

GOVERNMENT OF MAHARASHTRA

Dr. Babasaheb Ambedkar Research and Training Institute, Pune

(An Autonomous Institute of Social Justice And Special Assistance Department, Govt. of Maharashtra)

E-TENDER NOTICE No: - BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14

NAME OF WORK:

Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.

- a) At Yerwada premises, Pune – 40 Kw
- b) At Queen's Garden premises, Pune – 40 Kw
- c) At Mahad premises – 100 Kw
- d) LED light fittings at various locations

REVISED VOLUME –I

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**(SECTION-I)
BID NOTICE**

DR. BABASAHEB AMBEDKAR RESEARCH AND TRAINING INSTITUTE, PUNE

(An Autonomous Institute of Department of
Social Justice and Special Assistance, Govt. of Maharashtra)
28, Queen's Garden, Camp, Pune - 411 001.

Email : directorbarti@gmail.com • Website : <http://barti.maharashtra.gov.in>

CORRIGENDUM TO TENDER NOTICE

“E-TENDER SHORT NOTICE NO: BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14”

Offers by way of 'e' – tendering system (Percentage rate) are invited by the Director General of Dr. Babasaheb Ambedkar Research and Training Institute (BARTI), an Autonomous Institute of Social Justice and Special Assistance Department, Govt. of Maharashtra from eligible contractors for following works. The cost put to tender, EMD, Cost of Blank tender document and time limit etc. are stated below.

Name of Work	Cost Put to Tender (Rs.)	Bid Security (EMD) (Rs.)	Time Limit for completion of work	Cost of Bid document (Rs.)
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The Revised detailed tender notice and revised Bid Documents are available on website
“<http://maharashtra.etenders.in> ;<http://swd.maharashtra.etenders.in>”

Advt. No. : BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14

Date: 18/07/2013

Director General
Dr. Babasaheb Ambedkar Research and Training Institute
Pune.

GOVERNMENT OF MAHARASHTRA

Dr. Babasaheb Ambedkar Research and Training Institute, Pune

(An Autonomous Institute of Social Justice and Special Assistance Department, Govt. of Maharashtra)

Revised Tender Notice

“E-TENDER DETAILED NOTICE No: - BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14

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The applicant bidders shall submit the appropriate documents along with their completed bids to demonstrate the qualification of their company to participate in bid process. For this work, the bidder should have a tie up with MNRE approved manufacturer, who is preferably having manufacturing facility in India.

S. No.	Action by BARTI	Action by Bidders	From	Up to
1	Publication of tender notice	NA	18/07/2013 from 10.00 hrs	18/07/2013 up to 18.30 hrs
2	NA	Bid Document downloading and purchase	18/07/2013 from 18.31 hrs	08/08/2013 up to 15.00 hrs
3	Closure of sale of bid document	NA	08/08/2013 from 15.01 hrs	08/08/2013 up to 17.30 hrs
4	NA	Submission of technical and financial bid (re-inscription of original bid document)	08/08/2013 from 17.31 hrs	12/08/2013 up to 15.00 hrs

5	Opening of technical bid (if possible)	NA	12/08/2013 from 15.01 hrs	12/08/2013 up to 17.00 hrs
6	Opening of financial bid (if possible)	NA	12/08/2013 from 17.01 hrs	16/08/2013 up to 16.00 hrs
7	Acceptance of payment against cost of bid document and EMD	Submission of bid security (EMD) & cost of bid document	18/07/2013 from 17.31 hrs	16/08/2013 up to 14.00 hrs

1. Joint Venture Consortium is not permitted.
2. The Bid documents are available on website “<http://maharashtra.etenders.in> :<http://swd.maharashtra.etenders.in>”
 - a) The interested bidders will have to get registered to participate in the bid process, will have get enrolled on website “<http://maharashtra.etenders.in> :<http://swd.maharashtra.etenders.in>”.
 - b) In case of any difficulties to get enrolled on line and to obtain digital certificate, bidders should contact Sify Technologies Ltd. Nextender (India) Pvt. Ltd. on 020-25315555 / 25315556 (Pune) or 9167969601 / 04.
 - c) The interested bidders will have submit all the required documents by online submission.
 - d) The other instructions are available in appendix to ITB of bid document.
 - e) The cost of bid document and the bid security (EMD) shall be submitted in the form of respective separate demand drafts in sealed envelopes (payable at Pune) in the name of The Director General, Dr. Babasaheb Ambedkar Research and Training Institute, within the time frame stated above.
3. Right to reject any or all the Bids is reserved by the competent authority.

Advt. No. : BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14

Date: 18/07/2013

Sd/-

Director General
Dr. Babasaheb Ambedkar Research and Training Institute
Pune.

DR. BABASAHEB AMBEDKAR RESEARCH AND TRAINING INSTITUTE, PUNE

(An Autonomous Institute of Department of
Social Justice and Special Assistance, Govt. of Maharashtra)
28, Queen's Garden, Camp, Pune - 411 001.

Email : directorbarti@gmail.com • Website : <http://barti.maharashtra.gov.in>

“E-TENDER REVISED SHORT NOTICE NO: BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14”

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The detailed tender notice and other information and bid document are available on website
“<http://maharashtra.etenders.in> ;<http://swd.maharashtra.etenders.in>”

Advt. No. : BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14

Date: 18/07/2013

Director General
Dr. Babasaheb Ambedkar Research and Training Institute
Pune.

OLD TENDER NOTICE
DR. BABASAHEB AMBEDKAR RESEARCH
AND TRAINING INSTITUTE, PUNE
 (An Autonomous Institute of Department of
 Social Justice and Special Assistance, Govt. of Maharashtra)
 28, Queen's Garden, Camp, Pune - 411 001.

Email : directorbarti@gmail.com • Website : <http://barti.maharashtra.gov.in>

“E-TENDER SHORT NOTICE NO: BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14”

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The detailed tender notice and other information and bid document are available on website
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Advt. No. : BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14

Date: 09/07/2013

Director General
 Dr. Babasaheb Ambedkar Research and Training Institute
 Pune.

(SECTION-II)

INSTRUCTION TO BIDDERS & APPENDIX TO ITB

Section II: Instructions to Bidders
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Section 2
Instructions to Bidders (ITB)
A. General

1. Scope of Bid

The Employer invites (as defined in the Appendix to ITB) e-bids for “Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.”

- a) At Yerwada premises, Pune – 40 Kw
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as described in these documents and referred to as “the works”. The brief description of the work is provided in the Appendix to ITB.

1.1 The successful Bidder will be expected to complete the Works by the Intended Completion Date specified in the Contract Data (Part I General Conditions of Contract).

1.2 Throughout these bidding documents, the terms “bid” and “tender” and their derivatives (bidder / tenderer, bid / tender, bidding / tendering, etc.) are synonymous.

2. Source of Funds

2.1 The expenditure on this project will be met by the employer.

3. Eligible Bidders

3.1 This Invitation for Bids is open to all bidders as defined in the Appendix to ITB.

3.2 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices by the Central Government, the State Government or any public undertaking, autonomous body, authority by whatever name called under the Central or the State Government.

4. Qualification of the Bidder

4.1 Deleted

4.2 All bidders shall include the following information and documents with their bids in Section 3, Qualification Information unless otherwise stated in the Appendix to ITB:

- (a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;

- (b) Details of the technical personnel proposed to be employed for the Contract having the qualifications defined in Clause 4.4 B(b) (ii) .
- (c) The proof of tie up with PV solar module manufacturer
- (d) The proof of Enlistment with MNRE of approved PV module manufacturer.
- (e) The proof of manufacturing of PV modules in India.
- (f) The Proposed arrangement of bidder with LED light fittings manufacturer for supply of LED light fittings.
- (g) Information regarding any litigation or arbitration during the last five years in which the Bidder is involved, the parties concerned, the disputed amount, and the matter;

4.3 Bids from joint venture are not allowed.

4.4 A -Deleted

4.4 B (a) Each bidder must produce:

(i) An affidavit on a Stamp Paper, duly attested from the Notary, that the information furnished with the bid documents is correct in all respects; and failure to submit the document as specified shall make the bid non-responsive.

(b) Each bidder must demonstrate:

(i) Availability for this work of technical personnel as stated in the Appendix to ITB.

4.4.C To qualify for a package of contract made up of this and other contracts for which bid is invited in the Notice Inviting Tender, the bidder must demonstrate having experience and resources sufficient to meet the aggregate of the qualifying criteria for the contract.

4.5 Sub-Contractors – Deleted

4.6 Deleted

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

- (i) made misleading or false representations in the forms, statements, affidavits and attachments submitted in proof of the qualification requirements; and/or
- (ii) record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc. or debarring from NHAI / State PWD / MJP work etc.
- (iii) tampered the bid document in any manner.

5. One Bid per Bidder

5.1 Each Bidder shall submit only one Bid for the work. A Bidder who submits more than one Bid will cause the proposals with the Bidder's participation to be disqualified.

6. Cost of Bidding

- 6.1** The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will, in no case, be responsible or liable for those costs.

7. Site Visit

- 7.1** The Bidder, at his own cost, responsibility and risk, is encouraged to visit, examine and familiarise himself with the Site of Works and its surroundings including source of earth, water, road aggregates etc. and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense. He may contact the person whose contact details are given in the Appendix to ITB.

B. Bidding Documents

8. Content of Bidding Documents

- 8.1** The set of bidding documents comprises the documents listed below and addendum issued in accordance with Clause 10:

Volume- I:-

1. Notice Inviting Tender
2. Instructions to Bidders
3. Forms of bid and Bank Guarantee
4. Conditions of Contract

(Part I General Conditions of Contract, and Contract Data; Part II Special Conditions of Contract)

5. Specifications

Volume - II:-

6. Bill of Quantities and specifications

- 8.2** The Bid document is available on the web site <http://maharashtra.etenders.in> :<http://swd.maharashtra.etenders.in>. In this case the bidder will have to pay the cost of bid document as stated in Bid document.

- 8.3** The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms and specifications, bill of quantities, forms and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Pursuant to clause 26 hereof, bids, which are not substantially responsive to the requirements of the Bid Documents, shall be rejected.

9. Clarification of Bidding Documents

- 9.1** A prospective Bidder requiring any clarification of the bidding documents may notify the Employer in writing or by cable ("cable" includes facsimile) at the Employer's address indicated in the Notice Inviting Tenders. The Employer will respond to any request for clarification received earlier than 5 days prior to the deadline for

submission of bids. Copies of the Employer's response will be forwarded to all purchasers of the bidding documents, including a description of the inquiry, but without identifying its source.

- 9.2.1** If a pre-bid meeting is to be held, the bidder or his official representative is invited to attend it. Its date, time and address are given in the Appendix to ITB.
- 9.2.2** The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 9.2.3** The bidder is requested to submit any questions in writing or by cable so as to reach the Employer not later than one week before the meeting.
- 9.2.4** Minutes of the meeting, including the text of the questions raised (without identifying the source of the enquiry) and the responses given will be uploaded on the website to all the bidders. Any modifications of the bidding documents listed in Clause 8.1, which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.
- 9.2.5** Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. Amendment of Bidding Documents

- 10.1** Before the deadline for submission of bids, the Employer may modify the bidding documents by uploading addenda.
- 10.2** Any addendum shall be part of the bidding documents and shall be communicated by email to all the bidders.
- 10.3** To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer shall extend, as necessary, the deadline for submission of bids, in accordance with Clause 20.2.

C. Preparation of Bids

11. Language of Bid

- 11.1** All documents relating to the Bid shall be in the language specified in the Appendix to ITB.

12. Documents Comprising the Bid

- 12.1** The e-Bid submitted by the Bidder shall be in two separate parts:

Part I This shall be named Technical Bid and shall comprise of:

(The offer shall be uploaded in two separate parts viz: (1) Technical Bid and (2) Financial Bid as stated in the bid document. The procedure for e-bidding is stated on website <http://maharashtra.etenders.in> ;<http://swd.maharashtra.etenders.in>).

The prospective bidder shall submit the documents stated below in support of qualification as technical bid by scanning the documents and uploading the same on the web site. The prospective bidders shall submit the financial bid as follows.

The bidder shall enter his percentage above or below the cost put to tender in figures and words manually in the given format attached as recapitulation sheet in Volume II of the bid document. The bidder shall arithmetically calculate his quoted amount by applying the written percentage and by adding or subtracting this derived amount from cost put to tender. This final amount shall be quoted manually in the recapitulation sheet in words and figures. This completed recapitulation sheet shall be signed, stamped, scanned and uploaded on the web site. For the convenience of the bidders an example is stated below.

Cost put to tender = X – INR
 Bidders percentage = Y% below
 Hence the final offer = X- (X * Y /100) – INR
 OR
 Cost put to tender = A – INR
 Bidders percentage = B% above
 Hence the final offer = A + (A*B/100) - INR

a) TECHNICAL BID

The technical bid shall be uploaded as per the procedure with the following documents:

- i) Earnest Money Deposit by demand draft (Bid security) as explained above. The cost of bid document by demand draft as explained above.
- ii) Documents for Eligibility Criteria as stated in CL 4 of bid document.
- iii) Copy of audited latest balance sheet.
- iv) A list of works in hand and tendered for.
- v) Deleted
- vi) Details of Technical personnel on the rolls of the tenderer giving details of experience and qualification of each of them and details of technical personnel to be appointed for this project along with bio-data duly signed by the person to be appointed.
- vii) Work plans prepared with help of computer software viz. MS-Projects / Prima Vera, indicating the methodology planning with resources logistics and work plan with indicative milestone shall be submitted duly signed by the Tenderer. He should indicate requirement of machinery and manpower in work plan. A bid submitted without work plan in the form of bar chart indicating mile stone etc. would be considered as invalid and non responsive. The detailed work programme will be finalized and approved by Employer after award of work. Contractor shall suitably modify the programme as directed by Engineer.
- viii) Common Set of deviations or any corrigendum / addendum / amendment issued by Employer duly signed by Contractor.
- ix) Litigation History if any.
- x) Deleted.

- xi) Evidence of access to financial resources along with name, address, telephone number fax number of the bidders banker along with name of contact person from the bank.
- xii) **An undertaking stating that the bidder is offering his quote is based only on approved makes of products stated in the bid document**

Note: 1. All uploaded documents shall be in PDF format.

2. The bidder shall in no case upload any document related to the financial bid in the technical bid format. The violation will result in disqualification of the bidder from the bidding process.

Part II. It shall be named Financial Bid and shall comprise of:

b) FINANCIAL BID

The bidder should upload his financial offer in given format duly scanned and uploaded as e-tendering by using the digital registration key. The Contractor shall quote for the work as per details given in the main tender and also based on the details of conditions, stipulation made by the department and as per bill of quantity, specification and corrigendum / addendum issued before last date of receipt of tender document. The tender / offer shall be unconditional. Conditional offer will be rejected summarily as non-responsive. The offer in any other form than stated in the bid document will be treated as non responsive and will be rejected.

12.2 Each part shall be separately considered.

12.3 Deleted.

13. Bid Prices

13.1 The Contract shall be for the whole Works, as described in Clause 1. 1, based on the requirements stated in appendix to ITB & Vol. II and shall be percentage rate.

13.2 The bidder shall quote percentage. The bid price entered by the bidders shall be deemed covered by the requirements stated by the Employer and the bid price is sufficient to cover all the works stated in the bid document including defect liability.

13.3 All duties, taxes, royalties and other levies payable by the Contractor under the Contract, or for any other cause, shall be included in the rates, prices, and total Bid price submitted by the Bidder.

13.4 The rates and prices quoted by the Bidder shall be fixed for the duration of the Contract with amendments and shall not be subjected to adjustment.

14. Currencies of Bid and Payment

14.1 The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees. All payments shall be made in Indian Rupees.

15. Bid Validity

15.1 Bids shall remain valid for a period of 120 days after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.

15.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 16 in all respects.

16. Earnest Money / Bid Security

16.1 The Bidder shall furnish, as part of the Bid, Earnest Money/Bid security, in the amount as specified in the Appendix to ITB.

16.2 The Earnest Money shall be paid by demand draft as stated in Appendix to ITB.

16.3 Any bid not accompanied by an acceptable Earnest Money, unless exempted in terms given in the Appendix to ITB, shall be rejected by the Employer as non-responsive.

16.4 The Earnest Money of unsuccessful bidders will be returned within 28 days of the end of the Bid validity period specified in Sub-Clause 15.1.

