RFP DOCUMENT No.
GIPCL/ RTS/EPC/130 KW(AC)/2019

21st NOV. 2019

BID FOR DESIGN, ENGINEERING, SUPPLY & PROCUREMENT, ERECTION, TESTING AND COMMISSIONING OF GRID-CONNECTED PHOTOVOLTAIC ROOFTOP SOLAR PLANTS OF 2x50 KW(AC) + 1x20 KW(AC) AT GIPCL VADODARA COMPLEX AND 1x10 KW(AC) AT GIPCL HOUSE (MD RESIDENCE) NEAR GIPCL CIRCLE, VADODARA, IN THE STATE OF GUJARAT

Issued by

Gujarat Industries Power Company Limited (GIPCL)

GIPCL CORPORATE OFFICE, PO: PETROCHEMICAL-391 346
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GUJARAT INDUSTRIES POWER COMPANY LIMITED

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SECTION-1

NOTICE INVITING TENDER (NIT)

"Bid for Design, Engineering, Supply & Procurement, Erection, Testing and Commissioning of Grid-Connected Photovoltaic Rooftop Solar Plants of total capacity 130 KW(AC) comprising of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara, and 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, in the state of Gujarat.

Gujarat Industries Power Company Limited (GIPCL) invites interested parties to participate in this Request for Proposal (this **"RFP or the "Tender Documents" or the "Tender")** for bidding and selection process for the appointment of Contractor for Design, Engineering, Supply & Procurement, Erection, Testing and Commissioning of Grid-Connected Photovoltaic Roof-Top Solar Plants of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL, Vadodara Complex and 1x10 KW(AC) at GIPCL House (MD Residence), near GIPCL Circle, Sama Road, Vadodara in the State of Gujarat (the **"Project"**).

Tender Documents may be downloaded from Web site https://www.nprocure.com or https://gipcl.nprocure.com (For view, download and on-line submission) and GIPCL website htpp://www.gipcl.com (For view & download only.) Tender fee & EMD shall be paid along with submission of Tender Documents. All the relevant documents of Tender shall be submitted physically by **Registered Post A.D. or Speed Post or by Hand Delivery** addressed to: **Shri S N Purohit, General Manager (BD & BO) Gujarat Industries Power Company Limited, PO:Petrochemical-391346, Dist.: Vadodara, Gujarat**, super scribing the envelope with Tender No. and Due Date. "NO COURIER SERVICE" shall be considered for submission of Tender.

GUJARAT INDUSTRIES POWER COMPANY LIMITED
PO: PETROCHEMICAL – 391 346, DIST. VADODARA, GUJARAT, INDIA.

Request for Proposal (RFP)

Ref: GIPCL/RTS/EPC/130 KW(AC)/2019 Date: 21/11/2019

To,
Prospective Bidders

Sub: Tender No. GIPCL/RTS/EPC/130 KW(AC)/2019 for implementation of Grid connected Photovoltaic Roof Top Solar Projects of total capacity of 130 KW(AC) comprising of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL, Vadodara Complex and 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara on EPC basis in the State of Gujarat.

Dear Sir,
Gujarat Industries Power Company Limited (GIPCL) invites bids from prospective Bidders having required capabilities, experience, proven track record and sound financials as per the criteria laid down in this RFP for the subject item under "Two-Part Bid System" complete in accordance with the following details and terms & conditions as per enclosed RFP Document for implementation of 130 KW (AC) Grid Connected Photovoltaic Roof Top Solar Plants on EPC basis as per following details:-

1.1 Brief Details:

Table A

Sr. No	Description of Items	Particulars
1.	Scope of Work	Engineering, Procurement and Construction(EPC) Contract for Design, Engineering, Procurement, Supply, Erection, Testing and Commissioning of Grid Connected Photovoltaic Roof Top Solar Plants of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL, Vadodara Complex and 1x10 KW(AC) at GIPCL House (MD Residence), near GIPCL Circle, Sama Road, Vadodara on EPC basis in the State of Gujarat.
2.	Completion Schedule	4 (Four) Months from the date of issue of LoI.
3.	Mode of Tendering	Open Competitive bidding in Single Stage Two Part.

4.	Tender Fee (Non-refundable)	Rs. 2000 (Rupees Two Thousand only) in the form of Demand Draft in favour of "Gujarat Industries Power Company Limited" payable at Vadodara, Gujarat
5.	Earnest Money Deposit (EMD)	Rs. 60,000/-(Rupees Sixty Thousand only) in the form of DD/BG, Valid for 120 days from the last date of submission of Bid.
6.	Date and Time of Pre-bid Meeting and Site Visit	Date: 28/11/2019 Time: 10:00 HRS
7.	Venue for Pre-Bid Meeting	GIPCL Corporate Office at PO: Petrochemical - 391346, Dist. Vadodara, Gujarat, India OR as notified by GIPCL.
8.	Mode of Submission of Bids	**Part-I (Techno-commercial Bid)** shall be submitted in Physical form in a separate sealed envelope super scribed with "Part-I: Techno- commercial Bid" as well as Tender No. and Due Date. EMD and Tender Fees shall be submitted in a separate sealed envelope super scribed with "EMD and Tender Fees" as well as Tender No. and Due Date. The above 2 envelopes shall be put in one common sealed envelope super scribed with Tender No. and Due Date and submitted to Bid submission address mentioned below.
		Part-II (Price Bid) is STRICTLY TO BE SUBMITTED ONLINE on or before due date and time to https://www.nprocure.com in line with Instructions to Bidders as per RFP, (n) procure guidelines and instructions and subsequent clarification, amendment issued thereof if any in this regard. Bid submitted with Physical Price Bids Envelope shall become liable for rejection.
9.	Last Date (Due Date) and Time for Online bid Submission (Techno-Commercial Bid & Price Bid)	Date: 12/12/2019 Time: 17:00 hours (IST) On N-Procure portal for Bid Submission.

10.	Last Date (Due Date) and Venue for Submission of Techno commercial Physical Bid (Part – I)	Date: 13/12/2019 Time: 14:00 hours (IST) Venue: GIPCL Corporate Office, PO: Petrochemical - 391 346, Dist. Vadodara, Gujarat
11.	Date of Opening of Techno commercial Bid (Part-I)	(Internal opening by GIPCL)
12.	Opening of Price Bid (Part-II)	Will be decided by GIPCL and will be intimated to Qualified Bidders.
13.	E-Reverse Auction	Will be informed by GIPCL to all qualified Bidders
14.	Bid Submission Address and Contact person for queries	Mr. S N Purohit General Manager (BD & BO) Gujarat Industries Power Company Limited PO:Petrochemical-391346, Dist.: Vadodara, Gujarat, India Tel.:+91-265-2230185 /2232768/2213 Fax:+91-265-2230029 Email: snpurohit@gipcl.com psgoyal@gipcl.com
15.	Technical Specification	As given in Section- 3 Scope of Work
16.	Location of Project	a) 2x50 KW(AC) + 1x20 at GIPCL Vadodara Complex, P.O Petrochemical, Dist. Vadodara, Gujarat b) 1x10 KW(AC) at GIPCL House (MD Residence), near GIPCL Circle, Sama Road, Vadodara, Gujarat
17.	Currency of Offer	Quoted Price should be in Indian Rupees (INR) Only.
18.	Payment Terms	As per details given in this tender.

19.	Security cum Performance Bank Guarantee (PBG) for Project execution	The Successful Bidder shall submit Security cum Performance Bank Guarantee (PBG) for an amount equivalent to 10% of EPC Contract Price, as per details given in this tender. The validity period of PBG should be for a total period up to 18 months from the date of LoI or till the date of successful completion of one year from the date of successful completion of OAT whichever is later; if required, the PBG shall have to be extended for further 3 months beyond the due date of successful completion of 1 Year.
20.	Evaluation of Bids	Evaluation of Bids of qualified Bidders shall be done as per Clause 2.3 of Section – 2 (Instructions to Bidders).
21.	Validity of Offer	Offers shall be valid for a period of 120 days from bid submission due date.
22.	Quotation to be on 'Firm' price basis	Prices quoted as per Price Schedule of Bid Document by the bidders shall remain 'Firm' during the bidder's Performance of the contract and not subject to variation on any account. The Offer submitted with variable price will be treated as non-responsive and the same shall be rejected.
23.	Taxes, duties, levies etc.	The price quoted shall be inclusive of all applicable taxes, duties, levies as applicable (as per the format of the Financial Proposal), which shall be paid on production of documentary evidences for the same. Bidders shall quote the rates as well as all taxes and duties based on the concessional exemption that can be availed by the Bidder. GIPCL shall not be responsible for any liability on account of changes in taxes / duties / levies in respect of this contract after the schedule project completion date.
24.	Queries regarding Pre- Bid meeting	Any queries regarding pre-bid meeting may be forwarded to Contact Person of GIPCL at least three days prior to the Pre-Bid meeting.

DISCLAIMER:

Though adequate care has been taken while preparing the RFP document, the Bidders shall satisfy themselves that the document is complete in all respects. Intimation of any discrepancy shall be given to this office immediately. If no intimation is received from any Bidder within twenty (20) days from the date of notification of RFP/Issue of the RFP documents, it shall be considered that the RFP document is complete in all respects and has been received by the Bidder.

Gujarat Industries power company Ltd. (GIPCL) reserves the right to modify, amend or supplement this RFP document including all formats and Annexure.

While this RFP has been prepared in good faith, neither GIPCL nor their employees or advisors make any representation or warranty, express or implied, or accept any responsibility or liability, whatsoever, in respect of any statements or omissions herein, or the accuracy, completeness or reliability of information, and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this RFP, even if any loss or damage is caused by any act or omission on their part.

1 INTRODUCTION

1.1 About the Company:

GIPCL (the "Company") was incorporated in 1985 as Public Limited Company and engaged in the business of Electrical Power Generation. The total present Installed capacity is 1084.4 MW comprsing of Gas Based &, Lignite based Thermal Plants, Wind power and Solar power projects. The company is having its registered office at P.O. Petrochemical-391346, Dist. Vadodara, Gujarat.

The Company commissioned first power project, a 145 MW gas based Combined Cycle Power Plant in February, 1992 at Vadodara. The Company expanded its capacity and commissioned 165 MW Naphtha & Gas based Combined Cycle Power Plant at Vadodara in November, 1997 as Independent Power Producer (IPP) with Power Purchase Agreement (PPA) with GUVNL.

