j) The PCU/ inverters should be tested from the MNRE approved test centres/ NABL/ BIS/ IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

2 INTEGRATION OF PV POWER WITH GRID:

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service, PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided.

<u>3 DATA ACQUISITION SYSTEM / PLANT MONITORING</u>

i. Data Acquisition System shall be provided for each of the solar PV plant above 10 kWp capacity. ii. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC. Metering and Instrumentation for display of systems parameters and status indication to be provided. iii. Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.

iv. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system

v. The following parameters are accessible via the operating interface display in real time separately for solar power plant:

a. AC Voltage.

b. AC Output current.

c. Output Power

d. Power factor.

e. DC Input Voltage.

f. DC Input Current.

g. Time Active.

h. Time disabled.

i. Time Idle.

j. Power produced

k. Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage.

vi. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.

vii. PV array energy production: Digital Tri Vector Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. TVM Energy meter along with CT/PT should be of 0.5 accuracy class.

viii. Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.

ix. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.

x. Computerized AC energy monitoring shall be in addition to the digital AC energy meter.

xi. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.

xii. All instantaneous data shall be shown on the computer screen.

xiii. Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.

xiv. Provision for instantaneous Internet monitoring and download of historical data shall be also incorporated.

xv. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.

xvi. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis.

xvii. Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.

xviii. The bidders shall be obligated to push real-time plant monitoring data on a specified interval (say 15 minute) through open protocol at receiver location (cloud server) in XML/JSON format, preferably. Suitable provision in this regard will be intimated to the bidders.

4 TRANSFORMER "IF REQUIRED" & METERING:

a) Dry/oil type relevant kVA, 11kV/415V, 50 Hz Step up along with all protections, switchgears, Vacuum circuit breakers, cables etc. along with required civil work, as per applicable IS or IEC Standard.

b) The bidirectional electronic energy meter (0.5 S class) shall be installed for the measurement of import/Export of energy.

c) The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to ECL before commissioning of SPV plant.

d) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.

5. POWER CONSUMPTION

Internal Consumption of ECL. Net Metering shall be done.

6 PROTECTIONS

The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows:

6.1 LIGHTNING PROTECTION

a) The SPV power plants shall be provided with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per NFC 17-102:2011 standard.

The protection against induced high-voltages shall be provided by the use of SPD type II and suitable earthing such that induced transients find an alternate route to earth.

6.2 SURGE PROTECTION

a) Internal surge protection shall consist of three SPD type II, surge-arrestors connected from +ve and – ve terminals to earth (via Y arrangement).

6.3 EARTHING PROTECTION

a) Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043- 1987. In addition the lighting arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of ECL as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.

b) Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

6.4 GRID ISLANDING:

a) In the event of a power failure on the electric grid, it is required that any independent power producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as "Islands." Powered Islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.

b) A manual disconnect 4-pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel.

7 CABLES

Cables of appropriate size to be used in the system shall have the following characteristics:

i. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards

ii. Temp. Range: -10oC to +80oC

iii. Voltage rating 660/1000V

iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation

v. Flexible

vi. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum (2%).

vii. For the DC cabling, XLPE or, XLPO insulated and sheathed, UV-stabilized single core multi-stranded flexible copper cables shall be used; Multi-core cables shall not be used.

viii. For the AC cabling, PVC or, XLPE insulated and PVC sheathed single or, multi-core multi-stranded flexible copper/Aluminium cables shall be used; Outdoor AC cables shall have a UV-stabilized outer sheath.

ix. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use. Outer sheath of cables shall be electron beam cross-linked XLPO type and black in colour.

x. The DC cables from the SPV module array shall run through a UV-stabilized PVC conduit pipe of adequate diameter with a minimum wall thickness of 1.5mm.

xi. Cables and wires used for the interconnection of solar PV modules shall be provided with solar PV connectors (MC4) and couplers

xii. All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with thermo-plastic clamps at intervals not exceeding 50 cm; the minimum DC cable size shall be 4.0 mm2 copper; the minimum AC cable size shall be 4.0 mm2 copper. In three phase systems, the size of the neutral wire size shall be equal or half to the size of the phase wires.

xiii. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified. In addition, cable drum no. / Batch no. to be embossed/ printed at every one meter.

xiv. Cable Jacket should also be electron beam cross-linked XLPO, flame retardant, UV resistant and black in colour.