16.5 The Earnest Money of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the required Performance Security.

16.6 The Bid Security / Earnest Money will be forfeited:

- a) if the Bidder withdraws the Bid after its submission during the period of Bid validity;
- b) if the Bidder does not accept the correction of the bid price, pursuant to Clause 27; or
- c) in the case of a successful Bidder, if the Bidder fails within the specified time limit to
 - i. sign the Agreement; and/or
 - ii. furnish the required Performance Security.

17. Deleted.

18. Format and Signing of Bid

18.1 The Bidder shall upload one set of the bid comprising of the documents as described in Clause 12.

18.2 Deleted

18.3 Deleted

D. Submission of Bids

19. Sealing and Marking of Bids

19.1 Deleted

19.2 Deleted

19.3 Deleted.

20. Deadline for Submission of Bids

20.1 Complete Bids (including Technical and Financial) must be received by the Employer at the address specified in the Appendix to ITB not later than the date and time indicated in the Appendix to ITB. In the event of the specified date for the submission of bids being declared a holiday for the Employer, the Bids will be received up to the specified time on the next working day.

20.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

21.1 Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the Bidder.

22. Modification and Withdrawal of Bids

22.1 **Bidders** may modify or withdraw their bids by giving notice in writing before the deadline prescribed in Clause 20.

22.2 Each Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance marked "MODIFICATION" or "WITHDRAWAL", as appropriate and shall submit them in the office of the Employer, before the deadline in pursuant to clause no. 20.

The envelopes for modifications or 'Technical Bid' and 'Financial Bid' shall be submitted in separate sealed envelopes and marked as 'Modifications of Technical Bid' or 'Modifications of Financial Bid', as the case may be.

22.3 No bid may be modified after the deadline for submission of Bids

22.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 shall result in the forfeiture of the Bid security pursuant to Clause 16.

22.5 Bidders may only offer discounts to, or otherwise modify the prices of their Bids by submitting Bid modifications in accordance with this clause, or included in the original Bid submission.

E. Bid Opening and Evaluation

23. Bid Opening

Bid opening shall be carried out in two stages. Firstly, 'Technical Bid' of all the bids received (except those received late) shall be opened on the date and time mentioned in the Appendix to ITB. 'Financial Bid' of those bidders whose technical bid has been determined to be substantially responsive shall be opened on a subsequent date, which will be notified to such bidders.

23.1 The Employer will open the envelope marked the "Technical Bid" of all the bids received (except those received late), including modifications of Technical Bid made pursuant to Clause 22 in the presence of the bidders/bidders' representatives who choose to attend at the time, date and place specified in the Appendix to ITB. In the event of the specified date for the submission of bids being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day.

23.1.1 Envelopes marked 'withdrawal' shall be opened and read. Bids for which acceptable notice of withdrawal has been submitted pursuant to Clause 22 shall not be opened.

23.1.2 Bidder's names, withdrawals, 'modification of technical bid', the presence of bid security and such other details, as the Employer may consider appropriate will be announced by the Employer the opening.

23.2 In all other cases, the amount of Earnest Money, forms and validity shall be announced. Thereafter, the Employer at the opening as the Employer may consider appropriate, will announce the bidders' names and such other details.

23.3 The Employer will prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Clause 23.1.

23.4 Within three or four days after the opening of the technical bids their evaluation will be taken up with respect to bid security, qualification information and other information furnished in Part I of the bid in pursuant to clause 12.1 and a list will be drawn up of the responsive bids whose financial bids are eligible for consideration.

23.5 The Employer shall inform the bidders, whose technical bid is found responsive, of the date, time and place of opening of the financial bids. The bidders so informed, or their representative, may attend the meeting of opening of financial bids.

23.6 At the time of the opening of the 'Financial Bid', the names of the bidders whose bids were found responsive in accordance with clause 23.5 will be announced. The financial bids of only these bidders will be opened. The remaining bids will be returned unopened to the bidders. The responsive bidders' names, the Bid prices, the

total amount of each bid, any discount/rebate and such other details as the Employer may consider appropriate will be announced by the Employer at the time of bid opening. Any Bid price, which is not read out and recorded, will not be taken into account in Bid Evaluation.

23.7 The Employer shall prepare the minutes of the opening of the Financial Bids.

24. Process to be Confidential

24.1 Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any attempt by a Bidder to influence the Employer's processing of bids or award decisions may result in the rejection of his Bid

25. Clarification of Bids and Contacting the Employer

25.1 No Bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded.

25.2 Any attempt by the bidder to influence the Employer's bid evaluation, bid comparison or contract award decision may result in the rejection of his bid.

26. Examination of Bids and Determination of Responsiveness

26.1 During the detailed evaluation of "Technical Bids", the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clauses 3 and 4; (b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the bidding documents. During the detailed evaluation of the "Financial Bids", the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., the quoted price, technical specifications and drawings.

26.2 A substantially responsive "Financial Bid" is one, which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

26.3 If a "Financial Bid" is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

27. Correction of Errors

27.1 Financial Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:

- a) where there is a discrepancy between figures and that in words, the words will govern; and
- b) where there is a discrepancy between the rate and the line item total resulting from multiplying the rate by the quantity, the rate as quoted will govern.

27.2 The amount stated in the Financial Bid will be corrected by the Employer in accordance with the above procedure for the correction of errors and shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, the Bid will be rejected, and the Bid Security shall be forfeited in accordance with Sub-Clause 16.6(b).

28. Evaluation and Comparison of Financial Bids

28.1 The Employer will evaluate and compare only the bids determined to be substantially responsive in accordance with Clause 26.

28.2 In evaluating the bids, the Employer will determine for each Bid the evaluated Bid price by adjusting the Bid price after making any correction for errors pursuant to Clause 27;

28.3 If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's/Employer's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items constituting Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 33 be increased and an additional performance security may be obtained at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

28.4 A bid which is unrealistically priced low and which cannot be substantiated satisfactorily by the bidder, may be rejected as non-responsive.

29. Price Preference

29.1 There will be no price preference to any bidder.

F. Award of Contract**30. Award Criteria**

30.1 Subject to Clause 32, the Employer will award the Contract to the Bidder whose Bid has been determined:

- i. to be substantially responsive to the bidding documents and who has offered the lowest evaluated Bid price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of Clause 3, and (b) qualified in accordance with the provisions of Clause 4; and
- ii. Deleted.

31. Employer's Right to accept any Bid and to reject any or all Bids

31.1 Notwithstanding Clause 30, the Employer reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Employer's action.

32. Notification of Award and Signing of Agreement.

32.1 The bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the Part- I *General Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay to the Contractor in consideration of the execution, completion and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

32.2. The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 33.

32.3. The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and the successful Bidder after the performance security is furnished.

32.4 Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

33. Performance Security

33.1 Within 10 (ten) days after receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security of 4% of the Contract Price, for the period of 28 days after the expiry of defect liability & maintenance period of 60 months plus additional security for unbalanced Bids in accordance with Clause 28.3 of ITB and Clause 47 Part I General Conditions of Contract and sign the contract.

33.2 The performance security shall be either in the form of a Bank Guarantee or Demand Draft, in the name of the Employer, from a Bank as defined in Appendix to ITB.

33.3 Failure of the successful bidder to comply with the requirement of sub-clause 33.1 shall constitute sufficient ground for cancellation of the award and forfeiture of the bid security.

34. Advances

34.1 Mobilisation Advance: - Deleted

35. Corrupt or Fraudulent Practices

The Employer will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question and will declare the firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for the contract, or in execution in other contracts with Mahindra Group.

The Employer requires the bidders/Contractors to strictly observe the laws against fraud and corruption enforced in India, namely, Prevention of Corruption Act, 1988.

Appendix to ITB

Instructions to Bidders Clause Reference

- (1.1) The Employer is The Director General, Dr. Babasaheb Ambedkar Research and Training Institute, Pune
The Works is
“Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.”
- a) At Yerwada premises, Pune – 40 Kw
 - b) At Queen’s Garden premises, Pune – 40 Kw
 - c) At Mahad premises – 100 Kw
 - d) LED light fittings at various locations

Scope of work

As Detailed out in Vol. II of the Bid Document.

- (4.2) I Solvency Certificate from Bank (Nationalized / Scheduled bank described in 33.1 of Appendix to ITB)
In required format - Deleted
- (4.4 A) Escalation factor – Deleted
(b)

- (4.4. B) The key equipments for works – Deleted

The Number of Technical personnel, Qualifications and Experience will be as follows :

The Technical Personnel are:

(4.4 B)
(b)(ii)

Sl. No	Personnel	Qualification	Particular Experience (minimum requirement)	No. of Persons.
1.	Project Manager	B.E. (Electrical) + 15 Years Exp.	10 years on Electrification work.	1
2.	Resident Engineer	B.E.Civil + 8 Years Exp. Or Diploma + 10 years Exp.	5 years on Building Works	1

NOTE: Biographical data for the persons mentioned above must be furnished

(7.1) The contact person is:

Designation: The Director General , Dr. Babasaheb Ambedkar
Research and Training Institute, Pune.

Telefax No.:

Email: dg@ambedkaracademy.ac.in

(9. 2.1) Place, Time and Date for pre-bid meeting: Deleted

(11.1) Language of the bid is English

(16.1) The amount of Earnest Money shall be as mentioned in NIT
Earnest Money shall be paid by demand draft drawn in favour of The
Director General, Dr. Babasaheb Ambedkar Research and Training
Institute payable at Pune.

(16.2) A. The bid security shall be paid as stated in 16.1 above.

(20.1) The Employer's address for the purpose of Bid submission is
The Director General, Dr. Babasaheb Ambedkar Research and Training
Institute, Pune.

(20.1) The deadline for submission of bids shall be:

Time : As stated in the tender notice

Date: As stated in the tender notice

(23.1) The date, time and place for opening of the Technical Bids are:

(A) Technical Bid

Date: As stated in the tender notice

Time: As stated in the tender notice.

Place: Dr. Babasaheb Ambedkar Research and Training Institute, Pune.

(B) Financial Bid (For technically qualified bidder)

Date: - As stated in the tender notice

Time : As stated in the tender notice

Place : Dr. Babasaheb Ambedkar Research and Training Institute, Pune

(33.2) The amount and validity period of the performance guarantee is:

Amount: 4 % of the contract price.

Validity Period: (i) Performance security shall be valid until a date 28 days after the expiry of Defect liability and maintenance period of 60 months.

A. The performance guarantee shall be either in the form of a Bank Guarantee or Demand Draft, in the name of the Employer from following banks would be accepted:-

- i. Any Indian Nationalised Bank
- ii. Any Scheduled Commercial Bank approved by RBI having a net worth of not less than Rs. 500 crores as per the latest Annual Report of the Bank. .In the case of a Foreign Bank (issued by a branch in India), the net worth in respect of the Indian operations shall only be taken into account.

B. The acceptance of the guarantees shall also be subject to the following conditions:-

- i. The capital adequacy of the Bank shall not be less than the latest norms prescribed by RBI.
- ii. The bank guarantee issued by a non-scheduled Cooperative Bank shall not be accepted.

(SECTION-III)
FORMS OF BID & BANK GUARANTEE

(Letter of Transmittal (to be submitted in Technical Bid))

To

DESCRIPTION OF WORKS:

“Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.”

- a) At Yerwada premises, Pune – 40 Kw
- b) At Queen’s Garden premises, Pune – 40 Kw
- c) At Mahad premises – 100 Kw
- d) LED light fittings at various locations

Reference letter No.

Dear Sir,

Having examined the Bid Documents, Instructions to Bidders, Scope of works, General Conditions of Contract, Special Conditions of Contract, Maintenance requirements and Technical Specifications, Bill of Quantities, schedules for the execution of the above named works, we, the undersigned offer to execute and complete such works and remedy and defects therein in conformity with the said bid documents for the sum stated in Volume No. I and II.

- 2. We undertake, if our Bid is accepted, to commence the work within fifteen (15) days of receipt of the order to commence, and to completed and deliver the sections and whole of the works comprised in the Contract within the period stated in the bid hereto.
- 3. If our Bid is accepted, we will furnish Performance Security (ies) in the form of a Bank Guarantee to be jointly and severally bound on us, in accordance with the Conditions of Contract.
- 4. We agree to abide by this Bid for the period of One Hundred and Twenty (120) days from the date of Bid opening and it shall remain binding upon us and may be accepted at any time before the expiry of that period.

We confirm our agreement to treat the Bid documents and other records connected with the works as secret and confidential documents and shall not communicate information contained therein to any other person other than the person authorised by the Employer or use such information in any manner prejudicial to the safety and integrity of the works.

Unless and until an agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding Contract between us, but without prejudice to your right to withdraw such acceptance without assigning any reasons thereof.

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this _____ day of _____ 2013

Signature _____ in the capacity of _____ duly authorised **

To sign Bid for an on behalf of

(In block capital letters)

Address : _____

Signature of Witness _____

Name of witness _____

Address of witness _____

** Certified copy of Power of Attorney/authorization for signature shall be furnished by the bidder.

FORM OF BANK GUARANTEE FOR PERFORMANCE SECURITY

To
The Principal
Dr. Babasaheb Ambedkar Research and Training Institute,
Pune

WHEREAS..... (name and address of contractor) thereafter called “the contractor” has undertaken, in pursuance of Contract No. Dated to execute..... (name of Contract and brief description of Works) (hereinafter called “the contract”).

AND WHEREAS it has been stipulated by you in the said contract that the Contractor shall furnish you with a Bank Guarantee by a Nationalised/Scheduled bank of India for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREOF we hereby affirm that we are the guarantor and responsible to you on behalf of the Contractor, up to a total of Rs..... (Amount of guarantee) (Rupees..... (in words), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of (Amount of guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand. We agree to abide the stipulations by RBI to honor the demand of the said DEBT.

We further agree that no change or addition to or other modification of the terms of the contract or of the works to be performed there under or of any of the contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until 28 days from the date of issue of the Defects Liability and Satisfactory Performance Certificate.

Signature and seal of the Guarantor.....
Name of the Bank
Address.....
Date.....

In the presence of
1.....
(Name of Occupation)
2.....
(Name of Occupation)

An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract including additional security for unbalance bids, if any and denominated in Indian Rupees.

FORM OF AGREEMENT AGREEMENT

This agreement made the _____ day of _____ 2013 _____ between **The Principal, Dr. Babasaheb Ambedkar Research and Training Institute, Pune** (hereinafter called “the Employer” of the one part and _____ (here in after called “the Contractor”) of the other part.

AND WHEREAS the Employer invited bids from eligible bidders of the execution of certain works, viz. “xxxx.”

AND WHEREAS pursuant to the bid submitted by the Contractor, vide _____ (here in after referred to as the “BID” or “ÖFFER”) for the execution of works, the Employer by his letter of acceptance dated _____ accepted the offer submitted by the Contractor for the execution and completion of such works, to maintain the works and the remedying of any defects thereon, on terms and conditions in accordance with the documents listed in para 2 below.

AND WHEREAS the Contractor by a deed of undertaking dated _____ has agreed to abide by all the terms of the bid, including but not limited to the amount quoted for the execution of Contract, as stated in the bid, and also to comply with such terms and conditions as may be required from time to time.

AND WHEREAS pursuant to the bid submitted by the Contractor vide _____ (hereinafter referred to as the “the Offer”), the employer has by his letter of acceptance no. _____ - dated _____ -- accepted the offer submitted by the Contractor for the execution and completion of such works, to maintain the works and the remedying of any defects therein, on terms and conditions in accordance in the conditions of particular application and condition included hereinafter;

AND WHEREAS the contractor has agreed to undertake such works and has furnished a performance security pursuant to clause 33 of the instructions to bidders (Section-I).

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this agreement works and expressions shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to;
2. the following documents shall be deemed to form and be read and constructed as part of this agreement viz.
 - (a) Agreement,
 - (b) Letter of Acceptance, Notice to Proceed with the Work,
 - (c) Contractor's Bid,
 - (d) Contract Data,
 - (e) Conditions of Contract including Special Conditions of Contract
 - (f) Specifications,
 - (g) Bill of Quantities
 - (h) Any other document listed in the Contract Data.
3. The foregoing documents shall be constructed as complementary and mutually explanatory one with another. Should any ambiguities or discrepancy be noted then the order of precedence of these documents shall subject to the condition of particular applications be as listed above.