GIPCL commissioned 250 MW (SLPP Phase-I : 2x125 MW) Lignite based Power Plant at NaniNaroli, District Surat in November, 1999 as Independent Power Producer (IPP) with Power Purchase Agreement (PPA) with GUVNL. The Company also has its own Captive Lignite Mines at Vastan, Mangrol&Valia for Surat Lignite Power Plant. Further, SLPP Phase-II: 2 x 125 MW has been commissioned in April 2010.

GIPCL has commissioned 112.4 MW Wind Power Projects in the State of Gujarat.

GIPCL is in the business of solar power since 2012 and 5 MW photovoltaic Grid connected Solar Power Plant commissioned at Vastan Mines of Surat Lignite Power Station in January 2012.GIPCL has also commissioned 1 MW Distributed Solar Pilot Project at two locations, (i) Village: Amrol, Anand and (ii) Village: Vastan, Taluka: Mangrol in the month of April-2016.

GIPCL has commissioned 2x40 MW (AC) Solar PV Project in the month of August-2017 and 75 MW (AC) Solar PV Power Project in the month of June-2019 at Gujarat Solar Park, Charanka. Further company is executing another 100 MW Solar Project at Raghanesda, Dist Banaskantha, Gujarat.

For detailed profile of company and past financial results, bidders may visit our website: www.gipcl.com.

1.2 Brief about Roof Top Solar Projects:

Gujarat Industries Power Company Limited (hereinafter called "GIPCL"), invites bids from the eligible bidders to participate in the Request for proposal (RFP) for site survey, Design, Engineering, Supply & Procurement, Erection, Testing and Commissioning including warranty of Grid-Connected Photovoltaic Rooftop Solar Plants of total capacity 130 KW(AC) comprising of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara and 1x10 KW(AC) at GIPCL House (MD Residence), near GIPCL Circle, Sama Road, Vadodara, in the state of Gujarat.

The details of the facilities which the Company requires to be set up in the present instance and for which Bids are hereby invited are described in this Request for Proposal (RFP). The overall responsibility of complete Scope of Work rests with the Bidder.

For the implementation of above mentioned work, Bidders should submit their bid proposal online and offline complete in all aspect on or before last date of Bid Submission as mentioned on nprocure (https://www.nprocure.com).

Bidder shall submit bid proposal along with non-refundable Tender fee and EMD, complete in all respect as per the RFP documents. Techno-Commercial bids will be opened internally by GIPCL. Bid proposals received without the prescribed Tender fees and EMD will be out rightly rejected.

Bid documents which include Eligibility criteria, “Technical Specifications”, various conditions of contract, formats, etc. can be downloaded from nprocure (https://www.nprocure.com). It is mandatory to download official copy of RFP Document from nprocure to participate in the Tender. Any amendment(s) /corrigendum/ clarifications with respect to this Bid shall be uploaded on https://www.nprocure.com only. The Bidder should regularly follow up for any Amendment/ Corrigendum/ Clarification on the above website.

PART - II

INSTRUCTIONS

TO

BIDDERS (ITB)

2.1 Submission of Bids:

Bidders who wish to participate in this tender will have to procure or should have legally valid Digital Certificate (Class III) as per Information Technology Act-2000, using which they can sign their electronic bids. Bidders can procure the same from any of the license certifying Authority of India or can contact (n)code solutions-a division of GNFC Limited, who are licensed Certifying Authority by Government of India at address mentioned below

Bidder may go through the e-tendering instruction for online Bid participation through n- procure platform for further details and guidance for participation in the tendering process through e-tendering.

In case bidder needs any assistance in accessing / submission of on line bid / clarification or if training required for participating in online tender, they can contact the following office:
(n) Procure Cell, (n) code solutions-A division of GNFC Ltd.,
403, GNFC Info tower, S.G. Road, Bodakdev Ahmedabad – 380054 (Gujarat)
Toll Free: 1-800-419-4632 / 1-800-233-1010, Phone No. 079-26857315 / 316 /317,
Fax: 079-26857321 / 40007533, Email: nprocure@gnvfc.net

Bidder may visit https://www.nprocure.com/html/faq.asp for information regarding e-tendering registration process.

To participate in e-Reverse Auction, bidders have to create e-Auction USER ID on https://e-auction.nprocure.com/ and it is mandatory to submit the same along with physical Technical bid (In EMD cover); so that the bidder shall be allowed to participate the e-Reverse Auction.

Bid shall be submitted in two parts namely: Technical-cum-Commercial Bid and Price Bid as per following:

Part-I: Technical-cum-Commercial Bid with EMD and Tender Fees:

(1) This part contain un-priced Techno-commercial Bid along with EMD and Tender fee including complete technical information with all the required details and all the documents as stated in this RFP document. Bidder shall download and upload Technical-cum-Commercial bid (PDF Tender document & amendments) on n-procure with digital signature as a token of acceptance. The Technical-cum-Commercial bid shall also contain one copy of duly signed and stamped on each and every page of tender document and addenda, if any. Price Schedule format with prices kept blank shall be submitted as a token of acceptance of the same. Technical-cum-Commercial Bid: One Original Bid in Physical Form and One scanned soft copy (CD/DVD/Pen Drive) shall be submitted.

(2) **Technical-cum-Commercial Bid** in physical form shall be kept in a separate

sealed envelope **[Envelop (1)]** super scribed with "**Technical-cum-Commercial Bid**" along with Tender Number and Due Date.

(3) **Tender Fee & Earnest Money Deposit (EMD):** Tender fee shall be submitted in the form of Demand Draft (DD) only in favour of "Gujarat Industries Power Company Limited" payable at Vadodara, Gujarat. Earnest Money Deposit (EMD) shall be submitted in the form of DD/BG, valid for **120 days** from the due date of this tender. The Bank Guarantee shall be as per format given at **Annexure-5** and shall be drawn from any of the banks listed at **Annexure-8**. The EMD and Tender Fee shall be kept in a separate sealed envelope **[Envelop (2)]** super scribed with "**Earnest Money Deposit & Tender Fee**" along with Tender Number and Due Date.

NOTE:

(a) The EMD of the Successful bidder shall be returned after submission of the performance bank guarantee.

(b) The EMD of unsuccessful Bidder shall be returned as soon as the L o I is issued to the Successful Bidder.

(c) Any bid not accompanied with EMD and Tender Fee will be rejected.

(d) No interest shall be payable on EMD.

(e) The EMD will be forfeited if the Bidder (i) withdraws his Bid after acceptance or (ii) withdraws his Bid before the validity date of the Bid.

(4) Envelop (1) + Envelop (2) both shall be kept in another sealed Envelope super scribing following:

BID DOCUMENT – DO NOT OPEN Part – I Technical-cum-Commercial Bid with EMD & Tender Fees TENDER NO.: GIPCL/RTS/EPC/130 KW(AC)/2019

Part – I as above shall be submitted in physical form to the following address before due date and time:

Mr. S. N. Purohit
General Manager (BD & BO)
Gujarat Industries Power Company Limited
P.O Petrochemical,
Dist: Vadodara-391346, Gujarat, India.
Tel.:+91-265-2230185
Cell : +91-99090 35311
E-mail : snpurohit@gipcl.com

Part-II: Price Bid:

All Bidders kindly note that Price Bid must be submitted online only through e–tendering on n-procure portal at https://www.nprocure.com with valid digital signature certificate by authorized signatory and strictly as per GIPCL RFP format and Bid submission instructions only.

Note: The Bidder should also upload the scanned copies of all the above mentioned original documents as Bid-Annexure during Online Bid-Submission.

2.2 Bidder's Eligibility Criteria:

Bidders intending to participate in this tender shall fulfil the Eligibility Criteria as follows. Bids submitted without meeting any of below criteria shall be treated as non-responsive and disqualified. The Bidder shall be a Company incorporated in India under Company's Act 1956 or Company's Act 2013. A copy of certificate of incorporation shall be furnished along with the bid in support of above and shall meet all the eligibility criteria and requirements stipulated hereunder:-

2.2.1 Technical Criteria :

a) The Bidder shall have designed, engineered, procured, supplied, erected and commissioned Grid Connected Rooftop Solar Power Plant(s) as EPC Contractor of cumulative installed and commissioned capacity of 100 KW or above in India, out of which at least one single Rooftop solar PV plant should have been of 50 KW capacity or above.

b) The Bidder shall have qualified manpower with relevant design, engineering, procurement, supply, project execution expertise and experience for development of Roof Top solar PV power plant.

2.2.2 Financial Criteria:

a) The Bidder shall have excellent financial back ground with business in solar PV projects. The cumulative turnover of the Bidder, in the last three (3) financial years should not be less than Rs.50 lacs, and annual turnover in last audited financial year (FY 2018-19) should not be less than Rs. 20 Lacs.

b) The net worth for each of the last two audited financial year should be positive.

c) The Bidder shall not have been blacklisted/banned/de-listed/debarred from business by State/Central Govt. departments or Government Under takings or any organizations. Self-declaration in this regard should be submitted along with the techno-commercial bid as per the format (Annexure-9).

The Bidder shall submit the details as per the attached format in Appendix-3 with this RFP Document to fulfil the Bidder's Eligibility Criteria.