xv. All cables and connectors for use for installation of solar field must be of solar grade which can withstand harsh environment conditions including High temperatures, UV radiation, rain, humidity, dirt, salt, burial and attack by moss and microbes for 25 years and voltages as per latest IEC standards. DC cables used from solar modules to array junction box shall be solar grade copper (Cu) with XLPO insulation and rated for 1.1kV as per relevant standards only.

xvi. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant shall be provided by the bidder. Any change in cabling sizes if desired by the bidder shall be approved after citing appropriate reasons. All cable schedules/ layout drawings shall be approved prior to installation.

xvii. Multi Strand, Annealed high conductivity copper conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armoured cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/ equivalent BIS Standards as specified below:

BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V, UV resistant for outdoor installation IS /IEC 69947.

xviii. The total voltage drop on the cable segments from the solar PV modules to the solar grid inverter shall not exceed 2.0%.

xix. The total voltage drop on the cable segments from the solar grid inverter to the building distribution board shall not exceed 2.0%.

8 CONNECTIVITY

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the Distribution Code/Supply Code of the State and amended from time to time. Following criteria have been suggested for selection of voltage level in the distribution system for ready reference of the solar suppliers.

Plant Capacity	Connecting voltage
Up to 10 kW	240V-single phase or 415V-three phase at the op-
	tion of the consumer
Above 10kW and up to 100 kW	415V – three phase
Above 100kW	At HT/EHT level (11kV/33kV/66kV) as
	per DISCOM rules

a) Utilities may have voltage levels other than above, DISCOMS may be consulted before finalization of the voltage level and specification be made accordingly.

b) For large PV system (Above 100 kW) for commercial installation having large load, the solar power can be generated at low voltage levels and stepped up to 11 kV level through the step up transformer. The transformers and associated switchgear would require to be provided by the SPV bidders.

9 TOOLS & TACKLES AND SPARES:

a) After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose. List of tools and tackles to be supplied by the bidder for approval of specifications and make from ECL.

b) A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver cards etc. Junction Boxes. Fuses, MOVs / arrestors, MCCBs etc along with spare set of PV modules be indicated, which shall be supplied along with the equipment. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished.

10 DANGER BOARDS AND SIGNAGES:

a) Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date. Three signage shall be provided one each at battery –cum- control room, solar array area and main entry from administrative block. Text of the signage may be finalized in consultation with ECL.

11 FIRE EXTINGUISHERS:

The firefighting system for the proposed power plant for fire protection shall be consisting of:

a) Portable fire extinguishers in the control room for fire caused by electrical short circuits

b) Sand buckets in the control room

c) The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

12 DRAWINGS & MANUALS:

a) Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.

b) Approved ISI and reputed makes for equipment be used.

c) For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to ECL before progressing with the installation work.

13 PLANNING AND DESIGNING:

a) The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labour. The bidder should submit the array layout drawings along with Shadow Analysis Report to ECL for approval.

b) ECL reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements.

c) The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

14 DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT

a) The Contractor shall furnish the following drawings Award/Intent and obtain approval

b) General arrangement and dimensioned layout

c) Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.

d) Structural drawing along with foundation details for the structure.

e) Itemized bill of material for complete SV plant covering all the components and associated accessories.

f) Layout of solar Power Array

g) Shadow analysis of the roof.

15 SOLAR PV SYSTEM ON THE ROOFTOP FOR MEETING THE ANNUAL ENERGY REQUIREMENT

The Solar PV system on the rooftop of the selected buildings will be installed for meeting upto 90% of the annual energy requirements depending upon the area of rooftop available and the remaining energy requirement of the office buildings will be met by drawing power from grid at commercial tariff of DISCOMs.

16 SAFETY MEASURES:

The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.

17 DISPLAY BOARD

The bidder has to display a board at the project site (above 25 kWp) mentioning the following:a. Plant Name, Capacity, Location, Date of commissioning, estimated Power generation.b. The size and type of board and display shall be approved by Engineer-in-charge before site inspection.

eTender Portal User Agreement

In order to create a user account and use the eTender portal you must read and accept this eTender portal User Agreement.