- 4. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the works and remedy any defects therein in conformity in all respect with the provisions of the contract.
- 5. the employer hereby covenants to pay the contractor in consideration of the execution and completion of the works and the remedying of defects therein the contract price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS WHEREOF the parties here to have caused this agreement to be executed the day and year first before written.

The common seal of _____ was hereunto affixed in the presence of:

Or

Signed, sealed and delivered by the said Employer through his Authorized Representative and the said Contractor through his Power of Attorney holder in the presence of:

Binding Signature of Employer _____

For and on behalf of The Employer

Binding Signature of Contractor _____

In the presence of

- 1. Name :
- Address:

- 2. Name :
- Address:

In the Presence of

- 1. Name:
- Address:

- 2. Name:
- Address:

In witness whereof the parties thereto have caused this Agreement to be executed the day and year first before written.

The Common Seal of

Was hereunto affixed in the presence of:

Signed, Sealed and Delivered by the said _____

in the presence of:

Binding Signature of Employer

Binding Signature of Contractor

(SECTION-IV)
CONDITIONS OF CONTRACT
(PART-I GCC AND CONTRACT DATA)

Table of Clauses

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Section 4

Part I General Conditions of Contract

A. General

1. Definitions

1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but keep their defined meanings. Capital initials are used to identify defined terms.

Bill of Quantities means the pre priced and completed Bill of Quantities along with percentage accepted by employer forming part of the Bid.

Compensation Events are those defined in Clause 41 hereunder.

The Completion Date is the date of completion of the Works as certified by the Engineer, in accordance with Clause 49.1.

The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in Clause 2.3.

The Contract Data defines the documents and other information, which comprise the Contract.

The Contractor is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer and includes technical and financial bids.

The Contract Price is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days; months are calendar months.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The Defects Liability and Satisfactory Performance Certificate is the certificate issued by Engineer, after the Defect Liability Period has ended and upon correction of Defects by the Contractor.

The Defects Liability & Maintenance Period is 60 months calculated from the successful Completion of trial run for design, supply, installation, testing, commissioning and maintaining for grid interactive PV Solar Plants. For supply, installation and commissioning of LED light fittings, the defect liability period is 24 months from the date of commissioning and there is no maintenance provision and period for this work.

Drawings include calculations and other information provided or approved by the Engineer for the execution of the Contract.

The Employer is the party as defined in the Contract Data, who employs the Contractor to carry out the Works. The Employer may delegate any or all functions to a person or body nominated by him for specified functions.

The Engineer is the person named in the Contract Data (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Engineer) who is responsible for supervising the execution of the Works and administering the Contract.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The Initial Contract Price is the Contract Price listed in the Employer's Letter of Acceptance.

The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time after the approval from Employer.

Lumpsum Price means the amount quoted by the bidder to complete the set of entire activities and that accepted by employer forming part of the Bid.

Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.

Plant is any integral part of the Works that shall have a mechanical, electrical, electronic, chemical, or biological function.

The **Site** is the area defined as such in the Contract Data.

Site Investigation Reports are those that were included in the bidding documents and are factual interpretative reports about the surface and subsurface conditions at the Site.

Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Engineer.

The **Start Date** is given in the Contract Data. It is the date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.

A **Sub-Contractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Engineer after the approval from Employer, which varies the Works.

The **Works** are what the Contract requires the Contractor to design, construct, install, maintain, and turn over to the Employer, as defined in the Contract Data.

2. Interpretation

- 2.1** In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about these Conditions of Contract.
- 2.2** If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3** The documents forming the Contract shall be interpreted in the following order of priority:
- (1) Agreement,
 - (2) Letter of Acceptance, Notice to Proceed with the Work,
 - (3) Contractor's Bid,
 - (4) Contract Data,
 - (5) Conditions of Contract including Special Conditions of Contract and ITB
 - (6) Specifications,
 - (7) Bill of Quantities
 - (8) Any other document listed in the Contract Data as forming part of the contract.

3. Language and Law

- 3.1** The language of the Contract and the law governing the Contract are stated in the Contract Data.

4. Engineer's Decisions

- 4.1** Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. Delegation

- 5.1** The Engineer, duly informing the Employer, may delegate any of his duties and responsibilities to other people except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.

6. Communications

- 6.1** Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered.

7. Subcontracting

7.1 The Contractor may subcontract any portion of work, up to a limit and manner specified in the document, with the approval of the Engineer but Engineer may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other Contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as referred to in the Contract Data. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. Personnel

9.1 The Contractor shall employ the technical personnel named in the Contract Data or other technical persons approved by the Engineer. The Engineer will approve any proposed replacement of technical personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel stated in the Contract Data. If the personal stated in the contract data are not deployed on site by the contractor, it will treat as a breach of contract and action will be taken as per clause 53.

9.2 If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the Works in the Contract.

10. Employer's and Contractor's Risks

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risks

11.1 The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), natural calamities and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

12. Contractor's Risks

12.1 All risks of loss of or damage to physical property and of personal injury and death, which arise during and in consequence of the performance of the Contract other than the excepted risks, referred to in clause 11.1, are the responsibility of the Contractor.

13. Insurance

13.1 The Contractor at his cost shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the completion of defect liability and maintenance period for the following in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:

- a) loss of or damage to the Works, Plant and Materials;
- b) loss of or damage to Equipment;
- c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
- d) Personal injury or death.

13.2 Insurance policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in Indian Rupees to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be debt due.

13.4 Alterations to the terms of insurance shall not be made without the approval of the Engineer and Employer.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports - Deleted

15. Queries about the Contract Data

15.1 The Project Co-ordinator will clarify queries on the Contract Data.

16. Contractor to Construct the Works

16.1 The Contractor shall construct, and install and maintain the Works in accordance with the Specifications.

17. The Works to Be Completed by the Intended Completion Date

17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Programme submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

18. Approval by the Engineer

18.1 The Contractor shall submit Specifications showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with specifications.

18.2 The Contractor shall be responsible for design of Temporary Works.

18.3 The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

18.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

19. Safety

19.1 The Contractor shall be responsible for the safety of all activities on the Site.

20. Discoveries

20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

21. Possession of the Site

21.1 The Employer shall give complete possession / partial possessions of the Site to the Contractor from the date of signing of agreement.

22. Access to the Site

22.1 The Contractor shall allow access to the Site and to any place where work in connection with the Contract is being carried out, or is intended to be carried out to the engineer and any person/persons/agency authorized by:

- a. The Employer
- b. The Engineer

23. Instructions

23.1 The Contractor shall carry out all instructions of the Engineer, which comply with the applicable laws where the Site is located.

23.2 The Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by Auditors appointed by the Employer if so required by the Employer.

24. Disputes

Dispute resolution will be as per Cl. 25 below.

25. Dispute Resolution

25.1 All disputes and differences of any kind whatever arising out of or in connection with the contract or the carrying out of the work (whether during progress of the works or after their completion and whether before or after the determination, abandonment or

breach of the contract) shall be referred to the Engineer. If the Contractor within 21 days of reference is not satisfied with the decision or non-decision by Engineer, he should refer such dispute as stated below.

The Contractor in writing shall refer the dispute along with the decision / non-decision of the Engineer to the committee headed by The Director General, with Head of Accounts Department and Registrar as members. This committee shall offer its decision within 21 days of such reference to committee.

The decision of the committee is final and binding on the contractor and the Engineer.

- 25.3** The arbitration shall be conducted in accordance with the arbitration procedure stated in the Special Conditions of Contract.

26 Replacement of Dispute Review Expert – Deleted

B. Time Control

27. Programme

- 27.1** The Engineer shall issue the indent of work in stages specifying the time limit for the same as and when required. The Contractor shall submit to the Engineer for approval a programme showing the general methods, arrangements, order, and timing for all the activities in the Works, along with monthly cash flow forecasts, using software programmes like MS Project / Primavera.

- 27.2** An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities.

- 27.3** The Contractor shall submit to the Engineer for approval an updated Programme at intervals. If the Contractor does not submit an updated Programme within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Programme has been submitted.

- 27.4** The Engineer's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Engineer again at any time. A revised Programme shall show the effect of Variations and Compensation Events.

28. Extension of the Intended Completion Date

- 28.1** The Engineer shall extend the Indented Completion Date only after the approval of Employer if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining Works, which would cause the Contractor to incur additional cost.

28.2 The Engineer shall decide whether and by how much time to extend the Indented Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Indented Completion Date.

29. Delays Ordered by the Engineer

29.1 The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works. Delay/delays totalling more than 30 days will require prior written approval of the Employer.

30. Management Meetings

30.1 The Engineer may require the Contractor to attend a management meeting. The business of a management meeting shall be to review the plans for the Works.

30.2 The Engineer shall record the business of management meetings and provide copies of the record to those attending the meeting. The responsibility of the parties for actions to be taken shall be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all those who attended the meeting.

C. Quality Control

31. Identifying Defects

31.1 The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.

32. Tests

32.1 The contractor shall be solely responsible for:

- a. Carrying out the mandatory tests prescribed in the QAQC document approved by Employer.
- b. For the correctness of the test results, whether performed in his laboratory or elsewhere.

32.2 If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples.

33. Correction of Defects noticed during the Defect liability and maintenance period.

33.1 It is the terms of contract that Project work shall be of very high standard, requiring no major repairs for at least sixty (60) months after the date of completion of works.

33.2 If any defects including shrinkage, cracks or other faults appear in the work within 60 months of "Completion" certificate, the Engineer shall give notice to the Contractor of

any defects before the end of the Defects Liability Period, which begins at Completion, and is for 60 months thereafter. The Defects Liability period shall be extended for as long as defects remain to be corrected.

33.3 Every time notice of a defect is given, the Contractor shall correct the notified defect at his own cost within the length of time specified by the Engineer's notice. If the contractor is in default the Engineer shall cause the same to be made good by other workmen and deduct the expense from any sums that may be due to the contractor.

34. Uncorrected Defects

34.1 If the Contractor has not corrected a Defect, to the satisfaction of the Engineer, within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount, on correction of the Defect.

D. Cost Control

35. Bill of Quantities

35.1 It is deemed that the Bill of Quantities, rates and their by the amount accepted by employer and specifications shall contain items for the design, construction, installation, testing, and handing over the works are incidental and are deemed to be included in the contract price, by the Contractor.

35.2 The Bill of Quantities, amount are used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item for the work executed, as per the contract.

35.3 Changes in the Quantities

35.3.1 If the final quantity of the work-done in sub estimate I Part B differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent provided the change exceeds 10% of initial Contract Price, the Engineer shall adjust the rate to allow for the change.

35.3.2 The Engineer shall not adjust rates for changes in quantities without the prior approval of the Employer.

35.3.3 If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of the Bill of Quantities.

35.3.4 Deleted

36. Variations

36.1 The Engineer shall, having regard to the scope of the Works and the sanctioned estimated cost, have power to order only after approval from Employer, in writing, Variations within the scope of the Works he considers necessary or advisable during the progress of the Works. Such Variations shall form part of the Contract and the Contractor shall carry them out and include them in updated Programmes produced by

the Contractor. Oral orders of the Engineer for Variations, unless followed by written confirmation, shall not be taken into account.

37. Payments for Variations

- 37.1** If rates for Variation items are specified in the Bill of Quantities, the Contractor shall carry out such work at the same rate. This shall apply for Variations only up to the limit prescribed in the Clause 35. If the Variation exceeds this limit, the rate shall be derived under the provisions of clause 37.2 and 37.3 for quantities (higher) exceeding the deviation limit. This is applicable to Part B Sub Estimate I of the project work.
- 37.2** If the rates for Variation are not specified in the Bill of Quantities, the Engineer shall derive the rate from similar items in the Bill of Quantities.
- 37.3** If the rate for Variation item cannot be determined in the manner specified in Clause 37.1 or 37.2, In the absence of similar rates in Bill of Quantities the rate shall be as per the then prevailing market rates and labour rates, with additional 20% to adjust overheads and provision for profit of the Developer. The decision of the Employer on the rate so determined shall be final and binding on the Contractor.

38. Cash Flow Forecasts

- 38.1** When the Programme is updated, the Contractor shall provide the Engineer with an updated cash flow forecast.

39. Payment Certificates

- 39.1** The Contractor shall submit to the Engineer weekly statements of the value of the work executed less the cumulative amount certified previously supported with detailed measurement of the items of work executed.
- 39.2** The Engineer shall check the Contractor's monthly statement within 7 days and certify the amount to be paid to the Contractor after taking into account any credit or debit for the month in question.
- 39.3** The value of work executed shall be determined, based on measurements by the Engineer.
- 39.4** The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- 39.5** The value of work executed shall also include the valuation of Variations and Compensation Events.
- 39.6** The Engineer / Employer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

39.7 The final bill shall be submitted by the contractor within one month of the actual date of completion of the work; otherwise the Engineers certificate of the measurement and of the total amount payable for work accordingly shall be final and payment made accordingly within a period of sixty days as far as possible.

40. Payments

40.1 Payments shall be adjusted for deductions for advance payments, security deposit, other recoveries in terms of the Contract and taxes at source, as applicable under the law. The Engineer will scrutinize the bill and after due verification certify the bill for the payment. The Employer may get the work verified, through some designated officer. Such designated officers shall verify the work to the extent of 5% and recommend the bill for payment. The Employer shall pay the Contractor the amounts Engineer had certified within 7 days of the date of each certificate.

40.2 The Employer will appoint an officer and notify to the contractor, who shall make the payment certified by the Engineer.

40.3 Items of the Works for which no rate or price has been entered in the Bill of Quantities, will be paid for by the Employer as certified by the Engineer as per the provisions of the contract.

41. Compensation Events

41.1 The following shall be Compensation Events unless they are caused by the Contractor:

- a) The Engineer orders a delay or delays exceeding a total of 30 days.
- b) The effects on the Contractor of any of the Employer's Risks.

41.2 If a Compensation Event would prevent the Works being completed before the Indented Completion Date, the Indented Completion Date shall be extended. The Engineer shall decide whether and by how much the Indented Completion Date shall be extended after the approval of Employer.

42. Tax

42.1 The rates quoted by the Contractor shall be deemed to be inclusive of the sales and other levies, duties, royalties, cess, toll, taxes of Central and State Governments, local bodies and authorities that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law. However if the Government decides to refund / waive any of the such sales and other levies. Duties, royalties, cess, toll, taxes of Central and State Governments, local bodies and authorities, the amount due to such refund/ waive shall be recoverable amount from the contractor by the employer. On the solar energy generation investment, the GOI (MNRE) and or GOM (MNRE & MEDA) offer subsidy. The contractor shall carryout necessary liaison and assist the employer to obtain such subsidy. The amount of such subsidy will be retained by the employer. The cost of such assistance is incidental to work and employer will not reimburse any amount on account of such assistance.

43. Currencies

All payments will be made in Indian Rupees.

44. Security Deposit / Retention Money

44.1 The Employer shall retain security deposit (performance security) of 4% (four percent) of the amount from each payment due to the Contractor until Completion of the DLP of whole of the Works. However if the Contractor has submitted the Bank Guarantee against performance security then the Employer will not deduct the amount from Contractors payment.

44.2 The performance security aggregating to 4 percent of the Contract price will be released to the Contractor when the Defect Liability and maintenance period is over, and the Engineer has certified that the Defects, if any, notified by the Engineer to the Contractor before the end of this period have been corrected.

44.3 Deleted

45. Liquidated Damages

45.1 The Contractor shall pay liquidated damages to the Employer at the rate or part thereof stated in the Contract Data for each day that the milestone Completion Date is later than the Indented milestone Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's other liabilities.

45.2 If the Indented Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. However the contractor shall not be paid any interest on the over payment calculated from the date of payment to the date of repayment.

46. Advance Payment

46.1 The Employer will make the advance payment to the Contractor against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a Commercial bank acceptable to the Employer in amounts equal to the advance payment up to 20% of Contract Value.

The guarantee shall remain effective until the advance payment has been repaid, but the amount of the guarantee shall be progressively reduced by the amounts repaid by the Contractor.

46.2 The Contractor is to use the advance payment only to pay for Equipment, plant, material, formwork and Mobilization expenses required specifically for execution of the Works. The Contractor shall demonstrate the advance payment has been used in this way by supplying copies of invoices or other documents to the Engineer.

46.3 The advance payment shall be repaid with simple interest @ 6% per annum applicable on the date of release of mobilisation advance by deducting from payments otherwise due to the Contractor. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, or Liquidated damages.