2.2.3 Other Criteria for Qualification:

i. The Tender of only those Bidders will be considered who will produce documentary proofs, self-attested to meet the following requirements: The Bidders to have GST No., valid Proof of Permanent EPF account No. and ESI registration No. (if applicable).

ii. The agency should have valid licenses under The **Contract Labour** (**Regulation** & **Abolition**) **Act**, 1970 & The **Contract Labour** (P & R) (**Gujarat**) **Rules** 1972 and amendment from time to time or should give an undertaking that he will get himself registered within one month if work is allotted to him and if applicable as per prevailing labour laws

iii. The experience list shall include only projects executed by Bidder himself as a turnkey contractor which shall include entire Engineering, Procurement, Supply & Installation and not as a sub-contractor. The list of project executed shall clearly mention name of the technology partner / licensee agreement company and whether the same is valid as on date with date of expiry.

iv. The Bidder shall ensure that all the information, facts & figures, data provided in the bid are accurate and correct. GIPCL reserves the right to confirm / verify any data or information through their own sources. GIPCL also may contact directly the references given for the project executed and may also visit the site, manufacturing facilities & sub-vendors works etc., physically to as certain capabilities of the applicant, if so desire at their own cost. Bidder may have to facilitate GIPCL for any such visit.

v. The Bidder shall furnish documentary evidence by way of copies of Contract / Purchase Order, Completion Certificate or any other equivalent document, Audited Balance Sheet and Profit & Loss Account etc., along with the Bid to establish experience / track record and financial capabilities meeting Bid Evaluation Criteria.

vi. The Bidder or its Proprietor / Partner(s) / Director(s) of the Firm should not have been convicted by a Court of Law for an offence involving moral turpitude in relation to business dealings during the past seven (7) years.

vii. GIPCL shall also take into account past experience of Project execution by Bidder for GIPCL or other reputed developers while carrying out overall due diligence of the proposal and evaluating Bidder in totality to take final call on his selection on following criteria. GIPCL decision regarding the same shall be final &binding to the bidder.

viii. **Bidder should not have executed any project(s) making inordinate delay beyond the scheduled completion period.**

ix. GIPCL also reserves right to reject or disqualify any bidder at any stage considering its overall performance in past project (s) executed for GIPCL based on reasonable grounds/ reasons for such rejection/disqualification. GIPCL shall be under no obligation to inform the affected Applicants of the rejection and / or ground for rejection.

The Bidder should meet all the above eligibility criteria as on the bid due date. The bids of only those bidders, who meet the Bidder's Eligibility Criteria, will be considered for further evaluation.

Notwithstanding anything stated above GIPCL reserves the right to verify all statements/information submitted to confirm the Bidders claim on experience and to assess the Bidders capability and capacity to perform the contract should the circumstances warrant such an assessment in the overall interest of the project. GIPCL will do performance evaluation and necessary due diligence of the Bidders, based on feedback including Owner/user feedback, site visits of completed Projects & ongoing Projects to ascertain capacity and capability of the Bidder. GIPCL's decision in this regard shall be final and binding to the Bidder without any demur.

Further, notwithstanding the above, GIPCL reserves the right to accept or reject any BID and to annul the process of submission of BID and reject all or any BID, at any time without assigning any reason thereof. GIPCL shall not in any way be responsible or liable for any loss, damage or inconvenience caused to the bidders on account of the rejected bids. GIPCL shall be under no obligation to inform the respective bidder(s) of the rejection and / or ground for rejection

2.3 Bid Evaluation:

2.3.1 Evaluation of both Techno-Commercial (un-priced) bids and priced bids shall be done separately.

2.3.2 The total Bid Capacity is 130 KW(AC) i.e. (2x50 KW(AC) + 1x20 KW(AC) + 1x10 KW(AC)). Any bidder quoting the bid for partial capacity shall be out rightly rejected.

2.3.3 Techno-commercial evaluation of the un-priced bids shall be carried out first. This will be done on the basis of Eligibility Criteria as given in Clause 2.2 of this Section and the completeness and conformity of the bids with respect to RFP requirements.

2.3.4 The evaluation process comprises the following four steps:

Step I	Responsiveness check of Techno Commercial Bid
Step II	Evaluation of Bidder's fulfilment of Eligibility Criteria
Step III	Evaluation of Price Bid
Step IV	Successful Bidder selection

STEP-I Responsiveness Check of Techno Commercial Bid:

The Techno Commercial Bid submitted by Bidders shall be scrutinized to establish responsiveness to the requirements laid down in the RFP document, subject to any of the following may cause the Bid to be considered as "Non-responsive", at the sole discretion of GIPCL.

a. Bids that are incomplete, i.e. not accompanied by any of the applicable formats inter alia covering letter, Authority Letter, EMD, Tender fee, etc.
b. Bid not signed by authorized signatory and /or stamped in the manner indicated in this RFP.
c. Material inconsistencies in the information /documents submitted by the Bidder, affecting the Eligibility Criteria.
d. Information not submitted in the formats specified in this RFP.
e. Bid being conditional in nature.
f. Bid not received by the Bid deadline date and time.
g. Bid having Conflict of Interest.
h. More than one Member of a Bidding Company using the credentials of the same Parent Company /Affiliate.
i. Bidder makes any misrepresentation.

Each Bid shall be checked for compliance with the submission requirements set forth in this RFP before the evaluation of Bidder's fulfilment of Eligibility Criteria is taken up.

STEP-II Evaluation of Bidder's Fulfilment of Eligibility Criteria:

Evaluation of Bidder's Eligibility will be carried out based on the information furnished by the Bidder as per the prescribed Formats and related documentary evidence in support of meeting the Eligibility Criteria as specified in Clause 2.2. Non-availability of information and related documentary evidence for the satisfaction of Eligibility Criteria may cause the Bid non-responsive.

STEP-III Evaluation of Price Bid:

Price Bids of only Techno-Commercial acceptable bids shall be considered for further evaluation. The evaluation of Price Bid shall be carried out based on the information furnished in Financial Bid (Price Bid). The Price Bid submitted by the Bidders shall be scrutinized to ensure conformity with the RFP. Any Bid not meeting any of the requirements of this RFP may cause the Bid to be considered as "Non-responsive" at the sole decision of GIPCL.

STEP-IV Successful Bidders Selection:

a) Project cost for the entire project i.e 130 KW(AC) shall be ranked from the lowest to the highest.
b) Ranking Process shall be based on lowest quoted price in Rs/KWp.
c) Based on the price bid quoted by the bidders, GIPCL shall arrange the bids in the ascending order i.e. L1, L2, L3, (L1 being the lowest quote).
d) Lowest six (6) eligible bidders or 50% out of the total eligible Bidders (rounded to the next higher whole number), whichever is higher shall be invited for participation in e Reverse Auction.
e) Decrement value shall be Rs. 500/KWp and duration for the e-Reverse Auction shall be informed to the qualified bidders before start of e-Reverse Auction. The L1 Price shall be put up for starting e-Reverse Auction.
f) After e-Reverse Auction process, the Successful bidder for the entire 130 KW(AC) project shall be decided based on lowest (Rs/KWp) Price. The Successful L1 bidder after e-Reverse Auction shall have to submit the Price break-up in line with their quoted price bid within three (3) days.
g) The Letter(s) of Intent (LOI) shall be issued to the Successful Bidder selected as per the provisions of the RFP at sole discretion of GIPCL.
h) The Successful Bidder shall acknowledge the LOI and return duplicate copy with signature of the authorized signatory of the Successful Bidder to GIPCL within Ten (10) days of issue of LOI.
i) If the Successful Bidder, to whom the LOI has been issued, does not fulfil any of the conditions specified in Bid document, then GIPCL reserves the right to annul/cancel the award of the Letter of Intent of such Successful Bidder and may issue LOI to L2 bidder at sole discretion of GIPCL.

2.4 Validity:

The Bid shall be valid for **120 days** from the bid due date or extension if any without any change in the quoted price and all terms and conditions.

2.5 General Instructions:

2.5.1 Failure to furnish all the information as required under the bid documents or submission of a bid containing deviations from the contractual terms and conditions, specifications or requirements shall be treated and rejected as being non – responsive

2.5.2 Bidders are advised to submit offers strictly based on the terms and conditions and specifications contained in the bid documents. Bidder to sign "No Deviation Certificate" as per attached format "APPENDIX-4".

2.5.3 The Bidder must quote the prices in line with the formats (APPENDIX-6) provided in the document.

2.5.4 A single authorized representative of the Bidder should sign and affix seal on each page of the bid document. The Bidder shall furnish proof for authorization for signing the documents.

2.5.5 Bidders are advised to submit offers in accordance with the terms and conditions and specifications contained in the Tender document.

2.5.6 Date of issue of Letter of Intent (LOI) shall be considered as Zero date /Effective date of the Project.

2.5.7 The bidders shall be deemed to have examined the bid document, to have obtained his own information in all matters whatsoever that might affect carrying out the works in line with the scope of work specified elsewhere in the document at the offered rates and to have satisfied himself to the sufficiency of his bid. The bidder shall be deemed to know the scope, nature and magnitude of the works and requirement of materials, equipment, tools and labour involved, wage structures and as to what all works he has to complete in accordance with the bid documents irrespective of any defects, omissions or errors that may be found in the bid documents.

2.5.8 GIPCL reserves the right to amend, modify and/or cancel the tender process anytime, without assigning any reason and without any liability therefore.

2.6 Fraudulent Practices:

2.6.1 The Bidders may please note that the Owner shall not entertain any correspondence or queries on the status of the Bids received against this RFP. Bidders are advised not to depute any of their personnel or agents to visit the Owner’s office for making such inquiries.

2.6.1 Any effort by a Bidder to influence the Owner on the Bid evaluation, Bid comparison or Contract award decision may result in the rejection of the Bidder's Bid.

PART - III

SPECIAL CONDITION

OF

CONTRACTS

3.1 Starting Of Work:

GIPCL will ensure project site is available for starting the work by EPC Contractor immediately after issue of LOI. The Contractor shall be required to start the work within 07 (Seven) days from the date of issue of Letter of Intent (LoI) and shall thereof submit the detailed planning, project execution plan including manpower deputation.

3.2 Site Inspection & Basis of Bid:

The Bidder shall visit and inspect the site to study the actual working conditions, examine and obtain all information required and satisfy himself regarding matters such as access to site, communication, transport, the type and number of equipment and facilities required for the satisfactory completion of work, the quantity of various items of the work, the availability of local labour, availability and rates of material, local working conditions, uncertainties of weather, obstructions and hindrances that may arise, etc. which may affect the work or cost thereof, before submission of his Bid. The bidders shall examine the site of works and its surroundings and obtain for himself at his own responsibility all information that may be necessary for preparing the bid and entering into a contract. All costs and liabilities arising out of the site visit shall be at bidder's account. Ignorance of site conditions shall not be accepted by the Company as basis for any claim for compensation. The submission of a bid by the Bidder shall be construed as evidence that such an examination was made, any later claims/ disputes in regard.

3.3 Procurement of Materials:

3.4.1 The Contractor shall procure all necessary material required for Rooftop Solar projects work based on approved vendor list and arrange to store them properly. Test certificate in accordance with the specifications are to be furnished by the Contractor to the Owner for approval in respect of the materials procured by the Contractor.