A. UNDERTAKINGS TO BE FURNISHED ONLINE BY THE BIDDER

I DO HEREBY UNDERTAKE

- 1. That all the information being submitted by me/us is genuine, authentic, true and valid on the date of submission of tender and if any information is found to be false at any stage of tendering or contract period, I/We will be liable to the following penal actions apart from other penal actions prescribed elsewhere in the tender document.
 - a. Cancellation of my/our bid/contract (as the case may be)
 - b. Forfeiture of EMD
 - c. Punitive action as per tender document
- 2. That I/we accept all terms and condition of NIT, including General Terms and Condition and Special/Additional Terms and Condition as stated there in the tender document as available on the website.
- 3. That I/we accept the Integrity Pact as given in the tender document (if applicable).
- 4. That I/we, am/are giving my/our consent for e-payment and submitting/ shall submit the mandate form for e-Payment in the format as prescribed in the document in case, the work is awarded to us.
- 5. That I/we do authorize CIL/Subsidiary for seeking information/clarification from my Bankers having reference in this bid.
- 6. That I/we will upload original/certified photo/scanned of all the relevant documents as prescribed in the tender document in support of the information and data furnished by me/us online.
- 7. I/We confirm that I/We have not been banned or de-listed by any Govt. or Quasi Govt. agencies or PSUs. In case We are banned or delisted this information shall be specifically informed to the tender issuing authority.
- 8. That I/We accept all the undertakings as specified elsewhere in the tender document.
- 9. That this online agreement will be a part of my bid and if the work is awarded to me/us, this will be a part of our agreement with CIL/Subsidiary Company.

B. TERMS AND CONDITIONS OF E-TENDER SERVICES AGREEMENT

COPYRIGHT NOTICE : Copyright©2013, Coal India Limited, India. All rights reserved.

YOU MAY NOT MODIFY, COPY, REPRODUCE, REPUBLISH, UPLOAD, POST, TRANSMIT, OR DISTRIBUTE, IN ANY MANNER, THE MATERIALON THE SITE, INCLUDING TEXT, GRAPHICS, CODE AND/OR SOFTWARE.

You may print and download portions of material from the different areas of the website solely for your own non-commercial use provided that you agree that you shall not change or delete any copyright or proprietary materials from the site.

www.coalindiatenders.nic.in is an e-procurement portal of Coal India Limited/its Subsidiary.

THIS E-TENDER PORTAL AND RELATED SERVICES SUBJECT TO YOUR COMPLIANCE WITH THE USER'S TERMS AND CONDITIONS SET FORTH BELOW:

PLEASE READ THE FOLLOWING INFORMATION CAREFULLY. YOU MAY NOT COMPLETE YOUR REGISTRATION AND USE THE E-TENDER PORTAL WITHOUT AGREEING TO COMPLY WITH ALL OFTHE TERMS AND CONDITIONS SET FORTH BELOW.

BY REGISTERING THE USER NAME AND PASSWORD, YOU AGREE TO ABIDE BY ALL THE TERMS AND CONDITIONS SET FORTH BELOW:

Bidder Registration, Password and Security:

Upon successful completion of Registration online, User ID and Password will be registered. You can login, only by giving valid User ID and Password and then signing with your valid Digital Signature Certificate.

The Online registration/enrolment of bidder on the portal should be done in the name of the bidder. The person whose DSC is attached to the Registered Bidder should be either the bidder himself Or, duly authorized by the Bidder.

User ID and password are strictly personal to each Authorised User and non-transferable. The User shall ensure that its Authorised Users do not divulge or disclose their user ID or password to third parties. In the event that the Authorised User comes to know that the User ID/Password has been/ might have been divulged, disclosed or discovered by any third party, user or its authorized user shall immediately modify the password using "Change Password" option. CIL/subsidiary will have no responsibility or obligation in this regard.

At the time of enrolment in the e-Tendering portal of CIL/its Subsidiaries, the Bidders should ensure that the status of DSC is active on this site. The activation of newly issued DSC may take 24 hrs or more. Hence Bidders who are obtaining new DSC should register at least 24 hrs before the submission of Bid.

By registering in this portal, you forthwith assume the responsibility for maintaining the confidentiality of the Password and account, and for all activities that occur under your Password or Account. You also agree to (a). immediately notify by e-mail to Application Administrator/Nodal officer, of any unauthorized use of your Password or Account or any other breach of security, and (b) ensure that you log-out from your account at the end of each session. CIL/its Subsidiaries shall not be liable for any loss or damage caused to you due to your failure to comply with the foregoing.

Registered user can modify or update some of the information in their profile as and when required at their own discretion. However, some information such as "User ID" are protected against changes by Bidder after enrolment and some other information such as "Bidder Name" etc. are protected against changes by Bidder after bid submission.

Modification of software:

With consent of Project Advisory Committee, e-procurement of CIL, the Administrator of e-Tender portal, reserves the right to modify, add, delete and/or change the contents, classification and presentation of the information on the market place at any time as it may in its absolute discretion find to be expedient and without giving any notice. It is the users responsibility to refer to the terms and/or any change or addition to the same while accessing the site.