47. Securities

47.1 The Performance Security equal to 4% (Four percent) of the contract price and additional security for unbalanced bids shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in the form given in the Contract Data and by a scheduled commercial bank. The Performance Security shall be valid until a date 28 days from the date of expiry of Defect liability and maintenance period and the additional security if any for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion.

48. Cost of Repairs

48.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction period shall be remedied by the Contractor at their cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

49. Completion

49.1 The Contractor shall request the Engineer to issue a certificate of Completion of the Works, and the Engineer will do so upon deciding that the Works is completed.

50. Taking Over

50.1 The Employer shall take over the Site and the Works within seven days of the Engineer's issuing a certificate of Completion.

51. Final Account

51.1 The Contractor shall supply the Engineer with a detailed account of the total amount that the Contractor considers payable under the Contract after 1 month of completion but before the end of the Defects Liability Period. The Engineer shall certify any final payment that is due to the Contractor within 28 days of receiving the Contractor's account if it is correct and complete. If it is not, the Engineer shall issue within 28 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate within 7 days of receiving the Contractor's revised account.

52. Operating and Maintenance Manuals

- 52.1** As built drawings and maintenance manuals are to be prepared by contractor in conformity to Clause 33.4 and final bills on or before the dates informed by Engineer. The Engineer shall modify the maintenance manuals if required and approve within 15 days of such submission by contractor.
- 52.2** If the Contractor does not supply the Drawings and/or manuals by the dates stated in the by the Engineer, or they do not receive the Engineer's approval within given time frame, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor. In such event Engineer may prepare drawings / maintenance manuals which are binding on the contractor at his risk and cost and Engineer shall recover the amount stated in the contract data from payments due to the contractor.

53. Termination

- 53.1** The Employer may terminate the Contract if the Contractor causes a fundamental breach of the Contract.
- 53.2** Fundamental breaches of Contract include, but shall not be limited to, the following:
- a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Programme and the stoppage has not been authorized by the Engineer;
 - b) the Contractor is declared as bankrupt or goes into liquidation other than for approved reconstruction or amalgamation;
 - c) the Engineer/Employer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
 - d) the Contractor does not maintain a Security, which is required;
 - e) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in clause 45;
 - f) the Contractor fails to provide insurance cover as required under clause 13;
 - g) if the Contractor, in the judgement of the Employer, has engaged in the corrupt or fraudulent practice in competing for or in executing the Contract. For the purpose of this clause, "corrupt practise" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in Contract execution. "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid process at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.
 - h) if the Contractor has not completed at least thirty percent of the value of Work required to be completed after half of the completion period has elapsed;
 - i) any other fundamental breach as specified in the Contract Data.

53.3 Notwithstanding the above, the Employer may terminate the Contract for convenience.

53.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

54. Payment upon Termination

54.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.

54.2 If the Contract is terminated at the Employer's convenience, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the Contract, and less taxes due to be deducted at source as per applicable law.

55. Property

55.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer for use for completing balance work if the Contract is terminated because of the Contractor's default.

56. Release from Performance

56.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of the Employer or the Contractor, the Engineer shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

F. Other Conditions of Contract

57. Labour

57.1 The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

57.2 The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the

staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

58. COMPLIANCE WITH LABOUR REGULATIONS

58.1 During continuance of the Contract, the Contractor and his sub Contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given in Appendix to Part I General Condition of Contract. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

59. Drawings and Photographs of the Works

59.1 The contractor shall do photography/video photography of the site firstly before the start of the work, secondly mid-way in the execution of different stages of work and lastly after the completion of the work. No separate payment will be made to the contractor for this.

59.2 The Contractor shall not disclose details of Drawings furnished to him and works on which he is engaged without the prior approval of the Engineer in writing. No photograph of the works or any part thereof or plant employed thereon, except those permitted under clause 59.1, shall be taken or permitted by the Contractor to be taken by any of his employees or any employees of his sub-Contractors without the prior approval of the Engineer in writing. No photographs/ Video photography shall be published or otherwise circulated without the approval of the Engineer in writing.

60. The Apprentices Act 1961

60.1 The Contractor shall duly comply with the provisions of the Apprentices Act 1961 (III of 1961), the rules made there under and the orders that may be issued from time to time under the said Act and the said Rules and on his failure or neglect to do so he shall be subject to all liabilities and penalties provided by the said Act and said Rules.

Contract Data to General Conditions of Contract

Clause Reference

Items marked “N/A” do not apply in this Contract.

1. The Employer is [Cl.1.1.1]

The Director General
Dr. Babasaheb Ambedkar Research and Training Institute, Pune

Address: 28, Queen’s Garden, Pune -411 001.

Name of authorized Representative: (Will be intimated later)
2. The Engineer is: (Will be intimated later) [Cl.1.1.1]

Designation:

Address:
3. The Intended Completion Date for the whole of the Works is 2 months from start date [Cl.1.1.1, 17&28]
4. The Site is located in Pune & Mahad. [Cl.1.1.1]
5. The Start Date shall be within 30 days after the date of issue of the Notice to proceed with the work. [Cl.1.1.1]
6. (a) The name and identification number of the Contract is : [Cl.1.1.1]

“Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.”

 - a) At Yerwada premises, Pune – 40 Kw
 - b) At Queen’s Garden premises, Pune – 40 Kw
 - c) At Mahad premises – 100 Kw
 - d) LED light fittings at various locations

(b) The Works consist of Project work as stated in the bid document and defect liability and maintenance period of 60 months after completion for works. [Cl.1.1.1]
under a, b & c and 24 months of defect liability period only for work under d.
7. (a) The law which applies to the Contract is the law of Union of India. [Cl.3.1]

(b) The language of the Contract documents is English [Cl.3.1]

8. The limit of Sub contracting is 40% of initial contract price towards work of utilities from nominated sub contractor - DELETED [Cl.7.1]

9. A. The Technical Personnel are:

Sl. No	Personnel	Qualification	Particular Experience (minimum requirement)	No. of Persons.
1.	Project Manager	B.E. (Electrical) + 15 Years Exp.	10 years on Electrification work.	1
2.	Resident Engineer	B.E.Civil + 8 Years Exp. Or Diploma + 10 years Exp.	5 years on Building Works	1

[Cl.9.1]

10. Amount for insurance are: (The policy shall be from insurance companies which are Govt companies only) [Cl.13.1]

- Rupees equivalent to Contract price.
- Rupees equivalent to of Contract price.
- Rupees equivalent to of contract price
- Rupees equivalent to 100% of contract price for multiple incidents.
And deductible as per premium rate.

11. (a) The period for submission of the programme for approval of Engineer shall be 30 days from the issue of Letter of Acceptance. [Cl.27.1]

12. (a) Identified indented work

(1) Weekly Indent, Quarterly Indent and Bi-annual Indent - with in stipulated time

(2) Emergent Indents – With in stipulated time

- Amount of liquidated damages for delay in completion of works as per the milestones.

	For identified Indented work 0.1 percent of the Indented value, rounded off to the nearest thousand, per day with the minimum of Rs. 1000/- per day
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- Maximum limit of liquidated damages for delay in completion of work.

	10 per cent of the Initial Contract Price rounded off to the nearest thousand
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Milestone	Required work done amount	Time
1	100% of accepted contract price	2 Months

[Cl.45.1]

13. The standard form of Performance Security acceptable to the Employer Shall be an unconditional Bank Guarantee of the type as presented in the Bidding Documents.

[Cl. 47.1]

14. The date by which “as-built” drawings (in scale as directed) in 2 sets are required is within 28 days of issue of certificate of completion of whole or section of the work, as the case may be.
[Cl. 52]
15. The amount to be withheld for failing to supply “as built” drawings by the date required is Rs 1 Lakh.
[Cl. 52]
16. The date by which maintenance manuals in 2 sets are required is within 180 days from the days from the date of notice to start work.
[Cl. 52]
17. The amount to be withheld for failing to submit maintenance manual by the date required is Rs 1 Lakh.
[Cl. 52]
18. Deleted.
19. The percentage to apply to the value of work not completed representing the Employer's additional cost for completing the work shall be 20%.
[Cl.54.1]

Appendix – A

SCOPE OF WORK

As stated in ITB and Appendix to ITB.

Appendix –B

Addendum of General Condition of Contract

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.

- a) **Workmen Compensation Act 1923:** - The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) **Payment of Gratuity Act 1972:** - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed the prescribed minimum years (say, five years) of service or more or on death the rate of prescribed minimum days' (say, 15 days) wages for every completed year of service. The Act is applicable to all establishments employing the prescribed minimum number (say, 10) or more employees.
- c) **Employees P.F. and Miscellaneous Provision Act 1952:** The Act Provides for monthly contributions by the Employer plus workers at the rate prescribed (say, 10% or 8.33%). The benefits payable under the Act are:
 - i. Pension or family pension on retirement or death as the case may be.
 - ii. Deposit linked insurance on the death in harness of the worker.
 - iii. Payment of P.F. accumulation on retirement/death etc.
- d) **Maternity Benefit Act 1951:** - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) **Contract Labour (Regulation & Abolition) Act 1970:** - The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ prescribed minimum (say 20) or more contract labour.
- f) **Minimum Wages Act 1948:** - The Employer is to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Constructions of buildings, roads, runways are scheduled employment.
- g) **Payment of Wages Act 1936:** - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.

- h) **Equal Remuneration Act 1979:** - The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against female employees in the matters of transfers, training and promotions etc.
- i) **Payment of Bonus Act 1965:** - The Act is applicable to all establishments employing prescribed minimum (say, 20) or more workmen. The Act provides for payments of annual bonus within the prescribed range of percentage of wages to employees drawing up to the prescribed amount of wages, calculated in the prescribed manner. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. States may have different number of employment size.
- j) **Industrial Disputes Act 1947:** - The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) **Industrial Employment (Standing Orders) Act 1946:** - It is applicable to all establishments employing prescribed minimum (say, 100, or 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get these certified by the designated Authority.
- l) **Trade Unions Act 1926:** - The Act lays down the procedure for registration of trade unions of workmen and Employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
- m) **Child Labour (Prohibition & Regulation) Act 1986:** - The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulations of employment of children in all other occupations and processes. Employment of child labour is prohibited in building and construction industry.
- n) **Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act 1979:** - The Act is applicable to an establishment which employs prescribed minimum (say, five) or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as Housing, Medical-Aid, Travelling expenses from home up to the establishment and back etc.
- o) **The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996:** - All the establishments who carry on any building or other construction work and employs the prescribed minimum (say, 10) or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

- p) **Factories Act 1948:** - The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing the prescribed minimum (say, 10) persons or more with aid of power or another prescribed minimum (say, 20) or more persons without the aid of power engaged in manufacturing process.

(SECTION-IV)
CONDITIONS OF CONTRACT
(PART-II SPECIALCONDITIONS OF CONTRACT)

Section IV. Special Conditions of Contract

(These conditions are to be read with the Conditions of Contract set out in Section-IV)

2.3 Amended as under

The documents forming the Contract shall be interpreted in the following order of priority.

- (1) Agreement,
- (2) Notice to Proceed with the Work,
- (3) Letter of Acceptance,
- (4) Contractor's Bid,
- (5) Contract Data,
- (6) Implementation Manual & Maintenance Intervention level
- (7) Part II, Special Conditions of Contract
- (8) Part I, General Conditions of Contract
- (9) Specifications,
- (10) Bill of Quantities,
- (11) Any other document listed in the Contract Data.

7.2 The Contractor shall not be required to obtain any consent from the Employer for:

- a. The sub contracting of any part of the Works for which the Sub-Contractor is named in the Contract;
- b. The provision for labour, or labour component.
e.g. the purchase of Materials which are in accordance with the standards specified in the Contract.

7.3 Deleted

7.4 Deleted

8.2 Deleted

9. ARBITRATION – (GCC Clause 25.3)

The procedure for arbitration will be as follows:

- (a) In case of Dispute or difference arising between the Employer and a domestic contractor relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The arbitral tribunal shall consist of 3 arbitrators one each to be appointed by the Employer and the Contractor. The third Arbitrator shall be chosen by the two Arbitrators so appointed by the Parties and shall act as Presiding arbitrator. In case of failure of the two arbitrators appointed by the parties to reach upon a consensus within a period of 30 days from the appointment of the arbitrator appointed subsequently, the Presiding Arbitrator shall be appointed by the Council of Indian Road Congress.
- (b) If one of the parties fails to appoint its arbitrator in pursuance of sub-clause (a) and (b) above within 30 days after receipt of the notice of the appointment of its arbitrator by the other party, then the Council of Indian Road Congress shall appoint the arbitrator. A certified copy of the

order of the Council of Indian Road Congress making such an appointment shall be furnished to each of the parties.

- (c) Arbitration proceedings shall be held at New Delhi, India, and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- (d) The decision of the majority of arbitrators shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the arbitral tribunal. However, the expenses incurred by each party in connection with the preparation, presentation, etc. of its proceedings as also the fees and expenses paid to the arbitrator appointed by such party or on its behalf shall be borne by each party itself.
- (e) Performance under the contract shall continue during the arbitration proceedings and payments due to the contractor by the owners shall not be withheld, unless they are the subject matter of the arbitration proceedings.

10.0 SECURITY DEPOSIT AND INDEMNITY BOND:

10.1 **Security Deposit** - The security deposit shall be returned to the contractor without any interest when the contractor ceases to be under any obligations under the contract i.e. after completion of defect liability & maintenance period of 60 months.

10.2 Loss or Damage Indemnity Bond

The contractor shall be responsible during the progress as well as

During maintenance period for any liability imposed by law for any damage to the work or any part thereof or to any of the materials or other things used in performing the work or for injury to any person or persons or for any property damaged in or outside the work limit. The contractor shall indemnify and declare that the owner and the ENGINEER are in no way responsible against any and all liability, claims, loss or injury, including costs, expenses, and attorney's fees incurred in the defense of same, arising from any allegation/ litigation, whether groundless or not, of damage or injury to any person or property resulting from the performance of the work or from any material used in the work or from any condition of the work or work site, or from any cause whatsoever during the progress of the work & during defect liability & maintenance period of 60 months.

11. SUPERVISION AND SUPERINTENDENCE

11.1 Contractor's Supervision

The Contractor shall supervise & direct the works efficiently & with his best skill & attention. He shall be solely responsible for means, methods, techniques, procedures & sequences of construction. The Contractor shall co-ordinate all parts of the work and shall be responsible to see that the finished work complies fully with the contract documents, & such instructions & variation orders as the ENGINEER may issue during the progress of the works.

11.2 Resident Engineer of the Contractor (REC)/ Project Manager (PM)

As stated in Contract Data

12. CARE AND USE OF SITE

The Contractor shall not commence operations on land allotted for work except without prior approval of the ENGINEER. If these lands are not adequate the Contractor may have to make his own arrangements for additional lands required for his use.

The contractor shall not demolish, remove or alter any of the structures, trees or other facilities on the site without prior approval of the ENGINEER. All the area of Contractor's operations shall be cleared before returning the same to the ENGINEER.

13. OVERLOADING

No part of the work or new & existing structures, scaffolding, shoring, strutting, construction machinery and equipment, or other permanent & temporary facilities shall be loaded more than its capacity. The Contractor shall bear the cost of correcting damage caused by loading or abnormal stresses or pressures.

14. USE OF EXPLOSIVES - Deleted**15. MANUFACTURER'S INSTRUCTIONS**

The Contractor shall compare the requirements of the various manufacturers' instructions with requirements of the contract documents, shall promptly notify to the ENGINEER in writing of any difference between such requirements and shall not proceed with any of the works affected by such difference until an interpretation or clarification is issued pursuant to article. The contractor shall bear all costs for any error in the work resulting from his failure to the various requirements and notify the owner of any such difference.

16. PROTECTION - Deleted**17. UTILITIES AND SUB-STRUCTURES - Deleted****18. WORKMEN**

The contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the works any unfit person or anyone not skilled and experienced in the assigned task. The Contractor shall in respect of labour employed by him comply with or cause to be complied with the provisions of various labour law and rules and regulations as applicable to them in regard to all matters provided therein and shall indemnify the owner in respect of all claims that may be made against the owner for non-compliance thereof by the Contractor. In the event of the contractor committing a default or breach of any provisions of labour laws and rules and regulations, the Contractor shall without prejudice to any other liability under the acts pay the owner a sum as decided by the ENGINEER.