3.4.2 The Contractor shall submit copy of the Purchase order /Work order given for various items/works for the said Solar Project(s). Further, GIPCL shall have right to verify /visit sub- vendor's works to ensure progress of manufacturing /works.

3.4 Rejection of Materials:

Owner's decision in regard to the quality of the material and workmanship will be final. The Contractors at its own cost and risk without any compensation shall immediately remove any material rejected by GIPCL.

3.5 Security cum Performance Bank Guarantee (PBG):

3.5.1 The Contractor shall furnish Performance Bank Guarantee (PBG) equivalent to **10%** (ten percent) of the contract Price / EPC Cost within two weeks after issuance date of LOI. The validity period of PBG should be for a minimum Period of 18 Months from the date of LOI.

3.5.2 In case Bidder fails to submit PBG within two weeks after issue of date of

LOI, GIPCL reserves the right to cancel LOI and to recover all cost and liability thereof from Bidder.

3.5.3 **The PBG** shall be submitted as per format **Annexure-6** and shall be obtained from the any of the Banks listed in **Annexure-8.**

3.5.4 The PBG shall be returned after successful completion of one year from the date of successful completion of Operational Acceptance test (OAT), if required the PBG shall have to be extended for further 3 months beyond the due date of successful completion of 1 year. No interest is payable on PBG amount.

3.5.5 The PBG shall be liable to be encashed wholly or partly at the sole discretion of the Owner, should the Contractor either fail to execute the work within the stipulated period or fail to fulfil the contractual obligations or fail to settle in full his dues to the Owner. In case of premature termination of the contract, the PBG will be encashed and the Owner will be at liberty to recover the loss suffered by it from the Contractor.

3.5.6 The Owner is empowered to recover from the PBG through invocation of PBG for any sum due and for any other sum that may be fixed by the Owner as being the amount or loss or losses or damages suffered by it due to delay in Performance and/or non-performance and / or partial performance of any of the conditions of the contract and / or non-performance of guarantee obligations.

3.6 Timeline:

3.6.1 The issue of date of LoI shall be considered as the Zero Date.

3.6.2 The entire Project 130 KW(AC) comprising of (2x50 KW(AC) + 1x20 KW(AC) + 1x10 KW(AC)) shall be completed in all aspects within 4 (Four) months from the date of issue of LoI to the entire satisfaction of the Owner.

3.6.3 Partial commissioning of individual rooftop solar projects i.e. (2x50 KW(AC) + 1x20 KW(AC) + 1x10 KW(AC)) shall not be allowed. Operational Acceptance Test (OAT) shall start only when full 130 KW (AC) (2x50 KW (AC) + 1x20 KW (AC) + 1x10 KW (AC)) capacities are commissioned by the Contractor.

3.6.4 Completion time is the essence of the Contract and the same shall be firm and binding. The Contractor shall complete commissioning of entire rooftop solar projects (130 KW(AC)) within 3 (Three) months on best effort basis.

3.7 Delay in Execution OR Failure to Supply:

3.7.1 Any delay in completion of the work shall attract liquidated damage/ penalty for late completion as per Liquidated Damage Clause 3.8 of this Tender.

3.7.2 If the Contractor fails to deliver the plant or fails to start the work within specified time frame after issue of LoI or fails to carry out the work as per agreed schedule or leaves the work site after partial execution of the work, GIPCL shall have the right to get the work done through any other agency at the risk and cost of the Contractor. Further to this, GIPCL may, without prejudice to the right of the Contractor to recover damages for breach of trust of the Contract, may impose penalties.

3.7.3 Notwithstanding anything contained in this tender document, bidders to note that Completion time of Project activities as per the prescribed timeline/schedule is the essence of the Contract. It is envisaged that EPC Contractor shall plan and achieve progress of the Project on or before the prescribed timeline/schedule.

In case slippage is observed in the progress of Project activities, as per agreed time schedule or failure by EPC Contractor, at any stage of the Contract, to perform the Contract diligently to fulfill his obligations as per the EPC Contract, GIPCL reserves the right to engage any other Contractor(s)/sub-contractor(s) at any time, at the risk and cost of the EPC Contractor to ensure completion of the Project activities in line with the agreed time schedule and GIPCL will also deduct Liquidated Damages (LD) arising out of any such delay, if any, as per the terms of this tender document or recover the costs, expenses, losses, damages incurred or suffered by GIPCL as per the recourse available under this tender document or any other law for the time being in force.

3.8 Compensation for Delay (Liquidated Damages) and Under Performance:

3.8.1 Delay in Commissioning of the entire Project:

Completion time is the essence of the Contract and the same shall be firm and binding.

The Bidder shall complete "commissioning" of Solar PV Project as per the date mentioned in Clause No. 3.6.4 (Best effort Schedule). For calculation of Liquidated Damages (LD), Project schedule shall be considered as 4 (Four) months. Project shall be completed in all aspects with full capacity within 3 (Three) months (best Effort basis) from the "Zero Date". However, LD shall be applicable after 4 (Four) months from the date of issue of LOI.

In case the EPC Works for entire 130 KW(AC) solar PV projects, (commissioning with full capacity) is not completed within the stipulated time period (i.e. 4 months from zero date) and the delay is not due to Force Majeure or due to GIPCL's default then the Contractor shall pay to the GIPCL compensation for delay subject to following:

a) **Delay up to 30 days**: Amount of Rs. 50/KW/day shall be deducted as penalty for the first 30 days of delay calculated on per day basis and proportionate to the capacity not commissioned.

b) **Delay of more than 30 days and up to 60 days**: Amount of Rs. 60/KW/day shall be deducted on per day basis and proportionate to the capacity not commissioned.

c) **Delay of more than 60 days:** Amount of Rs. 75/KW/day shall be deducted on per day basis and proportionate to the capacity not commissioned.

Maximum applicable Liquidated Damages: The upper ceiling for total liquidated damages for delay shall be maximum 10% of the EPC Contract

Price.

3.8.2 The said right of the GIPCL to levy damages on account of delay shall be without prejudice to and in addition to the right of the Company to get the concerned work done from a third party at the complete risk and cost of the Contractor.

3.8.3 **Underperformance:**

a) At the time of the Operational Acceptance Test, any shortfall in the Performance Ratio (PR) as determined through the Test Procedure in the Annexure-10: (Procedure for OAT) will attract imposition of Liquidated Damages.

b) For any shortfall in Performance Ratio (PR) below 75% by the bidder, a penalty of 1% of the EPC Contract Value (including taxes & duties) shall be levied. In case the PR tested as mentioned above is less than 75%, the Contractor shall make all necessary corrections in minimum possible time and again commence the above test within 15 days, so as to demonstrate the PR equal to or more than 75%. Each time the Contractor fails to demonstrate the requisite performance ratio the penalty of 1% of the EPC Contract Value (including taxes & duties) shall be levied. The penalty shall be deducted from pending payments/Performance Bank Guarantee and shall be over and above LD against delay.

3.9 Payment Terms:

GIPCL shall pay the Contractor in the following manner against achieving the respective milestones:

<u>Terms of payments:</u>

Sr. No.	Payment Milestones	Amount
1.	Advance Payment (10% of EPC Price excluding taxes & duties) against: a) Acceptance of LOI. b) Submission of Advance Bank Guarantee of equivalent amount. c) Submission of Performance Bank Guarantee (validity of minimum 18 months) - 10% of the total EPC Contract Price	10% of EPC Price excluding taxes & duties
2.	Supply of PV Modules, Supply of MMS, Supply of BOS	50% of EPC Price
3.	Completion of Erection & installation of PV Modules	10% of EPC Price
4.	Upon achieving Commissioning of the Plant	10% of EPC Price
5.	Upon Completion of all the Facilities and Successful Performance and Operational Acceptance Test	20% of EPC Price

3.10 Payment Procedure:

3.10.1 The Contractor shall submit the bill for claim in three copies with all supporting documents as per the Contract condition to GIPCL. After due verification and recommendation, GIPCL shall process verified bills for release of payment. Payments shall be released in 30 (Thirty) days by A/c payee cheque/NEFT/RTGS from date of submission of clear invoice.

3.10.2 In case Contractor fails to submit the invoice with all the required documents to process payments, GIPCL reserves the right to hold the payment of the Contractor against such bills.

3.11 Tests / Inspection at Works:

3.11.1 The Contractor shall offer following Test / Inspection to the Owner.

a) GIPCL may depute its Engineer or representative or hire any agency for Third-Party Inspection, for pre-dispatch inspection at the manufacturing facility of the Contractor all items under this RFP as per applicable standards, approved QAP and documents. Samples for testing shall be drawn randomly in presence of GIPCL/ inspecting agency from the lot offered for inspection. After Test/Inspection of the Items at factory, the Contractor has to submit the inspection & test reports to GIPCL for review. After review of the inspection & test reports, GIPCL will give dispatch clearance in writing. The Contractor shall not dispatch any item without dispatch clearance from GIPCL, in writing.

b) GIPCL may depute its Engineer or representative or third party inspection agency for inspection during manufacture and in assembled condition prior to dispatch in accordance with the standard practice / QAP of the manufacturer and applicable Standards, at no additional cost to GIPCL for demonstration and performing the test/inspection. The Contractor shall raise inspection call with internal test reports in advance for all items like PV Modules, MMS, cables, Inverters, earthing system, etc.

c) Upon delivery of the photovoltaic modules on site, they shall be sampled randomly and tested for performance through an approved testing agency assigned by GIPCL. The result of such testing agency shall be binding to both the parties and shall be considered final performance measurement report for the guarantee / warrantee conditions of this contract.

d) In case of underperformance or rejection of the PV Modules during above inspection, GIPCL shall notify the Contractor of such underperformance or rejection by email or in writing.

e) Consecutively, the Contractor shall immediately replace such PV modules by supplying a new PV modules of similar specification conforming to the required performance criteria and warranty to GIPCL within a period of 10 days from the date of intimation by email or written notice.

f) Upon receipt of the new PV module by the Company, the Contractor shall arrange to collect the rejected/defective photovoltaic module from site.

g) The cost of transportation of the PV modules from the supplier to the site of GIPCL, and return shall be borne by the Contractor.

h) If any item is not found conforming to standards during test / inspection, the same shall be replaced / rectified by Contractor without any cost to Owner and shall be re-offered for inspection.

i) The work is subject to inspection at all times and at all places by Owner. The Contractor shall carry out all instructions given during inspection and shall ensure that the work is carried out according to the relevant codes of practice.

j) Decision of the Company in regard to the quality of work and materials and performance to the specifications and drawings shall be final.