Coal India Limited reserves right to interrupt/suspend the availability of the e-Tender system without

any notice to the users.

System Requirements:

It is the user's responsibility to comply with the system requirements: hardware, software, Internet connectivity at user premises to access the eTender portal as mentioned in the home page in the link "Resources Required".

Under any circumstances, CIL shall not be liable to the Users for any direct/indirect loss incurred by them or damages caused to them arising out of the following:

- (a). Incorrect use of the e-Tender System, or;
- (b). Internet Connectivity failures in respect of the equipment used by the Users or by the Internet Service Providers, or;
- (c). Inability of the Bidder to submit their bid due to any DSC related problems, hardware, software or any other factor which are personal/ special/local to the Bidder.

Contents of Tender Information:

Tenders shall be published by the authorized Tender Inviting Authorities of the respective Tendering entities of CIL/subsidiary. In case of any clarifications arising out of the tenders, the users have to contact the respective Tender Inviting Authority.

Bid Submission Acknowledgement:

The User should complete all the processes and steps required for Bid submission. The successful Bid submission can be ascertained once acknowledgement is given by the system through Bid Submission number i.e. Bid ID, after completion of all the processes and steps. Coal India Limited is not responsible for incomplete bid submission by users. Users may also note that the incomplete bids will not be saved by the system and so the same will not be available to the Tender Inviting Authority for processing.

The acknowledgment is the only confirmation of submission of bid, which the bidder can show as a proof of participating in the tender. Other than this acknowledgement, no proof will be considered as a confirmation to the submission of a bid. If the bidder fails to produce this acknowledgement required for verification in case of dispute, his claim for submission of bid may not be considered.

Upload files:

The bidders have to ensure that the files being uploaded by them are free from all kinds of viruses and contain only the relevant information as stated by the Tender Inviting Authorities for the particular tender. It is not obligatory on the part of CIL/subsidiary to read each and every document uploaded by the Bidder. If any bidder/Company has uploaded/attached irrelevant data, bogus or fabricated certificates towards his qualification requirements to the respective tender then their User account will be liable for termination permanently or temporarily by CIL/subsidiary without any prior notice.

User Conduct:

You agree that all information, data, text, software, photographs, graphics, messages or other materials ("Content"), whether publicly posted or privately transmitted, are the sole responsibility of the person from which such Content is originated. This means that you are entirely responsible for all Content that you upload, post, email or otherwise transmit via the eTender portal.

CIL/subsidiary does not control the Content posted via the e-Tender portal and, as such, does not guarantee the accuracy, integrity or quality of such Content. Hence under no circumstances, CIL/subsidiary is liable in any manner for any Content, including, but not limited to, for any errors or omissions in any Content, or for any loss or damage of any kind incurred as a result of the use of any Content posted, e-mailed or otherwise transmitted via the Site.

Amendments to a tender published:

You agree that the CIL/ Subsidiary companies reserves the right to re-tender /cancel a tender or extend the closing date or amend the details of tender at any time by publishing corrigendum as applicable.

Special Admonitions for International Use:

Recognizing the global nature of the Internet, you agree to comply with all local rules regarding online content and acceptable Content. Specifically, you agree to comply with all applicable laws regarding the transmission of technical data to and from India or the country in which you reside.

Links:

The Site may provide, links to other World Wide Web sites or resources. Because CIL/subsidiary has no control over such sites and resources, you acknowledge and agree that the CIL/Subsidiary is not responsible for the availability of such external sites or resources, and does not endorse and is not responsible or liable for any Content, advertising, products, or other materials on or available from such sites or resources.

You further acknowledge and agree that the CIL/subsidiary shall not be responsible or liable, directly or indirectly, for any damage or loss caused or alleged to be caused by or in connection with use of or reliance on any such Content, Goods or Services available on or through any such site or resources.

Miscellaneous:

This Agreement shall all be governed and construed in accordance with the laws of India & applicable to agreements made and to be performed in India. The e-Tender portal's failure to insist upon or enforce strict performance of any provision of this Agreement shall not be construed as a waiver of any provision or right. Neither the course of conduct between the parties nor trade practice shall act to modify any provision of this Agreement. CIL/subsidiary may assign its rights and duties under this Agreement to any party at any time without notice to you. Any rights not expressly granted herein are reserved.

Governing Law:

Terms shall be governed by, and construed in accordance with, Indian law. The parties agree that the principal civil court of the place where the registered office of Coal India/Subsidiary Company is situated shall have non-exclusive jurisdiction to entertain any dispute with Coal India/Subsidiary company. In case of dispute being with a regional Institute of CMPDIL, the principal Civil Court where the said regional Institute is situated shall be place of suing.