18.1 Work during Night or On Sundays and Holidays

Unless otherwise provided, none of the permanent works shall be carried out during night, Sunday or authorized holidays without permission in writing. However, when work is unavoidable or necessary for the safety of life, priority of works, the Contractor shall take necessary permission immediately & advice the ENGINEER accordingly. While working at night sufficient lighting arrangements should be on site, special care & precautions should be taken to avoid accidents.

18.2 Workmanship

14.2.1 The quality of workmanship produced by skilled knowledgeable and experienced workmen, machines and artisans shall be excellent.

14.2.2 Deleted.

18.3 Aesthetics - Deleted

19. MATERIALS AND EQUIPMENT

All materials and equipment incorporated in the work shall be new and of best quality. Materials and equipment not covered by detailed requirements in the contract documents shall be of the best commercial quality suitable for the purpose intended and approved by the owner prior to use in the work.

19.1 Optional Materials

Only one brand, kind or make of material and equipment shall be used for each specific purpose through-out the works, notwithstanding that similar material or equipment of two or more manufacturers or proprietary items may be specified for the same purpose.

20. Use of approved substitutions or equals : Deleted

21. LAWS AND REGULATIONS:

a. Governing Law

The contract documents shall be governed by the laws and by-laws of India, the State of Maharashtra and the local bodies in this region.

b. Resolving the disputes:

In case of disputes, between a Contractor and the field officers and ENGINEER, regarding this tender, decision of the Committee as stated in the bid document shall be final.

22. PERMITS, FEES, TAXES & ROYALTIES

Unless otherwise provided in the contract documents, the contractor shall secure and pay for all permits, Government fees and licenses necessary for the execution and completion of the

works. The contractor shall pay all duties including excise duty, sales tax, service tax, works contract tax, local taxes, income tax, octroi and other taxes Govt. Royalties and any other levies required by law including all taxes. The Employer will not take any responsibility of refund of such taxes/fees and in case of disputes between taxing authority and the contractor, the EMPLOYER & Engineer and its officers shall be indemnified by the Contractor. Any violation, in the legal provisions of taxes, duties, permits and fees, carried out by the Contractor and detected subsequently shall be the sole responsibility of the Contractor and his legal heirs.

23. BURRIED AND CONCEALED WORK - Deleted

24. INSPECTION

- i) The contractor shall inform the ENGINEER in writing when any portion of the work is ready for inspection giving him sufficient notice to enable him to inspect the same without affecting the further progress of the work. The work shall not be considered to have been completed in accordance with the terms of the contract until the Engineer shall have certified in writing to that effect. No approval of materials or workmanship or approval of part of the work during the progress of execution shall bind the ENGINEER or in any way affect him even to reject the work which is alleged to be completed and to suspend the issue of his certificate of completion until such alternations and modifications or reconstruction have been affected at the cost of the contractor as shall enable him to certify that the work has been completed to his satisfaction.
- ii) The contractor shall provide at his cost necessary ladders and such arrangement as to provide necessary facilities and assistance for proper inspection of all parts of the work at his own cost.
 - ii) The contractor after completion of work shall have to clean the site of all debris and remove all unused materials other than those supplied by the Employer and all plant and machinery, equipment, tools etc. belonging to him within one month from the date of completion of the work, or otherwise the same shall be removed by the Employer at his cost and contractor shall not be entitled for payment of any compensation for the same.

25. SAFETY PRECAUTIONS AND EMERGENCIES AND PROTECTION OF ENVIRONMENT

25.1 Contractor's Responsibility for Safety

The contractor shall be solely responsible notwithstanding any stipulations by owner or ENGINEER for initiating, maintaining and supervising all safety precautions and programmes, in connection with the work and shall comply with all laws, ordinance, code rules, regulations and lawful orders of any public authority having jurisdiction

for the safety of persons or property or to protect them from damages, injury or loss during the entire contract period including non-working hours.

On the occurrence of an accident arising out of the works which result in death or which is so serious as to be likely to result in death, the contractor shall within one hour of such accident intimate in writing to the ENGINEER the facts stating clearly and with sufficient details the circumstances of such accidents and subsequent action taken by him. The matter should also to be reported to the local police station immediately. All other accidents on the works involving injuries to the persons or property other than that of the contractor shall be promptly reported to the ENGINEER clearly and with sufficient details the facts of such accidents and the action taken by the contractor.

25.2 The Contractor shall, throughout the execution and completion of the works and the remedying of any defects therein:

- a) Have full regard for the safety of all persons entitled to be upon the site and keep the site (so far as the same is under his control) and the works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons.
- b) Provide and maintain at this own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the ENGINEER or by any duly constituted authority, for the protection of the works or for the safety and convenience of the public or others, and
- c) Take all reasonable steps to protect the environment on and off the site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

25.3 Care of Works

The Contractor shall take full responsibility for the care of the works and material & plant for incorporation therein from the commencement date until the date of issue of the Taking-Over Certificate for the whole works when the responsibility for the said care shall pass to the Employer provided that:

If the ENGINEER issues a Taking-Over Certificate for any Section or part of the Permanent Works the Contractor shall cease to be liable for the care of that section or part from the date of issue of the Taking-Over Certificate, when the responsibility for the care of that Section or part shall pass to the Employer, & The Contractor shall take full responsibility for the care of any outstanding works and material and plant for incorporation therein which he undertakes to finish during the Defects Liability Period until such outstanding Works have been completed.

If any loss or damage happens to the works, or any part thereof, or materials or plant for incorporation therein, during the period for which the Contractor is responsible for the care thereof, from any cause whatsoever, other than the excepted risk, the Contractor shall, at his own cost, rectify such loss or damage so that the Permanent

Works conform in every respect with the provisions of the Contract to the satisfaction of the ENGINEER. The Contractor shall also be liable for any loss or damage to the works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligations under this agreement and during defect liability & maintenance period of 60 months..

The Contractor shall, without limiting his or the Employer's obligation and responsibilities under Clause – 21.3 ensure -

- a) The works, together with materials and plant for incorporation therein, to the full replacement cost (the term “cost” in this context shall include profit).
- b) An additional sum of 15 percent of such replacement cost, to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the works and of removing debris of whatsoever nature, and The Contractor's Equipment and other, things brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

25.4 Scope of Cover

The insurance in paragraphs (a) and (b) of Clause – 21.3 shall be in the joint names of the Contractor and the Employer and shall cover;

- a) The Employer and the Contractor against all loss or damage from whatsoever cause arising, other than as provided in Clause – 21.6, from the start of work at the Site until the date of issue of the relevant Taking-Over Certificate in respect of the Works or any Section or part thereof as the case may be, and
- b) The Contractor for his liability

During the defect liability & maintenance period of 60 months. for loss or damage arising from a cause occurring prior to the commencement of the defect liability & maintenance period of 60 months, and

For loss or damage occasioned by the Contractor in the course of any operations carried out by him for the purpose of complying with his obligations under this agreement and during defect liability & maintenance period of 60 months.

Responsibility for amount not recovered

Any amounts not insured or not recovered from the insurance company shall be borne by the Contractor in accordance with their responsibilities under Clause – 21.3.

25.6 Exclusions

There shall be no obligation for the insurance in to include loss or damage cause by (accepted risk)

War, hostilities (whether was be declared or not), invasion, act of foreign enemies, Rebellion, revolution, insurrection, or military or usurped power, or civil war, Ionising radiations, or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the

combustion of nuclear fuel, radio-active toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof, or Pressure waves cause by aircraft or other aerial devices traveling at sonic or supersonic speeds.

Damage to persons and properties

The Contractor shall, indemnify the Employer against all losses and claims in respect of :

- a) Death of or injury to any person, or
- b) Loss of or damage any property (other than the works).

Which may arise out of or in consequence of the execution and completion of the works & the remedying of nay defects therein, & against shall claims, proceedings, damages, costs, charges & expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Clause–22.2.

25.7 Third party insurance including employers property

The Contractor shall, without limiting his or the Employer's obligations and responsibility under Clause –21.7, insure, in the joint names of the Contactor and the Employer, against liabilities for death of or injury to any person (other than the works) arising out of the performance of the Contract.

25.8 Minimum amount of insurance

Minimum amount of third party insurance of y) minimum per occurrence with number of occurrence shall not be less than (5) five. After each occurrence the number of occurrence to be brought back to minimum of (5) five.

25.9 Cross liability

The insurance policy shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Employer & Engineer as separately insured.

25.10 Accident or injury to work man

The employer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Sub-contractor, other than death or injury resulting from any act or default of the Employer, his agents or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

25.11 Insurance against accident to work man

The Contractor shall insure against such liabilities and shall continue such insurance during the whole of the time that nay persons are employed by him on the works, provided that in respect of any persons employed by any Sub-contractor, the Contractor's obligations to insure as aforesaid under this sub-clause shall be satisfied if the Sub-Contractor shall have insured against the liability in respect of such persons in such manner that the Employer &

Engineer are indemnified under the policy, but the Contractor shall require such Sub-contractor to produce to the Employer, when required, such policy of insurance and the receipt for the payment of the current premium.

25.12 Evidence and Terms of Insurance

The Contractor shall provide evidence to the Employer prior to the start of work at the Site that the insurances required under the Contract have been effected and shall, within 15 days of the Commencement Date, provide the insurance policies to the Employer, the Contractor shall notify the ENGINEER of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Acceptance. The Contractor shall effect all insurances for which he is responsible with insures and in terms approved by the Employer.

25.13 Adequacy of Insurance

The Contractor shall notify the insurers of charges in the nature, extent or programme for the execution of the works and ensure the adequacy of the insurances at all times in accordance with the terms of the Contract and shall, when required, produce to the Employer the insurance policies in force and the receipts for payment of the current premiums.

25.14 Remedy on Contractor's failure to insurance

If the Contractor fails to effect and keep in force any of the insurance required under the Contract, or fails to provide the policies to the Employer within the period required by clause – 21.16 then and in any such case the Employer may effect and keep in force any such insurances and pay any premium as may be necessary for that purpose due or to become due to the Contractor, or recover the same as a debt due from the Contractor.

25.15 Compliance with policy conditions

In the event that the Contractor fails to comply with conditions imposed by the insurance policies affected pursuant to the Contract shall indemnify the employer & Engineer all losses and claims arising from such failure.

25.16 Compliance with Statutes, regulations

The Contractor shall conform in all respects, including by the giving of all notices and the paying of all fees, with the provisions of:

- a) Any National or State Statute, Ordinance, or other law, or any regulations, or bye-law of local or other duly constituted authority in relation to the execution and completion of the works and remedying of any defects therein, and

b) The rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the works.

and the Contractor shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such provisions. Provided always that the Employer shall be responsible for obtaining any planning, zoning or other similar permission required for the works to proceed and shall indemnify the Contractor in accordance with clause – 22.3.

25.17 In all cases, the contractor shall indemnify the ENGINEER against all losses or damages, resulting directly from the contractor's failure to report in the manner aforesaid. This includes the penalties or fines, if any, payable by the owner as a consequence of failure to give notice under Workmen's Compensation Act or otherwise to conform to the provisions of the said Act in regard to such accidents.

25.18 In the event of an accident in respect of which compensation may become payable by the contractor, such sum of money as may, in the opinion of the ENGINEER, be sufficient to meet such liability will be kept in deposit. On the receipt of award from the Labour Commissioner in regard to the quantum of compensation, the difference in the amount will be adjusted.

The contractor shall take a Contractors All Risk Insurance Policy (CAR) for the works and keep it in force throughout the work period. The CAR policy shall also cover accident that may occur to the vehicle plying on the adjoining road, cross road and slip roads etc.

26. WARNINGS AND BARRICADES - Deleted

27. ENGINEER'S STATUS DURING CONSTRUCTION AND AUTHORITY OF THE ENGINEER:

The ENGINEER shall have the authority to enforce compliance with the contract documents. On all questions relating to quantities, the acceptability of materials, equipment, or works, the adequacy of the performance of the work and the interpretation of the drawings and specifications, the decision of the ENGINEER shall be final and binding and shall be precedent to any condition under the contract agreement unless otherwise provided in the contract documents. The ENGINEER shall have the authority to stop / suspend the work or any part thereof as may be necessary to ensure the proper execution of the work, disapprove or reject the works which is defective, to require the uncovering and inspection or testing of the works to require re-examination of the works, to issue interpretations and clarifications, to order changes or alterations in the works, and other authority as provided elsewhere in the contract documents.

The ENGINEER shall not be liable for the results of any ruling, interpretation or decision rendered, or request, demand, instruction, or order issued by him in good faith.

The contractor shall promptly comply with requests, demands, instructions and order from the ENGINEER.

The whole of the works shall be under the directions of the ENGINEER, whose decision shall be final, conclusive & binding on all parties to the contract, on all questions relating to the construction & meaning of plans, working drawings, sections & specifications connected with the work. The ENGINEER shall have the power & authority from time to time & at all times make and issue such further instructions and directions as may appear to him necessary or proper for the guidance of the contractor and the good and sufficient execution of the works according to the terms of specifications and the contractor shall receive, execute, obey and be bound by the same according to the true intent and meaning thereof; fully and effectually. ENGINEER may order any of the works contemplated thereby to be omitted, with or without the substitution of any other works in lieu thereof, or may order any works or any portion of works executed or partially executed, to be removed, changed or altered and if needful, may order that other works shall be substituted instead thereof and the difference of expenses occasioned by any such diminution or alteration so ordered and directed shall be deducted from or added to the amount of this contract.

In case the progress of the Contractor is found to be less than the programme given by him at any point of time and if the ENGINEER is convinced that the Contractor cannot execute the balance work within the balance period of time, a notice of 7 days will be issued to improve the progress. In case there is no improvement a further notice of seven days will be given and thereafter a part or whole of the work will be withdrawn from the Contractor and will be got done at the risk and cost of the Contractor. The right of ENGINEER in this respect shall be unquestionable. On expiry of the seven days notice, as above, the Contractor shall remove his materials, men, equipment's, plant and management from the site, within seven days so that the new agency can take over immediately. Failing to this, the Employer will remove the aforesaid things at the risk and cost of the Contractor.

28. DUTIES OF ENGINEER'S REPRESENTATIVE

The Engineer's representative is the person notified by the Engineer to carry on his duties and obligation stated in this contract. The duties of the representative of the ENGINEER are to check, inspect and supervise the work and to get testing of any materials to be used or workmanship employed in connection with the works. He shall furnish the drawings and information to the contractor, approve the contractor's drawings recommend and approve the interim certificates and taking over certificates after thorough checking and inspection and recommend extra work required and extension of time.

Approval for or acceptance of any work or material or failure to disapprove any work or material by the representative of the ENGINEER shall not prejudice the power of the ENGINEER thereafter to disapprove such work or material and to order removal or modification thereof. If the contractor shall be dissatisfied with any decision of the representative of the ENGINEER, he shall be entitled to refer the matter to the technical committee headed by District Collector, who shall thereupon confirm, reverse or vary such decision.

29. DEFECTS AND RECTIFICATION

For period specified as the defect liability & maintenance period of 60 months. for the work starts from the date of issuance of the completion certificate or issuance of completion certificate for the project work whichever is later in accordance with para "Final Inspection and Acceptance" contractor shall remain liable for any of the works or parts thereof or equipment and fittings supplied which in the opinion of the ENGINEER fail to comply with the requirements of the contract or are in any way unsatisfactory or defective.

To the extent that the works and each part thereof shall at or as soon as practicable after the expiry of the above period be taken over by the ENGINEER in the condition required by the contract to the satisfaction of the ENGINEER. The contractor shall finish the work (if any) outstanding at the date of completion as soon as may be practicable after such date and shall execute all such work of repair, amendment, reconstruction, rectification and making good of defects imperfections, shrinkages or other faults as may during the period of maintenance or after its expiry be required of the contractor in writing by the ENGINEER as a result of an inspection made by or on behalf of the ENGINEER prior to the expiry of the period. All such work shall be carried out by the contractor at his own expenses if the necessity thereof shall in the opinion of the ENGINEER be due to the use of materials or to the neglect or failure on the part of the contractor to comply with any obligation expressed or implied on the contractor's part under the contract. If the contractor fails to do any such work as entitled to carry out such work in which the contractor should have carried out at the contractor's own cost, the ENGINEER shall be entitled to recover from the contractor the cost thereof or may deduct the same from the moneys that become due to the contractor. Notwithstanding the aforesaid, if the contractor remains in default, one calendar month after the ENGINEER has given written instructions in writing, the Performance Security / Security Deposit shall become payable to the Employer who will deduct the cost plus overhead expenses of such works as have been necessary to rectify the contractor's default and the balance, if any, shall be disbursed. The Contractor shall submit the operation and maintenance manual for the fruitful operation of the works. The Contractor will have to carry out the inspection as per given frequency in the contract within a specified time as stated in the contract during the defect liability and maintenance period of 60 months and as stated in this document.