3.12 Mode of Execution:

3.12.1 All the work shall be executed on EPC basis in strict conformity with the provisions of the Contract documents explanatory detailed drawings, specifications and instructions by the Owner whether mentioned in the contract or not. The contractor shall be responsible for ensuring that works are executed in the most substantial, proper and workman like manner using the quality materials and labour throughout the job completion in strict accordance with the specifications and to the entire satisfaction of the Owner. Any discrepancy/ambiguity found during erection and commissioning at site, decision of GIPCL will be final.

3.12.2 Any minor item(s) not included in the schedule but required for completion of the work shall have to be carried out/supplied without any extra cost. Such works, not listed in the schedule of works but elaborately described to perform or to facilitate particular operation(s) required for completion of the projects shall deemed to have been included in the scope of this work and the Contractor shall supply, install the same without any extra cost.

3.13 Defect Liability Period:

3.13.1 For PV Modules, Guarantee period for Power Output and performance shall be 25 years from the date of commissioning of the Plant. PV Modules, defect liability period shall be 10 years for workmanship and latent defects from the date of commissioning of the Plant.

3.13.2 For PCU / Inverters & all balance of items for entire Project, defect liability period shall be 05 years from the date of Commissioning.

3.13.3 During defect liability period, the contractor shall remain liable to replace/repair immediately that becomes defective in the Plant, of its own manufacture or that of its Subcontractors, under the conditions provided for by the Contract under and arising solely from faulty design, materials or workmanship, provided such defective parts are not repairable at Site. After replacement the defective parts shall be returned to the Contractors works at the expense of the Contractor.

3.14 Guarantee / Warrantee:

3.14.1 PV modules used in grid connected Roof top Solar power plants must be warranted for peak output power at Standard Testing Condition (STC), which

shall not be less than 90% at the end of ten (10) years and not less than 80% at the end of twenty five (25) years. The first year degradation shall not be more than 3% of the PV Module capacity and in subsequent years it shall not be more than 0.7% per annum.

3.14.2 Any damage or defect that may arise or lie undiscovered at the time of issue of completion certificate, connected in any way with the equipment or materials supplied by him or in the workmanship, shall be rectified or replaced by the Contractor at his own expenses as deemed necessary by the Owner.

3.14.3 The Contractor shall transfer all the Guarantees/ Warrantees of equipments to the Owner of the project.

3.14.4 The Contractor shall ensure that the goods supplied under the Contract are new, unused and of most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

3.15 Insurance:

3.15.1 **Employees State Insurance Act:**

The Contractor agrees to and does hereby accept full and exclusive liability for compliance with all obligations imposed by the Employees State Insurance Act., 1948, and the contractor further agrees to defend, indemnify and hold Owner harmless form any liability of penalty which may be imposed by the Central, State or Local authority by the reason of any asserted violation by contractor or Sub-contractor of the Employee's State Insurance Act, 1948 and also from all claims, suits or proceeding that may be brought against the Owner arising under, growing out of or by reasons of the work provided for by this contract whether brought by employees of the contractor, by third parties or by Central or State Government authority or any political sub-division thereof.

The contractor agrees to fill in with the Employees State Insurance Corporation, the Declaration Forms and all forms which may be required in respect of the contractor's or sub- contractor's employees, as per Employees State Insurance Act. The contractor shall deduct and secure the agreement of the sub- contractor to deduct the employee's contribution as per the first schedule of the Employee's State Insurance Act from wages and affix the employee's contribution cards at wages payments intervals.

3.15.2 **Any other insurance required under Law or Regulations or by Owner:**

Contractor shall also carry and maintain any and all other insurance, which he may be required under any law or regulation from time to time. He shall also carry and maintain any other insurance, which may be required by the Owner.

3.15.3 **Workmen Compensation and Employees Liability Insurance:**

The Contractor shall take insurance for Workmen compensation and /or group personal accidents Insurance policy covering loss of human life and also covering the risks of damage to the third party/material/equipment/properties during execution of the Contract. Before commencement of the work, the Contractor will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of

the execution of the work or in carrying out the Contract. Pilferage, theft, burglary are also to be covered by the EPC Contractor.

3.15.4 **Marine cum Erection Insurance**:

The Contractor shall take suitable insurance cover under marine cum erection policy in respect of all the items to be transported and erected at the site till the completion of work. The charges for the same shall be borne by the contractor and the quoted price shall be inclusive of this cost. If the contractor fails to avail such insurance cover, then in the event of any eventuality whatsoever during the transit and erection, the damages shall be borne by the Contractor.

3.15.5 **Transit Insurance:**

In respect of all items to be transported by the Contractor to the site of work, the cost of transit insurance should be borne by the contractor and the quoted price shall be inclusive of this cost.

3.16 Handing Over –Taking Over After completion of Project:

3.16.1 The work shall be taken over by the Company (GIPCL) for total capacities of 130 KW(AC) (2x50 KW(AC) + 1x20 KW(AC) + 1x10 KW(AC)) Roof Top Solar projects upon successful completion of all tasks to be performed at Site(s) on equipment supplied, installed, erected and commissioned by the Contractor in accordance with provision of the Tender including completion of the pending points as per provision of the Tender.

3.16.2 After completion of Project work and successful commissioning, the Contractor shall submit the following for considering final payment for Project execution:

a) All as- Built Drawings.
b) Detailed Engineering Documents with detailed specification, schematic drawings, manuals for all deliverable items, Operation- Maintenance & Safety Instruction Manual and other information about the Roof top solar plants.
c) Bill of material.
d) Copies of all warranties/guarantees.

PART - IV

SCOPE OF WORK

&

TECHNICAL SPECIFICATIONS

4.1 General Scope of Work:

The broad Scope of the Work includes implementation of Grid Connected Photovoltaic Rooftop Solar Plants of total capacity 130 KW (AC) comprising of 2x50 KW(AC) + 1x20 KW (AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara and 1x10 KW (AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, in the state of Gujarat, along with the associated power evacuation system on EPC basis. The Work shall be executed in conformity with the relevant applicable latest standards, codes, rules/ordinances & regulations. The overall design & engineering of the plant shall be based on latest available technology and optimal usage of space to minimize ohmic losses and maximize efficiency.

The detailed Scope of Work in accordance with this specification is elaborated below. Scope of Supply & Work includes all design, engineering, manufacture, procurement & supply of equipments and materials, testing at manufacturers works, inspection, testing at works, packing and forwarding, supply, transportation, receipt, unloading and storage at site (indoor and outdoor), associated civil works, Module mounting structure, PV Modules, Cables, Power Conditioning Units/Inverters, ACDB, associated protection system, remote monitoring system, other associated equipments for Roof top Solar PV Plants, permits, licenses, insurance at all stages, erection, testing and commissioning of Grid Connected Photovoltaic Roof Top Solar plants and Performance demonstration with associated equipment and materials on EPC basis for 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara and 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, in the state of Gujarat.

Also, the scope of the Contractor shall deemed to include all such items which although are not specifically mentioned in the above Scope of Work but are needed to make 130 KW(AC) (2x50 KW(AC) + 1x20 KW(AC)+ 1x10 KW(AC)) Solar Crystalline Photovoltaic Grid Connected Roof Top Solar Power Plants complete in all respects for its safe, reliable, efficient and trouble free erection, commissioning and operation.

The equipment and materials for grid connected Roof Top Solar PV power plants with associated system (Typical) shall include but not be limited to the Supply, Erection, Testing & Commissioning of the following:

- Solar PV modules.
- Grid interactive Power Conditioning Unit/Inverters with web based Remote Monitoring System.
- Module Mounting Structures (MMS).
- Earthing and lightening protections.
- Cables & connectors of solar grade, which can withstand harsh environment conditions (high temperature, UV Radiation, rain, dirt, microbes etc for 25 years).
- Packing and transportation from the manufacturer's works to the site including customs clearance & port clearance, port charges, Receipt, unloading, storage,

erection, testing and commissioning of all supplied materials including coordination and requisite approvals/NOC from Chief Electrical Inspector (CEIG), shall be in the scope of Bidder.

- Design of 130 KW(AC) Grid Interactive Roof Top Solar Power Plants and its associated electrical & mechanical systems includes preparation of single line diagrams, electrical layouts, design calculations for Module Mounting Structure, GA drawings for PV Array, and other relevant drawings and documents required for engineering of all facilities to be provided under this contract, are covered under Bidders Scope of work.
- Submission of following documents, drawings, data design, and engineering information to GIPCL or its authorized representative for review and approval in two hard copies and soft copy as follows:

  - ✓ Single line diagram
  - ✓ Earthing and Lightning Arrestor Layout with Design Calculations.
  - ✓ Design Calculations (MMS, Structure, Electrical Protection system).
  - ✓ DC and AC Cable layout with Design Calculations.
  - ✓ Design Basis report along with relevant standards
  - ✓ Detailed technical specification of all the equipments
  - ✓ General arrangement and assembly drawings
  - ✓ Test reports (for type, acceptance, and routine tests)
  - ✓ O&M Instruction's manuals and drawings of Supplied Equipments
  - ✓ All as built drawings/documents

4.2 Approval of Designs / Drawings:

4.2.1 All designs, specifications, reports, etc. submitted or used by the Successful Bidder at any point in time shall first be approved by GIPCL and shall be revised by Successful Bidder as per instructions given by GIPCL if required prior to execution.

4.2.2 The Bidder shall submit in the Bid, General engineering drawings, including but not limited to, layout of the Roof top Solar plant, indicating rows of PV modules, SLD, location of AC Distribution Boxes, MMS design, civil and associated RCC based Roof anchoring details and shading analysis.

4.2.3 The bidder shall submit in the Bid, technical specifications / Drawings / Designs and datasheets for all electrical work including but not limited to electrical component of the rooftop solar plants including photovoltaic modules, cables (AC&DC), connectors, inverters etc.