CIL/subsidiary reserves the right to initiate any legal action against those bidders violating all or any of the above-mentioned terms & conditions of e-Tender services agreement.

Modification of terms of Agreement:

CIL/its Subsidiaries reserves the right to add to or change/modify the terms of this Agreement. Changes could be made by us after the first posting to the Site and you will be deemed to have accepted any change if you continue to access the Site after that time. CIL/its Subsidiaries reserves the right to modify, suspend/cancel, or discontinue any or all services/ make modifications and alterations in any or all of the content, at any time without prior notice.

Policy and Security:

General Policy:

CIL/its Subsidiaries is committed to protecting the privacy of our e-Tender site visitors. CIL/subsidiary does not collect any personal or business information unless you provide it to us voluntarily when conducting an online enrolment, bid submission etc. or any other transaction on the Site.

Information Collected:

When you choose to provide personal or business information to us to conduct an online transaction, we use it only for the purpose of conducting the specific online transaction that you requested. The information is also used for the purpose of vendor searches. For each online transaction, we require only a minimum amount of personal and business information required to process your transaction.

When you visit our portal to browse, read pages, or download information, we automatically collect and store only the following information:

The Internet domain and IP address from which you access our portal;

The date and time you access our portal;

The pages you visit

This information would help us to make our site more useful to visitors and to learn about the number of visitors to our site and the types of technology our visitors use.

We do not give, share, sell or transfer any personal information to a third party unless required to do so by law. If you do not want any personal or business information to be collected, please do not submit it to us; however, without this required information we will be unable to process your online bid submission or any other online transaction. Review, update and correction of any personal or business information can be done directly on the Site.

Use of Cookies:

When you choose to enter into an online transaction, we use cookies to save the information that you input while progressing through the transaction. A cookie is a very small amount of data that is sent from our server to your computer's hard drive. By enabling this feature, the cookie will remember the data entered by you and next time when you visit this site, the data stored in the cookie will be available in future.

Security:

The Site has security measures in place to protect against the loss, misuse and alteration of information under our control.

eMail/ SMS Notifications:

The GePNIC eProcurement Server has functionality of automatically sending eMail / SMS alerts at various events as per the bidders preference. There is no manual intervention while sending these pre-defined eMail / SMS alerts. All events for which eMails / SMS being sent is also available to users on the Dash Board / the user login of the Bidder. Although all efforts will be made to ensure timely delivery of eMail / SMS, due to dependency in various other external factors, the delivery of eMail / SMS may not be assured and bidders are requested to check the portal on a periodic basis for any such events. Non receipt of eMail / SMS cannot be quoted as a reason for failure of service as this is an added facility being provided to users.

ANNEXURES

Annexure-I

FORMAT FOR LETTER OF BID

(To be uploaded by the Bidder on his Letter Head during submission of bid online)

To, The Tender Committee CIL/ Subsidiary

Sub: BID for the Work ".....".

NIT No.:

Tender Id No:....

Dear Sir,

This has reference to above referred bid. 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 our bid for the above work. I/We hereby unconditionally accept the bid conditions and bid documents in its entirety for the above work and agree to abide by and fulfil 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 bid 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 **CIL**/ Subsidiary.

Should this bid be accepted, we agree to furnish Performance Security within **stipulated date** and commence the work within **stipulated date**. In case of our failure to abide by the said provision, **CIL**/ Subsidiary shall, without prejudice to any other right or remedy, be at liberty to cancel the letter of acceptance/ **work order** /award and to forfeit the Earnest Money and also debar us from participating in future tenders for a minimum period of 12(twelve) months.

Annexure-II

PROFORMA FOR UNDERTAKING

(To be uploaded by the Bidder on his Letter Head during submission of bid online)

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

- 2. Myself/Our Partners/Directors don't has/have any relative as employee of CIL/ Subsidiary.

3. All information furnished by us in respect of fulfilment 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. We hereby undertake that we shall register and obtain license from the competent authority under the contract labour (Regulation & Abolition Act) as relevant, if applicable.
- 7. *I/We hereby confirm that we have registration with CMPF / EPF Authorities. We shall make necessary payments as required under law.

Or

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

* Delete whichever is not applicable.

8. ** I/We have not been banned or delisted by any Govt., or Quasi Govt. Agencies or PSUs.