30. RIGHT TO WITHHOLD

The ENGINEER may refuse to approve to any payment, or because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously approved and paid to such extent as may be necessary in the opinion of the ENGINEER to protect him from loss because (a). The work is defective, (b) Third party claims have been filed or there is reasonable evidence indicating probable filing of such claims, (c) of the Contractor's failure to make payment properly to sub-contractors or for labour, materials or equipment, (d) of damage to another Contractor, or to the property of

other caused by the Contractor, (e) of reasonable doubt that the work cannot be completed for the unpaid balance of the contract price, (f) of reasonable indication that the work will not be completed within the contract time, (g) of the Contractor's neglect or unsatisfactory prosecution of the work including failure to clean up, (h) to carry out the duties and responsibilities during defect liability & maintenance period of 60 months. Once the reasons that enable or require the ENGINEER to withhold such payments are removed, payment will be made for amounts withheld because of them to the extent the contractor is entitled to.

31. FINAL INSPECTION AND ACCEPTANCE

Upon written notice from the contractor, that the entire work required by the contract documents is complete and that all submittals required by him are made, and after the Contractor has delivered the bonds, certificates of inspection, guarantees, warranties, releases and other documents, as required by the contract documents or by law, the ENGINEER will make a final inspection, and he will notify the Contractor in writing of any particulars in which this inspection reveals that the work is defective, and will also notify the Contractor in writing of any deficiencies in the submittals and the document required from him.

The Contractor shall promptly make such corrections as are necessary to remedy all defects or deficiencies. After the Contractor has completed any such corrections to the satisfaction of the owner, the ENGINEER will issue a written Taking-Over certificate of the work and file any notice and completion required by law or otherwise.

32. CONTINUING OBLIGATION OF THE CONTRACTOR

The Contractor's obligation to perform and complete the work in accordance with the contract documents is and shall be absolute. Neither the observation during construction and final inspection of the work by the ENGINEER, nor any payment to the Contractor under the Contract documents, nor any use or occupancy of the work or any part thereof by the ENGINEER, nor any act of acceptance of the defective work by the ENGINEER shall constitute acceptance of work not in accordance with the contract documents.

33. INCOME TAX AND WORK CONTRACT TAX

Income Tax and Work Contract Tax as applicable on gross value of each running account bill shall be deducted towards income tax and Work Contract Tax and a certificate to that extent shall be issued by EMPLOYER.

34. FORCE MAJEURE

Neither party shall be liable to the other for any loss or damage occasioned by or arising out of the acts of God and in particular unprecedented floods, volcanic eruptions, earthquake or other conclusion of nature and other acts such as, but not restricted to, invasion, act of foreign countries, hostilities or warlike operations before or after declaration of war, rebellion, military or unsurpassed power which prevent performance of the contract and which could not have been foreseen or avoided by a prudent person, such as Earthquake of magnitude more than for which the structures are designed.

35. RECORDS AND MEASUREMENTS

The ENGINEER, shall except stated therein, determine by measurement the value in accordance with the contract of works done in accordance therewith.

All items having a financial value shall be entered in a measurement book, level book, computerized systems etc. as prescribed by the ENGINEER so that a complete record is obtained of all work performed under the contract. Measurements shall be checked & confirmed by the ENGINEER or his authorized representative and by the Contractor or his authorized representative. Before taking measurement of any work the ENGINEER or the person deputed by him for the purpose shall give reasonable notice to the contractor. If the contractor fails to attend or send an authorized representative for measurement after such notice or fails to countersign or record the objection within a week from the date of measurement, then in any such event measurements will be taken by the ENGINEER, or by the person deputed by him shall be taken to be correct measurements of the works and shall be binding on the contractor. There shall be absolutely no doubt regarding measurements, the contractor must know the departmental practices developed as per the manuals and standard specifications. The Contractor shall, without any extra charge, provide assistance with every appliance and other things necessary for measurements.

Measurements shall be signed and dated by both the parties each day (for taking measurement) on the site on completion of measurements. The Contractor shall take up still colour photographs and video graphs at intervals during the execution of works so that a history of development and each activity of the project is maintained.

Set of dated photographs and video graphs, in three copies of each photographs, shall be submitted to the Engineer every month. This generation of record shall provide the used methodology of working and highlight the quality of material and workmanship. The cost of the said work shall be borne by the Contractor. It shall be the property of the Employer and shall not be used for campaigning, advertising without the permission of the Employer.

Contractor has to also maintain and update information / records of site.

36. WRITTEN NOTICE

Written notice shall be deemed to have been duly served or delivered in person to the individual or member of the firm or to an officer of the Employer for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to him who gives the notice. The notice on the Fax Message/E-Mail shall be deemed to have been duly served. The address given in the contractor's tender on which all notices, letters & other communications to the contractor shall be mailed or delivered, except that said address may be changed by the Contractor by notifying the owner in writing. This shall not preclude the service of any notice, letter or other communication upon the Contractor personally.

37. USE OF COMPLETED PORTIONS

The owner shall have the right, upon written notice to the Contractor, to take possession or occupancy of, & use any completed or partially completed portions of the work, notwithstanding that the time for completing the entire work or such portions may not have expired but such taking possession or occupancy and use shall not be deemed to waive of any requirement of the contract documents or a waiver or acceptance of any work not completed in accordance with the contract documents.

38. CLEANING UP

The contractor shall at all times during the work keep the site and premises, adjoining property and public property free from accumulations of waste materials, rubbish, and other debris resulting from the works, and at the completion of the work shall remove all waste materials, rubbish and debris from and about the site and premises as well as all tools, construction equipment and machinery and surplus materials, and shall leave the site and premises, clean, tidy and ready for occupancy by the owner.

39. OWNER'S RIGHT TO CLEAN UP

If the Contractor fails to satisfactorily clean up or if a dispute arises between the Contractors or in several Contractors as to their responsibility for cleaning up, the ENGINEER may get the same cleaned up and charge the cost thereof to the Contractor for his failure, as the ENGINEER shall determine to be just.

40. FOSSILS ETC

All fossils, coins, articles of value of antiquity and structures or other remains or things of geological or archaeological interest discovered on the site shall be deemed to be the property of the owner and the Contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing and

shall immediately upon discovery thereof and before removal acquaint the ENGINEER of such discovery and carry out at the expenses of the ENGINEER's order as to the disposal of the same.

41. LABOUR RULES

The contractor will have to produce to the satisfaction of the accepting authority a valid and current license issued in his favour under the provision of Contract Labour (Regulation and Abolition) Act 1970, before starting the work, otherwise the Contractor shall have to face the further consequences.

The contractor shall have to comply with the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be breach of contract and the Employer, may in his discretion, cancel the contract, the Contractor shall also be liable, for any pecuniary liability arising on account of any violation of the provisions of this act, by him.

42. STATUTORY INCREASE IN DUTIES, TAXES ETC

All the taxes and duties levied by the State and Central Govt. and by Local Bodies at the prevailing rates applicable on the date of receipt of tender shall be fully borne by the Contractor and shall not be reimbursed to

him on any account. The tender shall be inclusive of all taxes levies, octroi etc. including the tax leviable in respect of work contract under the provision of Maharashtra Sales Tax as transfer of property in goods involved in the execution of Work Contract Act 1985 and its further amendments (Maharashtra ACT XIX of 1985) to be paid by the Contractor.

Further EMPLOYER shall not honour any claim arising out of any increase in any of the prevailing statutory duties, taxes, levies, octroi, etc. as the same are inter-alia covered under the Price Variation Clause. At the time of quoting/bidding contractor should bear the above fact in mind.

43. INSPECTION, TESTING FEES

As specified in this document.

44. SITE TEST - Deleted

45. IMPORT LICENSE AND PROCUREMENT OF IMPORTED MATERIALS

The Contractor shall quote for the indigenous equipment only, as far as possible for the work contracted. Foreign exchanges and import licenses, if any, required shall have to be arranged by the Contractor himself, independently. Delay in getting any material, will not be

entertained for neither extension of time limit nor the risk of foreign exchange variation will be covered by the Employer.

46. MACHINERY REQUIRED

All machinery required for erection / execution purposes such as concrete mixers, excavator with rock breaker unit, cranes, trucks, concrete batching plant, transit mixers etc. shall be arranged by the Contractor. Employer / P M C will not take any responsibility for providing such machinery even on rental basis. Execution of any item will be allowed only after the required machinery as directed by the ENGINEER is made available in working condition.

47. DISCREPANCIES AND OMISSIONS

The tender drawings and specifications shall be considered as complimentary and explanatory, of each other and together shall form the technical requirements and stipulations of tender documents. Detailed drawings shall have preference over small-scale drawings. Similarly, detailed specifications shall have preference over general specifications. Should any discrepancy arise as to the meaning, intent or interpretation of any specification or drawing the decision of the ENGINEER shall be final and binding on the Contractor.

48. PRICE VARIATION - Deleted

49. NO INTEREST ON DUES

No interest shall be payable by the Employer on amounts, due to contractors pending final settlement of claim. Further, no interest shall be payable by EMPLOYER on any delayed amount / payment. No interest shall be payable on security deposit or withheld amount.

(SECTION-V)
TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS

Note: The detail technical specifications are stated in Volume II of bid document.

GOVERNMENT OF MAHARASHTRA

Dr. Babasaheb Ambedkar Research and Training Institute, Pune

(An Autonomous Institute of Social Justice and Special Assistance Department,
Govt. of Maharashtra)

TENDER NOTICE No: - BARTI/PUNE/ADVT.TUB/PRO/32/1873/2013-14

NAME OF WORK:

Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.

- a) At Yerwada premises, Pune – 40 Kw
- b) At Queen's Garden premises, Pune – 40 Kw
- c) At Mahad premises – 100 Kw
- d) LED light fittings at various locations

REVISED VOLUME -II

FORM B-1**PERCENTAGE RATE TENDER AND CONTRACT OF WORK**

Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.

- a) At Yerwada premises, Pune – 40 Kw
- b) At Queen's Garden premises, Pune – 40 Kw
- c) At Mahad premises – 100 Kw
- d) LED light fittings at various locations

GENERAL RULES AND DIRECTIONS FOR THE GUIDANCE OF CONTRACTORS

- 1 This form will state the work to be carried out as well as the date for submitting and opening tenders, and the time allowed for carrying out the work and state the defect liability maintenance period of 5 years for works under a, b & c and defect liability period only of 24 months for work under d, also the amount of earnest money to be deposited with the tender by Demand Draft, and the amount of the security deposit / retention money to be deposited by the successful tenderer and the percentage, if any, to be deducted from the bills. The performance security will be deposited by the successful tenderer. Original copies of the specifications, designs and drawings, estimated rates, scheduled rates and any other documents required in connection with the work shall be signed by the ENGINEER for the purpose of identification and shall also be open for inspection by the contractors at the office of the Director General, Dr. Babasaheb Ambedkar Research & Training Institute during office hours.

Where the works are proposed to be executed according to the specifications recommended by a Contractor and approved by ENGINEER on behalf of the Competent Authority of Dr. Babasaheb Ambedkar Research and Training

Institute, Pune, such specifications with designs, drawings and maintenance manuals shall form part of the accepted tender.

- 2 In the event of the tender being submitted by a firm, the bidder has to submit the copy of partnership deed along with power of attorney as stated in the check list and Vol. I of the work.
 - 2(A). (i) The contractor shall pay along with the tender sum of Rs. 3,11,300/- (Rupees Three Lacs Eleven Thousand Three Hundred Only) by Demand Draft drawn in favor of the Director General, Dr. Babasaheb Ambedkar Research & Training Institute, Pune, as and by way of earnest money. The said amount of earnest money shall not carry any interest what so ever.
 - (ii) In the event oh his tender being accepted, subject to provision of sub-clause (iii) below, the said amount of earnest money should be appropriated towards the amount of security deposit payable by him under conditions of General conditions of Contract.
 - (iii) If, after submission and opening of the tender, the contractor withdraws his offer, or modifies the same, or if after the acceptance of his tender the contractor fails or neglects to furnish the balance of security deposit and performance security without prejudice to any other rights and powers of the Employer, hereunder, or in law, Employer shall be entitled to forfeit the full amount of the earnest money deposited by him.
 - (iv) In the event of his tender not being accepted, the amount of earnest money deposited by the contractor, shall unless it is prior thereto forfeited under the provisions of Sub-clause (iii) above, be refunded to him on his passing receipt therefore.
- 3 Receipts for payments made on any account of work, when executed by a firm, should also be signed by all the partners except where the Contractors are described in their tender as firm, in which case the receipt shall be signed in the name of the firm by one of the partners, or by some other person having authority to give effectual receipts for the firm.

- 4 Any person who offers the bid shall fill up at the appropriate space, stating at what percentage above or below the rates specified in Schedule 'B' (Memorandum showing items of work to be carried out) he is willing to undertake the work. Only one rate or such percentage on all the estimated rates/ Schedule rates shall be named. Tenders, which propose any alteration in the works specified in the same form of invitation of tender, or in the time allowed for carrying out the work, or which contain any other conditions, of any sort will be liable to rejection. No bidder shall submit two offers for one work, but if the bidder who wishes to tender for two or more works; they shall submit a separate offer for each. Tender shall have the name and number of the work to which they refer, displayed in the notice inviting tender.
- 5 The Employer or ENGINEER or his duly authorized assistant shall open tenders (every bidder shall produce the original copies of the documents stated in the check list and in Volume No. I, for verification by the Employer. In case a discrepancy is found and /or if the bidder doesn't meet the qualification criteria stated in Vol. I, their bids will not be considered and shall be treated as non responsive) in the presence of Contractors who have submitted their offers or their representatives who may be present at the time, and he will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted the Contractor shall for the purpose of identification, sign copies of the tender Volumes (Volume I, II) and of the specifications and other documents mentioned in the rule 1. In the event of the tender being rejected, the Employer shall authorize the Designate Officer concerned to refund the amount of the earnest money deposited, to the Contractor marking the tender, on his giving a receipt for the return of the money.
- 6 The Employer is competent to dispose of the tenders and shall have the right of rejecting all or any of the Tenders.
- 7 No receipt for any payment alleged to have been made by a Contractor in regard to any matter relating to this tender or the contract shall be valid and binding on Employer unless it is signed by the ENGINEER and other appropriate officer designated by Employer.

- 8 The Memorandum of work to be tendered for and the schedule of materials to be supplied by the Employer and their rates shall be filled in by any competent person from the office of the Employer before the tender form is issued.
- 9 All work shall be measured net by standard measure and according to the rules and customs of the State Public Works Department, Maharashtra Jeevan Pradhikaran and without reference to any local custom.
- 10 Under no circumstances shall any contractor be entitled to claim enhanced rates for items in this contract.
- 11 Every contractor shall be competent enough as stated in the tender notice, produce along with his tender a solvency certificate to the extent of 20 % of the tendered cost of the work from the Collector of the district or Tahasildar of Taluka within which he resides or a bankers certificate of his financial stability. If he fails to produce such a certificate his tender will not be considered.
- 12 All corrections, CSD, CSC (If any) and additions or pasted slips shall form a part of the contract.
- 13 The measurements of work will be taken according to the usual methods in use in the State Public Works Department, Maharashtra Jeevan Pradhikaran and no proposals to adopt alternative methods will be accepted. The ENGINEER's decision as to what is the usual method in use in State Public Works Department or Maharashtra Jeevan Pradhikaran will be final.
- 14 The tendering Contractor shall submit a declaration along with the tender displayed at appropriate place, showing all works for which he has already entered into contract and the value of the work that remains to be executed in each case on the date of submitting the tender.
- 15 Every tenderer shall submit along with the tender, information regarding the Income tax circle or Ward of the District in which he is assessed to Income Tax, the reference to the number of the assessment and the assessment year, as stated in the qualification criteria.