4.2.4 The Bidder/EPC Contractor shall submit the drawing as per Tender specifications. Any revision in drawing based on Owner's Comments/ observations, in case not confirming to tender specification, then revised document shall be submitted within 03 days. Approval of final drawings will be given by Owner within 10 days from date of submission of revised drawings by Bidder. In case of multiple revision of documents/drawings then complete time taken by Bidder for revision of documents/drawings will be attributed to Contractor's account and no claim will be entertained on account of delay in approval of drawing/documents.

4.2.5 The Successful Bidder shall submit to the Company the documents in hard copy and soft copy to both with proper reference and drawing numbers.

4.2.6 The Successful Bidder shall submit all drawings in editable formats like AutoCAD, PDF etc. The Successful Bidder shall also submit a structural Design Basis Report (DBR) for each design.

4.3 Solar Photo Voltaic Module (SPV):

4.3.1 The Contractor shall supply solar PV Module of Crystalline-Si (Poly / Multi or Mono / Single) solar technology only. The Contractor shall provide detail Technical Data Sheets, Certifications of Standard Testing Conditions (STC: defined as Standard Testing Condition with air mass AM1.5, irradiance 1000W/m^2, and cell temperature 25°C) as per the latest edition of IEC 61215 and IEC 61730-2nd Edition and as tested by IEC / MNRE recognized test laboratory.

a) The PV modules to be employed shall be of minimum 72-cell configuration with rated power of module ≥325 Wp as certified for solar PV module power performance test as prescribed by latest edition of IEC 61215 and IEC 61730 and as tested by IEC / MNRE recognized test laboratory. The maximum tolerance in the rated power of solar PV module shall have maximum tolerance up to +3%. No negative tolerance in the rated capacity of solar PV module is allowed.

b) All modules shall be certified as per the latest edition of IEC 61215-2nd Edition (Design qualification and type approval for Crystalline Si modules), IEC 61730 (PV module safety qualification testing @1000 V/1500 V DC). IEC 62804 Certified PV modules should be PID free, documents for the same should be submitted with conditions of the PID test should be for a humidity of 85 % and a cell temperature of 85 °C at 1000 Volts, IEC 61701.

c) The certified Bill of Material (BOM) to be used in the PV Modules should be the same as used during the IEC certification of reference PV Module certified by renowned agency like TUV, UL, etc.

d) Minimum certified module efficiency shall be 16% for crystalline with minimum fill factor of 0.75. The permissible maximum temperature coefficient of power (Pmpp) shall be -0.43%/ °C or better.

e) All photovoltaic modules should carry a performance warranty of >90% during the first 10 years, and >80% during the next 15 years. Further, module shall have performance warranty of > 97% during the first year of installation. Degradation of PV module for first year shall be limited to 3% and shall not be more than 0.7% in any subsequent year.

f) The module mismatch losses for modules connected to an inverter should be less than 1%.

g) SPV module shall have module safety class-II and should be highly reliable, light weight and must have a service life of more than 25 years.

h) The PV modules shall be equipped with IP67 or higher protection level junction box with min. 3 bypass diodes of appropriate rating and appropriately sized output power cable of symmetric length with twist locking connectors.

i) The SPV module shall be made up of high transmissivity glass & front surface shall give high encapsulation gain and the module shall consists of impact resistance, low iron and high transmission toughened glass. The module frame shall be made of corrosion resistant material, which shall be electrically compatible with the structural material used for mounting the modules.

j) The SPV modules shall have suitable encapsulation and sealing arrangements to protect the silicon cells from environment. The encapsulation arrangement shall ensure complete moisture proofing for the entire life of solar modules.

k) The module frame should have been made of Aluminium or corrosion resistant material, which shall be electrolytically compatible with the structural material used for mounting the modules with sufficient no. of grounding/installation.

l) All materials used for manufacturing solar PV module shall have a proven history of reliability and stable operation in external applications. It shall perform satisfactorily in relative humidity up to 85% with temperature between -40°C to +85°C and shall withstand adverse climatic conditions, such as high-speed wind, blow with dust, sand particles etc for wind speed of 180 km/hr on the surface of the panel as per IEC 61730.

m) Modules only with the same rating and manufacturer shall be connected to inverter. Modules shall compulsorily bear following information in the form of ID encapsulated with solar cell in the manner so as not to cast shadow on the active area and to be clearly visible from the top.

n) The Bidder shall provide to the Owner in the Bid, power performance test data sheets of all modules. The exact power of the module shall be indicated if the data sheet consists of a range of modules with varying output power.

o) Only those crystalline modules (above 325Wp) of the same module manufacturer, which has supplied for a capacity more than 50 MW in other projects in India with minimum 1 project size of 5 MW. On this account, the Contractor shall provide full information, to the satisfaction of GIPCL, before placing final order for the PV modules. The Contractor shall also submit the proof of original purchase.

p) GIPCL or its authorized representative reserves the right to inspect the modules at the manufacturer's site prior to dispatch.

q) The Bidder is advised to check and ensure the availability of modules prior to submitting the Tender Document.

r) PV Modules shall comply all the latest applicable BIS certification, Manufacturing & Testing standards as specified by MNRE /SECI / GUVNL from time to time.

s) Before finalisation of Solar PV Module Vendor, QAP along with Grade A PV Cell shall be approved by GIPCL.

t) PV Modules supplied must use a RF identification tag. The following information must be mentioned in the RFID used on each module (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions).

Information to be displayed on solar PV module

Sr. No.	Particulars
1	Name of the manufacturer of the PV module and RFID code
2	Name of the manufacturer of solar cells
3	Month & year of the manufacture (separate for solar cells and modules)
4	Country of origin (separately for solar cells and module)
5	I-V curve for the module at standard test condition (1000 W/m^2 , AM 1.5, 25°C
6	Wattage, Imp, Vmp, Isc, Voc, temperature co-efficient of power and FF for the module
7	Unique Serial No. and Model No. of the module
8	Date and year of obtaining IEC PV module qualification certificate
9	Name of the test lab issuing IEC certificate
10	Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001

4.4 Module Mounting Structure (MMS):

4.4.1 Scope of Work for MMS Structure:

Scope of work under this section covers the provision of labour, tools, materials and performance of work necessary for the design, manufacture, quality assurance, quality control, shop assembly, shop testing, delivery at site, and preservation, installation, commissioning, performance and acceptance testing of Module Mounting Structures as per the specifications here under, complete with all auxiliaries, accessories, spare parts and warranting a trouble free safe operation of the installation.

4.4.2 Basis of Design for MMS Structure:

1. MMS structure shall be designed considering total project life of at least 25 years.
2. The MMS structure should be designed for a fix angle of 17 degree (Fixed angle).
3. Minimum Height of the lowest part of module mounted on structure from the ground/roof shall be 200mm
4. Load bearing structure material : The MMS structure material shall be made of standard hot rolled steel sections as per IS 808 or cold formed sheet based

components as per IS 811. Grade of steel: IS 2062- 2011 Grade-B, E250 or higher. The min. thickness of structure material shall be 2.5 mm

5. The MMS structure design shall be appropriate and innovative.
6. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from SPV panels at the same time.
7. The structure shall be designed for simple mechanical and electrical installation. It shall support SPV modules at a given orientation & tilt, absorb and transfer the mechanical loads to the ground properly.
8. The structure must be designed with considering 1.5 times factor of safety.
9. Modules shall be mounted on a non-corrosive support structures (EPDM rubber gasket/stainless steel star washer).
10. The array structure shall be made of hot dipped galvanized steel of suitable size. The thickness of galvanization shall be as per the relevant standards for galvanization but minimum thickness of 85 microns at any point of the surface (no averaging is allowed) that would be measured by Elcometer on the demand of GIPCL. The Bidder has to send the sample to check the parameters of galvanization in the laboratory. Cost of the same shall be borne by EPC contractor.
11. It is to ensure that before galvanization the steel surface shall be thoroughly cleaned for any paint, grease, rust, scale, acid or alkali or such foreign material as are likely to interfere with the galvanization process as per IS 4759 and equivalent standards.
12. All nuts and bolts (fasteners) shall be made very good quality stainless steel of grade SS 304 required for module fixing and for other components of MMS, superstructure, etc.
13. Modules shall be bolted with the structure properly. The material of Construction shall be Al / S.S. Clamps / bolts with or without EPDM rubber shall be designed in such a way so as not to cast any shadow on the active part of a module.
14. The drawings along with detailed structure design and material selected and their standards shall be submitted in 2 (two) sets in hard & in soft form to GIPCL for review before starting the execution work.
15. For multiple module mounting structures located in a single row, the alignment of all modules shall be within an error limit of maximum 10mm.
16. All the cables were aesthetically tied to module mounting structure.
17. Cutting, Welding, drilling etc. at site is not allowed for MMS. Bidder shall carry out all correction in structure (if required) at his works.
18. Bidder must submit the all the quality test documents and test certificates complying with the requirement of the structure.
19. The MMS shall be designed with reference to the existing conditions of Roofs at GIPCL Baroda Complex and GIPCL House in order to withstand Max. wind speed applicable for the zone (Site Location) or 180kmph, whichever is higher, using relevant Indian wind load codes.
20. Suitable provision for mounting DWC pipes for routing DC cable from Array to Inverter must be provided (Separate DWC Pipe for Positive and Negative DC Cables as mentioned elsewhere in this tender document).
21. The MMS structure should be safe and designed to allow easy replacement of any modules and easy access to the O & M staff. The contractor/manufacturer

shall specify installation details of Solar PV modules and support structures with appropriate drawings & diagrams.

22. The Contractor shall provide to the Owner the detailed design, specifications and calculations of the MMS.
23. The Module Mounting Structure design shall be certified by a chartered structural engineer and a certificate to be produced along with the design details for approval by GIPCL.
24. The Contractor shall provide detailed drawings of module mounting structures with bill of materials. Bill of Material shall include item description, type, weight, quantity, make, part / model number, specification etc for review to GIPCL within 07 days of detailed order.
25. Shading analysis report showing the effect of shadow of various structures and buildings on the energy output of PV array.
26. The installation of MMS for 130 KW(AC) Solar projects shall be based on RCC type Roof.
27. Each MMS array should be with minimum Four legs grouted on pedestals of proper size. The structure shall be grouted with fasteners and chemical sealing along with Water Proofing of foundation based on RCC roof.
28. The CC anchor fasteners used for anchoring of MMS legs on RCC roof shall be of HILTI make.
29. Each SPV Array shall be properly labelled and labelling shall be as per approved drawing by GIPCL.