****** Delete whichever is not applicable.

- 9. I/We have not been debarred by any procuring entity for violation of Preference to Make in India (as applicable) vide Order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020, issued by Govt. of India as amended from time to time (not applicable for works with estimated value put to tender less than 5 lakh).
- 10. 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 of our firm and all partners of the firm etc.

MANDATE FORM FOR ELECTRONIC FUND TRANSFER / INTERNET BANKING PAYMENT.

1. Name of the Bidder i
2. Address of the Bidder :
City Pin Code
E-mail Id

Permanent Account Number

3. Particulars of Bank:

Bank Name						E	Bran	ch N	ame							
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.						ue	 									
RTGS CODE																1
Account Type Savings Current							Са	sh C	redi	t						
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/NEFT. 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	<pre>/ Authorised Signatory</pre>
--	------------------------	-----------------------------------

Certified that particulars furnished above are correct as per our records.

Banker's Stamp Date :

Signature of the Authorised official from the Bank)

Annexure-IV

SPECIMEN OF LETTER BY THE ENGINEER-IN-CHARGE TO CONTRACTOR FOR PROVISIONAL REDUCTION IN RATE FOR SUBSTANDARD WORK.

REGISITERED POST/A.D.

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.

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.

Enclo: Proforma for Acceptance (Appdx.22)

Yours faithfully,

Engineer-in-Charge For and on behalf of (Name of the Company)

No.

Annexure - V

SPECIMEN OF LETTER OF CONTRACTOR'S ACCEPTANCE OF PROVISIONAL REDUCTION OF RATE FOR SUBSTANDARD WORK.

No.		Date:
То		
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).

Annexure- VI

PROFORMA OF BANK GUARANTEE INLIEU OF BID SECURITY/EARNEST MONEY

N.A.

PROFORMA OF BANK GURANTEE FOR PERFORMANCE SECURITY

То

.....

WHEREAS

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.

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.

* 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....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.

Annexure- VIII

PROFORMA OF BANK GUARANTEE FOR MOBILISATION/ LUMP -SUM ADVANCE.

M/s. Coal India Limited (with address)

Or

.....

(Name of the Subsidiary Company with address).

Dear Sir,

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.

Annexure-IX

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 ShriWho has power of Attorney to enter into Joint Venture withandSign all documents/ agreements
on behalf of M/s (hereinafter referred to as"")
AND
M/s having its registered Office at
Represented by Shriwho has power of
Attorney to enter into Joint Venture withandSign all documents/agreements
on behalf of M/s (hereinafter referred to as"").
AND
M/s having its registered Office at
Represented by Shriwho has power of
Attorney to enter into Joint Venture withandSign all documents/agreements
on behalf of M/s (hereinafter referred to as"").
The expressions M/sand M/sand M/sand M/sshall, wherever the context ad-
mits, 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 Part- ner/Party".
WHEREAS M/sand M/sagreed 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 manage- ment skill, finance and equipment for the benefit of the project and in order to submit the Bid for the
work of "
(Hereinafter re-
ferred 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 ")

- 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) <u>LEAD PARTNER</u>.

3) <u>REPRESENTATIVE OF THE PARTNERS OF THE JOINT VENTURE.</u>

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.

JV Partner	<u>Name</u>	Position in the respective Company
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) <u>BANK A/C</u>.

Separate Bank A/c. shall be opened in the name of the Joint Venture in a scheduled or Nationalized Bank in India asper 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) <u>TAXES</u>.

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)

Annexure-X

PRE CONTRACT INTEGRITY PACT

General

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on......day of the month of20..., between, on one hand, Coal India Limited/Subsidiary Cos. acting through Shri, Designation of the officer, (hereinafter called the "BUYER / Principal", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s.represented by Shri....., Chief Executive Officer (hereinafter called the "BIDDER/Seller/Contractor" which expression shall mean and include, unless the context otherwise requires, of the Second Part.

WHEREAS the BUYER proposes to procure(Name of the Stores/Equipment/Item) and the BIDDER/Seller is willing to offer/has offered the stores and

WHEREAS the BIDDER is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER is a Central Public Sector Unit.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERs to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

Section 1 - Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

a. No employee of the Principal, personally or through family members, will in connection with the tender for , or the execution of a contract, demand ; take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

b. The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.

c. Principal will exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/ PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

Section 2 - Commitments of the Bidder(s)/ Contractor(s)

(1) The Bidder(s) / Contractor(s) commit themselves to take all measures necessary to prevent corruption. The Bidder(s) / Contractor(s) commit themselves to observe the following principles during participation in the tender process and during the contract execution.