- 16 In view of the difficult position regarding the availability of foreign exchange, no foreign exchange would be released by the Employer for the purchase of plant and machinery required for the execution of the work contracted for.
- 17 The contractor will have to construct shed for storing controlled and valuable materials issued to him under Schedule 'A' of the agreement, at work site, having double locking arrangement. The materials will be taken for use in the presence of the Departmental person. No materials will be allowed to be removed from the sites of the works.
- 18 The Contractors shall also give a list of machinery in their possession and which they proposed to use on the work.
- 19 Every contractor should furnish along with tender a statement showing technical staff employed by him.
- 20 Successful tenderer will have to produce to the satisfaction of accepting authority a valid and current license issued in his favor under the provision of Contract Labor (Regulation and Abolition Act 1973) before starting work, failing which acceptance of the tender will be liable for withdrawal and earnest money will be forfeited to Employer.
- 21 The contractor shall comply with the provision of the Apprentices Act 1961 and the rules and orders issued there under from time to time. If he fails to do so, his failure will be breach of the contract and the Employer, may in his discretion cancel the contract. The contractor shall also be liable for pecuniary liability arising on account of any violation by him of the provisions of the Act.

TENDER FOR WORKS

I/We hereby tender for the execution, for the Director General, Dr. Babasaheb Ambedkar Research and Training Institute, Pune, (here-in-before and hereinafter referred to as Employer) of the work specified in such memorandum at sum of Rs_____ entered in Schedule 'B' (Memorandum showing items of work to be carried out) and in accordance in all respects with the specifications, designs, drawings, and all the conditions and stipulations stated in Volume I and II. In figures as well as in words

MEMORANDUM

1. (a) General Description: Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.
- a) At Yerwada premises, Pune – 40 Kw
 - b) At Queen’s Garden premises, Pune – 40 Kw
 - c) At Mahad premises – 100 Kw
 - d) LED light fittings at various locations
- | | |
|--|------------------------------|
| (b) Tender Cost | Rs 3,11,29,100/- |
| (c) Earnest Money | Rs 3,11,300/- |
| (d) Security Deposit | |
| (i) In the form of FDR | Rs 2% of Contract sum |
| (ii) To be deducted from Running bills | Rs 2% of Contract sum |
| TOTAL | Rs 4% of Contract sum |
- (e) Time allowed for the work from date of written order to commence. **2 Calendar Months**

Note : The successful bidder can pay the entire security deposit in the form of Bank Guarantee as stated in Vol. I.

2. I/We agree that the other offer shall remain open for acceptance for a minimum period of 120 days from the date fixed for opening the same thereafter until it is withdrawn by me/us by notice in writing duly addressed to the authority opening the tenders and sent by registered post A.D. or otherwise delivered at the office of such authority. The EMD amounting to **Rs. 3,11,300/-** is submitted in the form of Demand Draft. The amount of earnest money shall not bear interest and shall be liable to be forfeited to the Employer, should I/We fail to (i) abide by the stipulation to keep the offer open for the period mentioned above of (ii) sign and complete the contract documents as required by the Employer and furnish the security deposit and retention money as specified in item (d) of the Memorandum contained in paragraph (i) above within the time limit laid down in clause (1) of the annexed General Conditions of the Contract. The amount of earnest money maybe adjusted towards the security deposit or refunded to me/ us if

so desired by me/us in writing, unless the same or any part thereof has been forfeited as aforesaid.

Should this tender be accepted I/We hereby agree to abide by and fulfill all the terms and provisions of the conditions of contract stated hereto so far as applicable and in default thereof and pay to Employer, the sum of money mentioned in the said conditions.

Amount to be specified in words and figures

The earnest money (a) the full value of which is to be absolutely forfeited to Employer if I/We should not deposit the full amount of security deposit in specified format in the above memorandum, in accordance with clause 1(A) of the said conditions, otherwise the said sum of Rs. 3,11,300/- only shall be refunded.

**Signature of
the Contractor before
submission of the Tender.**

Address:

Dated the _____ day of

**Signature of
the Witness to
Contractor's
Signature.**

Address:
(Occupation)

The above tender is hereby accepted by me for and on behalf of the Director General, Dr. Babasaheb Ambedkar Research and Training Institute, Pune.

Dated _____ day of _____ 2013

**The Director General Dr.
Babasaheb Ambedkar
Research and Training
Institute, Pune (or his duly
authorized assistant)**

RECAPITULATION SHEET

Sr. No	Description	Estimated Cost		Above OR Below	% Quoted		Quoted Total Amount	
		Rs. In Fig	Rs. In Words		In Fig	In Words	Rs. In Words	Rs. In Fig
1	<p>Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.</p> <p>a) At Yerwada premises, Pune – 40 Kw</p> <p>b) At Queen’s Garden premises, Pune – 40 Kw</p> <p>c) At Mahad premises – 100 Kw</p> <p>d) LED light fittings at various locations</p>	3,11,29,100.00	Rs. Three Crore Eleven Lacs Twenty Nine Thousand Hundred Only.					
	Total in Fig rupees.					Total in Words rupees		

Note: a) The final quoted amount should be replicated on page no.6 of Vol-II.

b) Please fill this page, Stamp, Sign and Scan and upload on the website as financial bid.

“DECLARATION OF THE CONTRACTOR”

I/We hereby declare that I/We have made myself/ourselves thoroughly conversant with the local conditions regarding all materials and labour on which I/We have based my/our rates for this tender. The specifications and the leads in this work have been carefully studied and understood before submitting this tender.

I/We undertake to use only the best materials and work methodology approved by the Engineer or his duly authorized engineer during execution of the work and during defect liability and maintenance period of 5 years after completion and to abide by the contract conditions, stipulations and maintenance manuals. I/We am/are fully responsible for quality of work and shall maintain the work in good order during defect liability and maintenance period of 5 years after completion.

Signature of Contractor

Summary Sheet

Name of the Work : Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.

- a) At Yerwada premises, Pune – 40 Kw
b) At Queen’s Garden premises, Pune – 40 Kw
c) At Mahad premises – 100 Kw
d) LED light fittings at various locations

Sub Estimate No.	Description	Amount (Rs.)
1 [a]	40 Kw - At Yewada Premises, Pune	6200000.00
2 [b]	40 Kw - At Queen's Garden Premises	6200000.00
3 [c]	100 Kw - At Mahad Premises	15500000.00
4 [d]	LED light fittings at various locations	3229100.00
	Total (Rs.)	31129100.00
	Say Rs.	31129100.00

Rupees Three Crores Eleven Lacs Twenty Nine Thousand One Hundred Only.

Note : The rates are inclusive of five years of comprehensive annual maintenance charges for a, b, c only. The accepted tender cost will be released to the bidder as per following breakdown schedule.

Percentage Breakdown Schedule for works under a, b & c only

Sr. No	Stage of Work	Percentage Admissible of the gross payment due to the contractor based on accepted tender cost
1	During execution	85% on prorata basis
2	After 1 year of successful performance after completion	3% on prorata basis
3	After 2 years of successful performance after completion	3% on prorata basis
4	After 3 years of successful performance after completion	3% on prorata basis
5	After 4 years of successful performance after completion	3% on prorata basis
6	After 5 years of successful performance after completion	3% on prorata basis

Note : For work under part d, payment will be released in proportion to the rates quoted in the document by the Employer respectively.

Name of the Work : Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.

- a) At Yerwada premises, Pune – 40 Kw
- b) At Queen’s Garden premises, Pune – 40 Kw
- c) At Mahad premises – 100 Kw
- d) LED light fittings at various locations

Schedule B Sub Estimate - 1

a) 40 KW PV Solar Grid Interactive Power Plant at Yerwada, Pune

Sr. No.	Description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
1	Design, Supply, Installation, Testing, Commissioning, obtaining all permissions from MEDA, State Ministry & MNRE, processing of proposal for subsidy, getting subsidy from MNRE in the name of BARTI, any other permission required from any govt. department etc. for following listed roof top grid interactive PV Solar power plant at various locations as listed below, using 240 Wp multi crystalline modules, string inverter, galvanized M.S. structure, D.C. / A.C. cabling, DC MCB with SPD in IP 65 enclosures, energy meter to monitor solar power generation, PLC based inverter output control system to control output, based on power consumption of the premises, Lightning protection system, pipe in pipe type earthing system, A.C. combiner panel having MCCB & MCB of required rating etc. With 5 years comprehensive warrantee plus O&M. System capacity & locations are as under :				
a	40 KW peak system at Yerawada Campus of BARTI at Pune.	40000	Watt peak	155.00	6200000.00

Name of the Work : Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.

- a) At Yerwada premises, Pune – 40 Kw
- b) At Queen’s Garden premises, Pune – 40 Kw
- c) At Mahad premises – 100 Kw
- d) LED light fittings at various locations

Schedule B Sub Estimate - 2

b) 40 KW PV Solar Grid Interactive Power Plant at Queen’s Garden premises, Pune

Sr. No.	Description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
1	Design, Supply, Installation, Testing, Commissioning, obtaining all permissions from MEDA, State Ministry & MNRE, processing of proposal for subsidy, getting subsidy from MNRE in the name of BARTI, any other permission required from any govt. department etc. for following listed roof top grid interactive PV Solar power plant at various locations as listed below, using 240 Wp multi crystalline modules, string inverter, galvanized M.S. structure, D.C. / A.C. cabling, DC MCB with SPD in IP 65 enclosures, energy meter to monitor solar power generation, PLC based inverter output control system to control output, based on power consumption of the premises, Lightning protection system, pipe in pipe type earthing system, A.C. combiner panel having MCCB & MCB of required rating etc. With 5 years comprehensive warrantee plus O&M. System capacity & locations are as under :				
b	40 KW peak system at Queen's Garden Road Head office of BARTI at Pune. This system will feed to two different buildings in the campus.	40000	Watt peak	155.00	6200000.00

Name of the Work : Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.

- a) At Yerwada premises, Pune – 40 Kw
- b) At Queen's Garden premises, Pune – 40 Kw
- c) At Mahad premises – 100 Kw
- d) LED light fittings at various locations

Schedule B Sub Estimate - 3

c) 100 KW PV Solar Grid Interactive Power Plant at Mahad

Sr. No.	Description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
	Design, Supply, Installation, Testing, Commissioning, obtaining all permissions from MEDA, State Ministry & MNRE, processing of proposal for subsidy, getting subsidy from MNRE in the name of BARTI, any other permission required from any govt. department etc. for following listed roof top grid interactive PV Solar power plant at various locations as listed below, using 240 Wp multi crystalline modules, string inverter, galvanized M.S. structure, D.C. / A.C. cabling, DC MCB with SPD in IP 65 enclosures, energy meter to monitor solar power generation, PLC based inverter output control system to control output, based on power consumption of the premises, Lightning protection system, pipe in pipe type earthing system, A.C. combiner panel having MCCB & MCB of required rating etc. With 5 years comprehensive warrantee plus O&M. System capacity & locations are as under :				
c	100 KW peak system at Mahad Campus of BARTI.	100000	Watt peak	155.00	15500000.00

Name of the Work : Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.

- a) At Yerwada premises, Pune – 40 Kw
b) At Queen's Garden premises, Pune – 40 Kw
c) At Mahad premises – 100 Kw
d) LED light fittings at various locations

Schedule B Sub Estimate - 4

LED light fittings at various locations

Sr. No.	Description	Qty.	Unit	Rate (Rs.)	Amount (Rs.)
1	Supply, installation, testing & commissioning of LED light fittings. Job involves removing of existing light fittings with proper care, handing over of removed light fittings to BARTI officials, installation of new LED fittings, electrical connections, testing & commissioning. Quantity of various LED light fittings is as under :				
1.1	18 / 22 watt LED 1200 mm length patti type fitting.	1010	Nos.	1890.00	1908900.00
1.2	8 watt LED bulb suitable for existing bulb holder.	80	Nos.	800.00	64000.00
1.3	12 watt LED down lighter recessed type.	25	Nos.	1600.00	40000.00
1.4	45 watt LED Panel recessed type having size 600 x 600 mm.	40	Nos.	8500.00	340000.00
1.5	45 watt LED Panel recessed type having size 1200 x 300 mm.	53	Nos.	8200.00	434600.00
1.6	24 watt LED street light.	96	Nos.	4600.00	441600.00
	Total Amount :				3229100.00

Notes :

Fittings are to be installed at various campus of BARTI located at Pune & Mahad.

Qty. may change as per final requirement. Billing will be as per actual qty. installed at site.

Rate quoted shall be inclusive of all taxes, transportation up to site, VAT, LBT, etc.

Approved makes of the fittings : Philips / Wipro / SSK.

Name of the Work : Supply, Installation, Testing, Commissioning & Maintaining roof top grid interactive PV solar power plant using multi-crystalline PV modules at following locations and Supply, Installation, Testing and Commissioning of LED light fittings at various campus locations.

- a) At Yerwada premises, Pune – 40 Kw
- b) At Queen’s Garden premises, Pune – 40 Kw
- c) At Mahad premises – 100 Kw
- d) LED light fittings at various locations

Approved makes

Sr. No.	Item	Make
1	240 Wp Multi Crystalline modules.	Photonix / PV Power Tech / Vikram.
2	On grid Inverter (PCU).	Refusol / SMA.
3	PV Cable.	Lapp / Top cable.
4	SPD & DC Isolators.	ABB / Schneider / Eaton / Eq.
5	IP 65 Enclosures.	ABB / Eq.
6	MCCB / MCB.	ABB / Schneider / Siemens / L&T / Legrand.
7	Electronic Energy meter.	HPL / Eq.
8	PLC based inverter out put controlling system.	Refusol / SMA / Eq.
9	A.C. cables.	Polycab / KEI / Finolex.
10	Approved makes of LED Light Fittings	Philips / Wipro / SSK

The Bidders shall base their offer on the approved material makes stated above. No other make shall be accepted to the Employer.
Note : Please upload an undertaking in technical bid stating that the office is based only on approved makes stated above.

Technical Specifications :

The Grid Connect Solar Power Generating System consists of mainly three components viz. the solar photovoltaic (SPV) array, module mounting structure and the power conditioning unit (PCU)/ inverter. The SPV array converts the solar energy into DC electrical energy. The module mounting structure holds the modules in required position and the DC electrical energy is converted to AC power by the PCU, which is connected to the power grid. The AC power output of the inverter is fed to the AC distribution board through metering panel and isolation panel. The 415 V 50 Hz 3 Ph. 4 wire system to be utilized for synchronizing with the grid.

II PV MODULE (S)

- (i) The PV module bidder should have IEC 61215-2nd Edition and IEC 61730-2 qualification certification for PV modules. Copy to be provided with tender.
- (ii) The PV module(s) shall contain crystalline silicon solar cells.
- (iii) The power output of the module (s) under STC should be 240 W output each. Photo / electrical conversion efficiency of SPV module shall be greater than 15%.
- (iv) All materials used shall have a proven history of reliable and stable operation in external applications. It shall perform satisfactorily in relative humidity up to 100% with temperatures between -10 Deg C and +85 Deg C and with stand gust up to 200km/h from back side of the panel. The terminal box on the module should have a provision for opening for replacing the cable, if required.
- (v) A strip containing the following details should be laminated inside the module so as to be clearly visible from the front side.
 - a. Name of the Supplier or distinctive Logo
 - b. Model or Type No.
 - c. Serial No.
 - d. Year of make.

ELECTRICAL SPECIFICATIONS

Power in Watts	240 Wp
Open circuit Voltage(Voc), Volts	36
Short Circuit Voltage(Isc) , Amps	8.8
Maximum Voltage (Vmpp), Volts	29
Maximum Current (Impp),Amps	8.25
Maximum Power at STC, Wp	240
Maximum System Voltage, Volts	1000

MECHANICAL SPECIFICATIONS

Length	1645 mm
Width	995 mm
Height	35 mm
Weight	20
Junction Box	IP 65/4T
Cables and Connectors	MC4, 4 Sq.mm, 1000 mm
Application Class	CLASS A (Safety Class II)
Front Cover	High Transmission, 3.2 mm Tempered glass, Low Iron
Number of Cells	60
Type of Cells	Multi Crystalline
Front face	Tempered glass
Frame	Anodized Aluminum

TEMPERATURE COEFFICIENTS (Tc)

Tc of Open Circuit Voltage -0.35 % per degree C

Tc of Short Circuit Voltage 0.05% per deg C

Tc of Power -0.47 % per deg C

NOCT 47 +/- 2 degree C

III EARTHING AND SURGE PROTECTIONS

- (i) The array structure of the PV modules shall be grounded properly using adequate numbers of earthing pits. All metal casing/ shielding of the plant shall be thoroughly grounded to ensure safety of the power plant.
- (ii) The SPV power plant shall be provided with lightning & over voltage protection. The source of over voltage can be lightning, atmosphere disturbance etc.