4.4.3 **Pre-dispatch Inspection:**

The Contractor shall provide pre-dispatch inspection call to GIPCL for inspection at manufacturer works, as per GIPCL approved drawings, for all fabricated items such as steel structure members, galvanization process etc. Prior to inviting GIPCL for pre- dispatch inspection, vendor shall submit detailed quality assurance plan (QAP) for GIPCL approval. QAP shall include type tests, routine tests, factory acceptance tests, sampling plan, applicable standards etc. After the inspection, complete set of test reports shall be submitted. For all bought out items, test certificates as per relevant standards shall be submitted.

4.5 Power Conditioning Unit (PCU)/ Inverter:

The Contractor has to provide sufficient information to the satisfaction of GIPCL and approval, before placing the final order for PCU(s)/Inverter(s). Power Conditioning Unit (PCU)/Inverter shall consist of an electronic inverter with latest technology available in the market along with associated control, protection and data logging devices.

a) DC Overloading of PCU/inverter is allowed upto 10% of the rated capacity of the inverter provided no loss in efficiency. OEM specification or recommendation for % DC overloading of Inverter shall be submitted by the Contractor.
b) DC Injection into the grid: DC injection shall be limited to 0.5 % of the rated current of the inverter as per IEC 61727. This shall be avoided by using a step up transformer at the output of the Inverter.
c) The up-time of PCU/Inverter should be of 99% in a year, in case of failing to

achieve this due to failure of any component of inverter the Contractor shall either replace the inverter or the component at his own cost.

d) PCU/Inverter shall be tested for IEEE 519 &IEC 62116 standard.

e) The inverter output shall always follow the grid in terms of voltage and frequency. This shall be achieved by sensing the grid voltage and phase and feeding this information to the feedback loop of the inverter. Thus control variable then controls the output voltage and frequency of the inverter, so that inverter is always synchronized with the grid.

f) Maximum power point tracker (MPPT) shall be integrated in the power conditioner unit to maximize energy drawn from the Solar PV array. The MPPT should be microprocessor based to minimize power losses. The MPPT must have provision for constant voltage operation. The MPPT unit shall confirm to IEC 62093 for design qualification.

g) PCU/Inverter shall be capable of complete automatic operation including wake-up, synchronization, Sleep Mode & shutdown.

h) Stand – By Mode: The control system shall continuously monitor the output of the solar power plant until pre-set value is exceeded & that value to be indicated.

i) Isolation: The PCU shall have input & output isolation.

j) Built-in meter and data logger to monitor plant performance shall be provided.

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

l) The PCU/Inverter should comply with applicable IEC/equivalent BIS standard for efficiency measurement and environmental test as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30)/ equivalent BIS standard.

m) Grid Connectivity: Relevant CERC/GERC regulations and grid code as amended and revised from time to time shall be complied. The system shall incorporate a uni-directional inverter and should be designed to supply the AC power to the grid at load end. The power-conditioning unit shall adjust the voltage & frequency levels to suit the Grid.

n) The PCU/Inverter 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/Inverter safe operating range due to internal or external causes.

The Bidder shall submit the PCU specifications in the Bid.

Detailed Specifications of PCU/Inverter

Sr. No.	Particulars	Details
1	PCU Mounting	As per the design
2	Nominal AC Output Voltage	For 130 KW(AC) (2x 50 KW(AC) + 1x20 KW(AC)+ 1x10 KW(AC)) 415 Volts +15%/-10% 3 phase with neutral
3	Max. DC Input voltage	1000 V / As per design

4	DC Volatge Range, MPPT	As per design
5	Minimum Efficiency at 100% load	≥ 98%, measured as per IEC 61683 standard for measuring efficiency.
6	Output frequency	50 Hz +3% to - 5% Hz
7	Power Factor	0.85 lag- 0.85 lead
8	Max. THD at rated power	Less than 3 %
9	Ambient dry bulb temperature range	-10 to 50˚ deg C
10	Humidity	15% to 95 % non- condensing
11	Enclosure	IP 55/ IP 65 (Indoor/ Outdoor rated) IEC-60068-2 (environmental)
12	Grid Specifications	IEC 61727, VDE 0126
13	Nominal Voltage & Frequency	415 Volt & 50 Hz
14	Voltage Tolerance	+ 10% and -10% or better than that
15	Mounting Type	Shall be suitable for Wall Mounting and with 2 to 3 Inch gap from Wall.
16	Cable Entry.	Removable Gland Plate with Bottom Entry.
17	Communication	a) Communication Port for Serial Communication RS-485 using Modbus RTU or ModbusTCP Protocol. b) Ethernet Port for Web based remote Montitoring System

a) PCU/Inverter shall confirm to IEC 60068-2 standards for Environmental Testing.
b) PCU/Inverter shall be IEC 61000 compliant for electromagnetic compatibility, harmonics, etc.
c) PCU/Inverters shall be safety rated as per IEC 62109 (1 &2), EN 50178 or equivalent DIN or UL standard.
d) The PCU/Inverter shall have local LCD (Liquid crystal display) and keypad for system control, monitoring instantaneous system data, event logs, data logs and changing set points. Control and read-out should be provided on an indicating panel integral to the Inverter
e) Display should be simple and self-explanatory. Display to show all the relevant parameter relating to PCU operational data and fault condition in form of front panel meters/ LEDs or two line LCD Display.
f) PCU/Inverter front panel shall be provided with display (LCD or equivalent) to monitor the following:

- Instantaneous DC power input
- DC input voltage
- DC Current
- Instantaneous active AC power output
- Instantaneous reactive AC power output

- AC voltage (all the 3 phases to line and line to neutral)
- AC current (all the 3 phases)
- Power Factor (all the 3 three phases)
- KWh Produced during entire day
- Total KWh produced during its life time

g) Documentary Requirements & Inspection:
   1) The bill of materials associated with PCU/Inverter should be clearly indicated while delivering the equipment.
   2) The Contractor shall provide to GIPCL data sheet containing detailed technical specifications of the PCU/Inverter. Operation & Maintenance manual should be furnished by the Bidder before dispatch of PCU/Inverter.

Note: The Owner or its authorized representative reserves the right to inspect the PCU/Inverters at the manufacturer's site prior to dispatch.

4.6 Integration of PV power with Grid:

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the Grid set comes into service, PV system shall again be synchronized automatically.

4.7 Location of SPV Modules, Inverters/PCU's , ACDBs, Metering sytem, Earth Pits and Power Evacuation Point:

Solar Plant, Inverters/PCU's and ACDB's with metering systems and Earth pits are to be located strictly as per GIPCL requirement. Bidder is free to visit the plant for better understating. The length of cable mention in below table are highly approximate and to give general idea to the bidder. However Bidder shall actually measure and confirm the measurement before quoting.

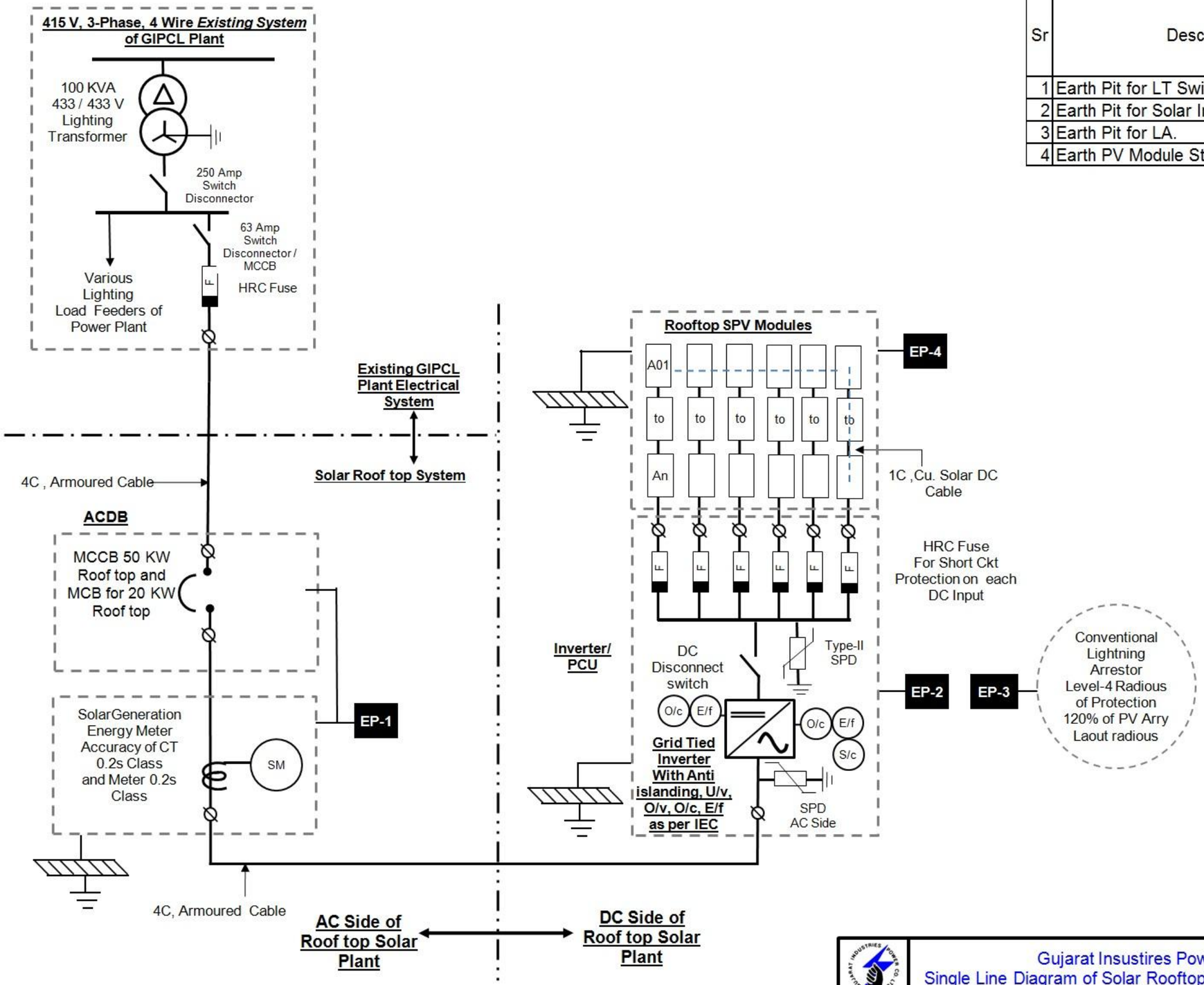
Sr. No.	Solar Plant	Capacity KW (AC)	Inverter /ACDB and Meter Location	Power Evacuation Point	DC Cable Length in meter	AC Cable Length in meter	Earthing Cable / GI Strip Length In meter
1	Administration Building Terrace	20KW	Landing floor Between 2nd floor & terrace of ADM Bldg	ADM Power DB	60	135	45
2	STG-1	50KW	STG-1 Floor wall besides GSC Blowers	Control Building 3rd Floor LPDB-4, Feeder No-6.	105	160	100
3	STG-2	50KW	4th floor AC plant AHU Room (Indoor	Control Building First Floor, MLDB-1 Feeder No: 4R3	85	60	80
4	GIPCL House	10KW	Servant Quarter Outside Wall (Outdoor Installation)	Security Cabin at Main Entrance of GIPCL House	90	80	25

Note:
DC Cable (Average) in meter from SPV Module to Inverter.
AC Cable Length in meter from Inverter to Power Evacuation Point.
Earthing Cable / GI Strip Length in meter from Roof top plant to Earth pit.
Meter Location for GIPCL House is at Security Cabin.