a. The Bidder(s) / Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

b. The Bidder(s) / Contractor(s) will not enter with other Bidders info any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non- submission of bids or any other actions to restrict competitiveness or to introduce cartelisation in the bidding process.

c. The Bidder(s) / Contractor(s) will not commit any offence under the relevant IPC/ PC Act; further the Bidder(s) / Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

d. The Bidder(s) / Contractors(s) of foreign origin shall disclose the name and address of the Agents/ representatives in India , if any, Similarly the Bidder(s) /Contractors(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any. Further details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s) / Contractor(s).Further, as mentioned in the Guidelines all the payments made to the Indian agent/ representative have to be in Indian Rupees only.

e. The Bidder(s) / Contractor(s) will, when presenting their bid, disclose any and all payments made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

f. Bidder(s) / Contractor(s) who have signed the Integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.

(2) The Bidder(s) / Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 - Disqualification from tender process and exclusion from future contracts

If the Bidder, before contract award, has committed a transgression through a violation of Section 2 or in any other form such as to put his reliability or credibility as Bidder into question, the Principal is entitled to disqualify the Bidder from the tender process or to terminate the contract, if already signed, for such reason. (1) If the Bidder / Contractor / Supplier has committed a transgression through a violation of Section 2 such as to put his reliability or credibility into question, the Principal is also entitled to exclude the Bidder / Contractor / Supplier from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case. In particular the number of transgressions, the position of the transgressors within the company hierarchy of the Bidder and the amount of the damage. The exclusion will be imposed for a minimum of 6 months and maximum of 3 years.

(2) A transgression is considered to have occurred if the Principal, after due consideration of available facts and evidences within his / her knowledge concludes that there is a reasonable ground to suspect violation of any commitment listed under Section 2 i.e " Commitments of Bidder(s) / Contractor(s).

(3) The Bidder accepts and undertakes to respect and uphold the Principal's absolute right to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

(4) If the Bidder / Contractor / Supplier can prove that he has restored / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal may revoke the exclusion prematurely."

Section 4 - Compensation for Damages

(1) If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.

(2) If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

Section 5 - Previous transgression

(1) The Bidder declares that no previous transgressions occurred in the last three years with any other Company in any country conforming to the anti-corruption approach or with any Public Sector Enterprise in India that could justify his exclusion from the tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Guidelines on Banning of business".

Section 6 - Equal treatment of all Bidders / Contractors / Subcontractors

(1) In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor.

(2) The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.

(3) The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section 7 - Criminal charges against violating Bidder(s) / Contractor(s) / Subcontractor(s)

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

Section 8 - Independent External Monitor

(1) The Principal appoints competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

(2) The Monitor is not subject to instructions by the representatives of the parties and performs his/ her functions neutrally and independently. The Monitor would have access to all Contract documents, whenever required. It will be obligatory for him / her to treat the information and documents of the Bidders/Contractors as confidential.

He/ she reports to the Chairman, Coal India Limited / CMD, Subsidiary Companies

(3) The Bidder(s) / Contractor(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his/ her request and demonstration of a valid interest, unrestricted and unconditional access to their project documentation. The same is applicable to Sub-contractors.

(4) The Monitor is under contractual obligation to treat the information and documents of the Bidder(s) / Contractor(s) / Sub-contractor(s) with confidentiality. The Monitor has also signed declarations on 'Non-Disclosure of Confidential Information ' and of 'Absence of Conflict of Interest'. In case of any conflict of interest arising at a later date, the IEM shall inform Chairman, Coal India Limited / CMD, Subsidiary Companies and recuse himself / herself from that case.

(5) The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

(6) As soon as the Monitor notices, or believes to notice, a violation of this agreement, he/ she will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

(7) The Monitor will submit a written report to the Chairman, Coal India Limited / CMD, Subsidiary Companies within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

(8) If the Monitor has reported to the Chairman, Coal India Limited / CMD, Subsidiary Companies, a substantiated suspicion of an offence under relevant IPC/ PC Act, and the Chairman, Coal India Limited / CMD, Subsidiary Companies has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

(9) The word 'Monitor' would include both singular and plural.

Section 9 - Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Contractor 12 months after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.

If any claim is made / lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by Chairman Coal India Limited / CMD, Subsidiary Companies.

Section 10 - Other provisions

(1) Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

(2) If the Contractor is a partnership or a <u>Joint Venture</u>, this agreement must be signed by all partners or JV members.

(3) Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

(4) Issues like Warranty / Guarantee etc. shall be outside the purview of IEMs.