IV MECHANICAL COMPONENTS

- (i) Metallic frame structure of galvanized steel with stands to be fixed on the roof of the building to hold the SPV module (s) one feet above roof level.. All hardware, nuts, bolts should be cadmium passivated.

V OTHER FEATURES

- (i) The PV module (s) will be warranted for a minimum period of 5 years from the date of supply and the solar PV power plant will be warranted for a period of 5 years from the date of supply.
- (ii) An Operation, Instruction and Maintenance Manual in English should be provided with the system. The following minimum details must be provided in the Manual
 - (a) About Photovoltaics
 - (b) About solar PV system – its components and expected performance. (c) About PV module
 - (d) Clear instructions about mounting of PV module (s) (e) About electronics
 - (f) DO's and DONT's
 - (g) Clear instructions on regular maintenance and trouble shooting of solar power plant.
 - (h) Name and address of the person or service center to be contacted in case of failure or complaint.

VI The details of the Power Conditioning Unit are as given below:

GRID INTERACTIVE INVERTER :

Technical Data	21.6 Kwp Inverter
DC Data.	
Max PV Power	21.6
MPPT range V	480 to 850
DC Start Voltage	350
Max. DC Voltage, V	1000
Max. DC Current, A	41
MPP tracker.	1 1
DC Disconnection switch.	Inbuilt Inbuilt
Over Voltage protection.	Inbuilt Inbuilt

AC Data.

Rated AC Power, KVA 19.2

Max. AC active power, Kw 19.2

AC Output Voltage 400 V 50 Hz 3 ph. 4 wire.

Rated P.F. 1

Max. AC Current A 29
 THD % Less than 2 Less than 2
 Max. Efficiency % 98.2
 Feed-in starting at W 20

Cooling. Natural convection
 Ambient Temperature, Deg. C -25 to + 55
 Noise, dBA Less than 45 db
 Interface Ethernet & RS485
 Type of Protection IP 65

Other important features

Electrical safety Protections	
a)General	<p>The PCU shall include appropriate self protective and self diagnostic feature to protect itself and the PV array from damage in the event of PCU component failure or from parameters beyond the PCU’s safe operating range due to internal or external causes. The self-protective features shall not allow signals from the PCU front panel to cause the PCU to be operated in a manner which may be unsafe or damaging. Faults due to malfunctioning within the PCU, including commutation failure, shall be cleared by the PCU protective devices and not by the existing site utility grid service circuit breaker.</p>
b) Over/under voltage	<p>a)Mains (Grid) over-under voltage and frequency protection. b) Over voltage protection against atmospheric lightning c) Protection against voltage fluctuations in the grid itself and internal faults in the power conditioner, operational errors and switching transients.</p>
c) Fool Proof Protection d)	<p>Against ISLANDING. Note : MOV type surge arrestors on AC and DC terminals for over voltage protection from lightning-induced surges</p>
Accidental open circuit e)	<p>Full protection against accidental open circuit and reverse polarity at the input.</p>
Internal Faults	<p>Inbuilt protection for internal faults including excess temperature, commutation failure, overload and cooling fan failure is obligatory</p>

<p>g) Earth Fault Supervision</p> <p>h) Disconnection & Islanding</p> <p>i) Automatic reconnection after the Grid failure is resorted.</p>	<p>An integrated earth fault detection device is provided to detect eventual earth fault on DC side and shall send message to the supervisory system</p> <p>Disconnection of the PV generator in the event of loss of the main grid supply is achieved by in built protection within the power conditioner. This may be achieved through rate of change of current, phase angle, unbalanced voltages, or reactive load variants.</p> <p>Operation outside the limits of power quality as described in technical data sheet shall cause the power conditioner to disconnect the grid. Additional parameters requiring automatic disconnection are:</p> <ul style="list-style-type: none"> • Neutral voltage displacement • Over current • Earth fault & • Reverse power <p>In each of the above cases, tripping time shall be less than 0.5 seconds. Response time in case of grid failure due to switch off or failure based shutdown should be well within 60 seconds.</p> <p>PCU has facility to reconnect the Inverter automatically to the grid following restoration of grid, subsequent to grid failure condition.</p>
Array Tracking	Included authentic tracking of the solar array's maximum power operation voltage (MPPT)
Array Ground fault	Provided
Operator interface	LCD and keypad operator interface, Menu driven.
Fault conditions	Automatic fault conditions reset for all parameters like voltage, frequency and /or black out.
Control Logic Failure detection	via watch dog timers.
Parameter access	All parameters accessible through an industry standard communication link.
DC-AC conversion efficiency	93% for output ranging from 20% to full load Idling current at no load shall not exceed 2% of the full load current.
DC isolation	Provided at the output by means of a suitable isolating transformer
Parallel operation with Grid	Provided & capable of interrupting line-to-line fault currents and line to ground fault currents.
Unbalanced output load	PCU is able to withstand an unbalanced output load to the extent of 30%.

Shut down / Standby mode	<p>Shut down / standby mode with its contact open under the following conditions before attempting an automatic restart after an appropriate time delay; in sufficient solar power output.</p> <p>a) Insufficient solar power input : When the power available from the PV array is insufficient to supply the losses of the PCU, the PCU shall go to a standby/shutdown mode. The PCU control shall prevent excessive cycling during rightly shut down or extended periods of insufficient solar radiation.</p> <p>b) Utility -Grid over or under voltage : The PCU shall restart after an over or under voltage shutdown when the utility grid voltage has returned to within limits for a minimum of two minutes.</p> <p>c) Utility-Grid over or under frequency : The PCU shall restart after an over or under frequency shutdown when the utility grid voltage has returned to the within limits for minimum of two minutes.</p>
PCU generated harmonics	Shall not exceed a total harmonic current distortion of 5%, a single frequency current distortion of 3%, and single frequency current distortion of 1%, when the first through the fiftieth integer harmonics of 50Hz are considered.
Circuit separation	High voltage & power circuits separated from low voltage & control circuits.
Internal wiring	Standard Cu wiring, with flame resistant insulation .
Cabling practice	<p>a) Cables :PVC Cu cables as per relevant international Standards)</p> <p>b) Cable connections : suitable terminations</p> <p>c) PVC channel with covers to house the cables.</p>
High voltage test	PCU with stand high voltage test of 2000 Vrms between either the input or the output terminals and the cabinet (chassis).
EMI (Electromagnetic interface)	PCU shall not produce EMI which cause malfunctioning of electronic & electrical instruments including communication equipments which are located within the facility in which the PCU is housed.
Display on front panel & indicators	<p>a) instantaneous PCU ac power output and the DC voltage current and power input</p> <p>b) Accuracy of display : 3% of full scale factor or better</p> <p>c) Display visible from outside the PCU enclosure.</p> <p>d) Operational status of the PCU, alarms, trouble indicators and AC and DC disconnect switch positions shall also be communicated by appropriate messages or indicator lights on the front cover of the PCU enclosure.</p>
Emergency OFF	Emergency OFF button is located at an appropriate position on the unit
Grounding	PCU includes ground lugs for equipment and PV array groundings. The DC circuit ground is a solid single point ground

	connection.
Exposed surfaces	Exposed surfaces of ferrous parts are thoroughly cleaned, primed, and painted and suitably protected to survive a nominal 30 years design life of the unit.
Factory Testing	<p>a) Tested to demonstrate operation of its control system and the ability to be automatically synchronized and connected in parallel with a utility service, prior to its shipment.</p> <p>b) Operation of all controls, protective and instrumentation circuits demonstrated by direct test if feasible or by simulation operation conditions for all parameters that can not be directly tested.</p> <p>c) Demonstration of utility service interface protection circuits and functions, including calibration and functional trip tests of faults and isolation protection equipment.</p> <p>d) Operation of start up , disconnect and shutdown controls also to be tested and demonstrated, stable operation of the PCU and response to control signals shall also be tested and demonstrated.</p> <p>e) Factory testing include measurement of phase currents, efficiencies, harmonic content and power factor. All tests shall be performed 25, 50, 75 and 100% of the rated nominal power.</p> <p>f) Factory test report (FTR) : Should be supplied with the unit after all tests. The FTR shall include detailed description of all parameters tested qualified and warranted.</p>
Operating Modes	<p>a) Night or sleep mode : where the Inverter is almost completely turned off, with just the timer and control system still in operation, losses < 2 W per 5 kW</p> <p>b) Standby mode: where the control system continuously monitors the output of the solar generator until pre-set value is exceeded (typically 10 W).</p> <p>Operational of MPP tracking mode: the control system continuously adjust the voltage of the generator to optimize the power available. The power conditioner shall automatically re- enter standby mode input power reduces below the standby mode threshold. Front panel display providing the status of the PCU, including AC power output & DC current voltage and power input, and unit fault indication.</p>
Codes & Standards	<p>The quality of equipment supplied shall be controlled to meet the guidelines for engineering design included in the standards and codes listed in the relevant ISI and other standards, such as :</p> <p>a) IEEE 928: Recommended Criteria for terrestrial PV power systems.</p> <p>b) IEEE 929 Recommended practice for utility interface of residential and intermediate PV systems.</p> <p>c) IEEE 519 Guide for harmonic control and reactive</p>

	<p>compensation of Static Power Controllers.</p> <p>d) National Electrical NFPA 70-1990 (USA) or equipment national standard.</p> <p>e) National Electrical Safety Code ANSI C2 (USA) or equipment national standard.</p>
Inverter / Array Size ratio	The ratio of the Inverter continuous power rating and the array peak power rating shall be between 80 to 90% or any other value found suitable. This is because better overall annual yield can be obtained by allowing the Inverter to operate for longer periods closer to optimal efficiency. Inverter efficiency should exceed 90% except when operating at less than 10% of maximum output.
MPPT	Maximum power point tracker is integrated in the power conditioner unit to maximize energy drawn from the array. The MPPT shall be micro processor based to minimize power losses. The MPPT shall have provision (manual setting) for constant voltage operation.
Metering	<p>a) PV array energy production: Meter to log the actual amount of AC energy generated / consumed by the PV system shall have to be provided.</p> <p>b) Solar irradiance :</p> <p>An integrating pyranometer (Class II or better) to be provided, with the sensor mounted in the plane of the array. Readout shall be integrated with data logging,</p>
Data Logging System	<p>a) All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and can be read on the digital front panel at any time the current values, previous values for up to a month and the average values. The following parameters shall be accessible via the operating interface display :</p> <p>AC voltage</p> <p>AC output current</p> <p>Output power</p> <p>DC input voltage</p> <p>DC input current</p> <p>Time active</p> <p>Time disabled</p> <p>Time Idle</p> <p>temperatures (C)</p> <p>Converter status</p> <p>Protective function limits (VIZ-AC over voltage, AC under voltage, Over frequency, under frequency, ground fault, PV starting voltage, PV stopping voltage, over voltage delay, under voltage delay over frequency, ground fault delay, PV starting delay, PV stopping delay.</p>

CABLES & ACCESSORIES

All the cables which shall be supplied shall be conforming to IS 1554 / 694 Part 1 of 1988 & shall be of 650 V/ 1.1 kV grade as per requirement. Only PVC copper cables shall be used. The size of the cables between array interconnections, array to junction boxes, junction boxes to PCU etc shall be so selected to keep the voltage drop and losses to the minimum.

DOCUMENTATION

Two sets of installation manual / user manual shall be supplied along with the each power plant. The manual shall include complete system details such as array lay out, schematic of the system, inverter details, working principle etc. Step by step maintenance and trouble shooting procedures shall be given in the manuals.

SR. NO.	DESCRIPTION	TECH. DETAIL
1	TL 18 Watt	
	Input Voltage	90-300V AC – 50 Hz
	Frequency	50/60 Hz
	Consumption Power	18 Watt
	Colour Temp	3000K – 6500 K
	Luminous Intensity	1530 lm 1750 lm
	Life span	50,000 Hrs
	CRI	>Ra 85
	Size (Length)	1200 mm
	Operating Temp	-20 deg ~ + 50 deg
2	LED Bulb	
	Input Power	8 Watt
	Input Voltage	90-300V AC – 50 Hz
	Power Factor	>0.95
	Colour Temp	4500k-6500k
	CRI	>85
	Beam Angle	170 Deg
	Operating Temperature	-20deg~60 deg
3	Down Lighter	
	Power Consumption	12 Watt
	Input Voltage	90-300V AC – 50 Hz
	Power Factor	0.95
	Colour Temp	3000k – 6500k
	CRI	>85
	Beam Angle	150 Deg
	Luminous Intensity	1260 lm
	Finish	Powder coated
	Housing	Diacast Aluminum
	Operating Temp	-20 deg ~ +50 deg
4	LED Panel	
	Power Consumption	45 Watt
	Input Voltage	90-300V AC – 50 Hz
	Power factor	0.9
	Life span	50,000 Hrs
	Colour Temp	3000k 6500k
	Luminous Intensity	3350lm 3600 lm
	CRI	>Ra85
	Operating Temp	-20deg~+50deg
SR. NO.	DESCRIPTION	TECH. DETAIL
5	Street Light	
	Input Voltage	90-300V AC – 50 Hz
	Power Consumption	24 Watt
	Color Temp	3000k 6500k
	Luminous Intensity	1900lm
	Ingress Protection	IP 66

Appendix I

FORMAT FOR WARRANTY CARD TO BE SUPPLIED WITH EACH SOLAR PV SYSTEM

1. Name & Address of
The Bidder/Bidder of the System
2. Name & Address of Purchasing Agency
3. Date of supply of the system
4. Details of PV Module (s) supplied in the
System Make (Name of the Bidder)
Model
Serial No(s)
Wattage of the PV Module (s) under STC
Warranty valid up to
5. Details of Battery: Not Applicable
System Make (Name of the Bidder)
Model
Batch/Serial No(s)
Rated V & AH capacity at C/20 or C/10 rate at 20 C
Warranty valid up to
6. Details of Electronics & other BOS items.
System Make (Name of the Bidder)
Model
Serial No(s) Warranty
valid up to
7. Designation & Address of the person to be
Contacted for claiming Warranty obligations.

(Signature)
Name & Designation
Name & Address of the Bidder/bidder
(SEAL)

Place & Date:

(During the warranty period State Agencies/users reserves the right to cross check the performance of the systems with the minimum performance levels specified in the specifications).

6.0 Details of similar work experience in last three yearsAnnexure- I

(To be completely filled by the tenderer)

Sr. No.	Name of the Company with full address, phone, fax and name of contact person	Work Description	Ref. & date of the order	Work Order Value	Details of order & its configuration

- Copies of MAJOR Work orders along with Work completion certificates should be attached with this information.
 - If necessary, separate sheet may be used to submit the information.

List of Technical staff available with the company for execution of work
(To be completely filled by the tenderer)

Annexure-II

Sr. No.	Name	Qualification	Additional Certification, if any	Total Experience, no. of years	Remarks

- Copies of Resumes and appropriate certifications should be attached with this information.
 - If necessary, separate sheet may be used to submit the information.

QUARTERLY MAINTENANCE & SERVICING REPORT

1. DETAILS OF SOLAR PHOTOVOLTAIC SYSTEM INSTALLED

- 1. Supplied by :
- 2. Date of installation :
- 3. Servicing period: From to

2. USER PROFILE

- 1. Name and address of User:

3. TECHNICAL DETAILS

- 1. Module Capacity, make and serial number:

4. CHECK OF THE PRODUCT

- 1. Correct inclination and orientation of SPV panel:
- 2. Cleaning of dust from SPV panel :
- 3. Interconnection of modules, charge controller, battery etc.:
- 4. Fuse of charge controller, PCU:
- 5. PCU Reading of power generation:

5. DIFFICULTIES IN OPERATION/ PROBLEM FACED BY USER:

6. DIAGNOSIS DETAILS/ REPAIR ACTION:

7. DATE ON WHICH SYSTEM WAS LAST ATTENDED:

8. REMARKS:

User Name & Signature
Date:

Technician's Name & Signature
(with rubber stamp)

List of Plant and Machinery
(To be completely filled by the tenderer)

For manufacturing of Solar PV panels.

S. No.	Name of equipment	Date of purchase	Date of calibration	Utility