(5) In the event of any contradiction between the Integrity Pact and its Annexure, the Clause in the Integrity Pact will prevail.

Section 11- Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BUY-ER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

Section 12- Law and Place of Jurisdiction

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER.

Section 13 - Other Legal Actions.

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

(For & On behalf of the Principal)	(For & On behalf of Bidder/ Contractor)
(Office Seal)	(Office Seal)

Place
Date

Witness 1: (Name & Address)

Witness 2: (Name & Address)

PROFORMA FOR EXECUTION OF AGREEMENT

STAMP PAPER (of appropriate value as per Stamp Act)

Whereas the Company invited tenders for the work of "......" and whereas the said Contractor/ Firm submitted tender for the said work and deposited a sum of Rs..... as Earnest Money and whereas the tender of the said contract has been accepted by the Company for execution of the said work.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1) In this agreement words and expressions shall have the same meaning as are respectively assigned to them in the tender papers hereinafter referred to.

2) The following documents which are annexed to this agreement should be deemed to form and be read and construed as part of this agreement viz.

- i) Annexure-A Tender Notice (Page .. to ..)
- ii) Schedule A General Terms & Conditions, Special Conditions and General Technical Specification (Page to ...) and Safety Code.
- iii) Schedule-B The probable Quantities and Amount (Page ... to ...)
- iv) Schedule-C Negotiation letters -
- iv) Schedule-D Letter of Acceptance/Work Order (Page .. to ..)
- v) Schedule-E Drawings (Page .. to ..)

3) In consideration for the payment of the sum of Rs.....(W/O Value; both in words and figures) or such other sum as may be arrived at under the clause of the specification relating to Payment by items measurements at unit prices by the Company, the said Contractor shall, subject to the terms & condition contained herein execute and complete the work as described and to the extent of probable quantities as indicated in Schedule B with such variations by way of alteration, addition to or reduction from the said works.

4) The company has received a sum of Rs..... towards Performance Security Deposit (1st part of Security Deposit) in the form of Demand Draft / Certified Cheque/ B.G./ other form (details to be furnished).

5) The said contractor hereby covenants with the company that the company shall deduct at 5% of R/A Bills as Retention Money (2ndpart of security deposit) as per the terms & condition of the tender/ contract.

IN WITNESS WHEREOF THE parties herein have set their hands and seals the date and year above written.

	1	Partner.	Signature
	2	Partner	Signature
	The Cor	alf of M/S htractor, as one of the constituted attorney, resence of –	
	1. Name	e	Signature
	Address	5:	
	Occupa	tion :	
	-	by Srion behalf of of Company) in presence of -	Signature
a) Name : b) Address: .			Signature

To be submitted by Bidder on Non-Judicial Stamp Paper of Rs. 10/- duly attested by Notary Public. GUARANTEE TO BE EXECUTED BY CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WTER PROOFING WORKS.

The agreement made this day ofTwo thousand and between...... (Hereinafter called Guarantor of the one part) and Limited (hereinafter called the Owner of the other part).

WHEREAS this agreement is supplementary to a contract (hereinafter called the contract), dated and made between the GUARANTOR OF THE ONE part and the Limited of the other part, whereby the contractor, inter-alia, undertook to render the buildings and structures in the said contract recited completely water and leak proof.

AND WHEREAS the Guarantor agreed to give a guarantee to the effect that the said structures will remain water and leak proof for five years from the date of giving water proofing treatment.

NOW THE GUARNTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be five years to be reckoned from the date after the maintenance period prescribed in the contract.

Provided that the Guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose.

a) Misuse of roof shall mean any operation, which will damage proofing treatment, like chopping of fire wood and things of the same nature which might cause damage to the roof.

b) Alternation shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts.

c) The decision of the Engineer-in-Charge with regard to cause of leakage shall be final.

That if the Guarantor fails to execute the water proofing or commits breach thereunder, then the Guarantor will indemnify the 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 supplementary agreement. As to the amount of loss and / or damage and / or cost incurred by Coalfields, the decision of the Engineer-in-Charge will final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Guarantor...... and by and for and on behalf of Limited on the day, month and year first above written.

Signed, sealed and delivered by Guarantor in the presence of -

2.
 Signed for and on behalf of Limited by

In presence of:

1.

2.

Annexure-XIII

<u>CONSENT TO ARBITRATION CLAUSE 16 and 16A</u> (Applicable in case of Partnership firm/Joint Venture)

(Name, Signature and Seal of Partners of Partnership Firm)