4.8 Metering & grid connectivity:

a) Metering System including CT's (Wherever applicable) shall be as approved by DISCOM and STU. All approval, testing and required Liaison work shall be in the scope of Bidder. Testing Charges of Solar Generation Energy Meter, Net Energy Meter, and Current Transformer shall be carried out and borne by the Bidder. Meter Box shall be as per DISCOM/STU requirement.

b) 2x50 KW (AC) at STG-1&2 buildings and 1x20 KW (AC) at ADM building is as per drawing on next page.



Schedule of Earth Pits		
Sr	Description	Nomenclature in Drawing
1	Earth Pit for LT Switchger ACDB.	EP-1
2	Earth Pit for Solar Inveter / PCU.	EP-2
3	Earth Pit for LA.	EP-3
4	Earth PV Module Structure.	EP-4

Legends	
SM	Solar Energy Meter
	Switch Disconnector
F	HRC Fuse
	MCCB / MCB
	Power Terminal Bolck
EP	Earth Pit for Solar Plant
	Earth Grid of Existing Plant
O/c	Over Current Protection
E/f S/c	Eath Fault Shotrt Ckt Protection

Gujarat Insustires Power Company Ltd. Baroda.
Single Line Diagram of Solar Rooftop Project 50 KW(AC) x 2 & 20KW(AC)

c) **1x10 KW(AC) Rooftop Solar project at GIPCL House (MD Residence):**
1x10 KW(AC) grid connected rooftop solar plant shall include a bidirectional energy meter for net metering system. The bidirectional energy metering system shall be of 0.2s accuracy class (Including CT's wherever applicable) and shall be supplied as per the guidelines of MGVCL, without any cost to Owner. The charges for connectivity and meter testing shall be in the scope of Contractor. The existing metering system at GIPCL House is installed in security cabin. The output cable from PCU/inverter shall be routed properly through DWC pipes up to the existing metering system as per the direction of Owner. The Contractor at its discretion, shall be free to claim subsidy for 1x10 KW(AC) Rooftop Solar plant (under Surya Urja Rooftop Yojana-Gujarat 2019) given by PGVCL/ MNRE/ GUVNL to the empanelled agencies, if applicable. GIPCL shall provide available documents like copy of property tax receipt (GIPCL House), monthly electricity bills, Authority letter etc. for registration of 1x10 KW (AC) rooftop solar plant however GIPCL will not take any responsibility for approval of project under PGVCL subsidy scheme. The amount quoted by bidder in price bid for above 10 KW project shall be treated for bid evaluation purpose and same amount shall be paid after completion of project, irrespective of subsidy claim by the Bidder.

4.9 Additional Scope of Work for 1x10 KW (AC) Rooftop solar plant at GIPCL House:

a) The metering system (DISCOM energy meter) is installed in security cabin at the entrance of GIPCL House. The output Cable from Inverter to existing Metering system shall be longer as compared to cable length in residential based rooftop solar plants. The additional length of cable shall be in the scope of Contractor.
b) One (1) nos. of extra earth pit over and above of 4 Nos. of earth pit for other electrical installation shall be provided by Contractor. Total 5 Nos. of Earth pit shall be in the scope of Contractor as per the specifications and standards given in the tender document.
c) MMS Structure height shall be increased to appropriate level to get maximum generation and to avoid any shadow effect due to parapet wall.

4.10 Remote Monitoring System:

a) Web based Remote Monitoring System shall be provided for monitoring and logging the real time data for each of the Solar PV plants.
b) Data Logging Provision for plant monitoring, time and date stamping, data logs for analysis with the high quality, display of systems parameters and status indication to be provided.
c) Contractor shall provide the data over remote web-server through appropriate arrangements. The Contractor shall provide all necessary latest Software and hardware (except PC), with active SIM card and appropriate data plan for 1 Yr for transmitting the data, so as to make the system complete in all respect
d) The Remote Monitoring System shall have capability to log and send data from Pyranometers, used for Operational Acceptance Test (OAT).
e) The following parameters are accessible via the operating interface display in real time for each 2x50 KW(AC) + 1x20 KW(AC) + 1x10 KW(AC) Rooftop Solar Projects :

- AC Voltage.

- AC Output current.
- Output Power
- Power factor.
- DC Input Voltage.
- DC Input Current.
- Energy Generation Today
- Energy Generation Totalizer (Since Commissioning)
- Time Active.
- Time disabled.
- Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage.

f) The Remote Monitoring System shall continuously record power output, fault messages, alarms etc. in Indian Standard Time.

g) All data shall be recorded chronologically date wise. The data file should be MS Excel compatible.

h) The contractor shall provide all administrative rights/ privileges/ passwords of the RMS system to GIPCL.

i) It will be added advantage, if Web based remote monitoring system is capable to periodically transfer the selected parameter value over File Transfer Protocol (FTP) to the GIPCL selected server or mail.

j) Additionally, Inverter must provide data on serial communication over RS485 using Modbus RTU or Modbus TCP protocol. Vendor must provide the memory map of all the parameters. Inverter must have feature to connect in “daisy chain configuration” for RS485 Communication.

4.11 Protections:

The system should be provided with all necessary protections like earthing, lightning, grid islanding, DC Earth Fault, AC Earth fault, AC Under and Over voltage, Over current, Short Circuit and over load protection as follows:

4.11.1 **Lightening Protection:**

Each SPV power plants shall be provided with lightning, surge (DC and AC Side) & over voltage protection. The main aim in this protection shall be to reduce the over voltage and surge to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc the entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. The intent of specification can be conventional as per IS:2309 or can be Early Streamer Emission Type per NFC 17-102 / IEC 62305-2 depending upon Area, Protected Equipment & Technical feasibility. Necessary concrete foundation for holding the lightning conductor in position to be made after giving due consideration to shadow on PV array, maximum wind speed and maintenance requirement at site in future. The lightning conductor shall be earthed through flats and connected to the earth mats as per applicable Indian Standards with earth pits. Contractor shall provide dedicated earth pit for Lightening Arrestor as per relevant IS standard. The design, manufacture, inspection, testing and performance of Lightning Arrester shall comply with all currently applicable statutes, safety codes, provision of latest Indian Electricity Act, Indian Electricity Rules and Regulations of Statutory Authorities.

Overall protection zone covered by LA / Las shall be at least 120% of proposed SPV array layout. Details Design Calculation shall be submitted for approval.

The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

4.11.2 Technical Specifications for Eco friendly Maintenance Free Earthing:

Scope:

a) This specification covers design, manufacturing, testing, supply, installation, commissioning, testing, construction of earth pits, earthing electrodes, enhancing material required for maintaining the resistance to earth almost to zero for earthing along with all required accessories for Earth Pit of Solar Roof top Plants.
b) The material offered shall conform to relevant standard and high quality and workmanship capable to perform continuous and satisfactory operations in the actual service conditions at site.
c) The PV modules, BOS and other components of each Rooftop solar plants requires adequate earthing for protecting against any serious faults as guided by IEC 60364.
d) Each array structure of the PV yard, all electrical equipment ,PCU/Inverter, ACDB etc .shall be grounded properly as per IS 3043 - 1987. All metal casing / shielding of the plant shall be thoroughly grounded in accordance with Indian electricity act / IE Rules.

Standards:

All components used in the manufacturing, shall confirm to the relevant Indian standard specification and especially to the followings:

a) IS: 3043/ 1987 Code of practice for Earthing
b) IEEE-80 clause 14.5(d) & other related IEEE Guide for Safety in AC Sub Station Grounding

Specification for Eco Friendly Maintenance Free Earthing :

a) Specification for supply, Installation, Testing & Commissioning of maintenance free treated earth electrodes suitable for normal soil as per drawings at the end of this section/subsection and technical specification as mentioned here- maintenance free earth pit, with ground enhancement material/ back fill/grounding compound as per IEE80-2000 clause 14.5 (D) and as per part-7 of IEC-62561 using copper bonded earth electrode (with minimum 250 micron copper uniform coating) having 17.2 mm dia. (min) and 3000 mm length with a bag of (23 kg) of Carbon based environment friendly special backfill compound with a suitable GI patty clamp and as per drawings, which shall be capable of handling STC of 25 KA-1 Sec.

Electrode :

a) The electrode shall be a solid steel rod made of high tensile low carbon steel and coated with molecularly bonded copper on the outside as per UL467.The

thickness of the copper coating shall be at least 250 microns and certificate thereof to be submitted. The electrode diameter shall be 17.2 mm. The earth electrode shall carry UL marking and manufacturer's name. The length of the electrode shall be 3 metres. The copper used shall be type DHP alloy No 122 CDA, 99.5% copper.

b) AS per drawing patty clamp of size 50 x 06 mm Patty clamp with set of SS-304 Grade Nut bolts, plain washers and spring washers of required quantity shall be supplied and installed.
c) After fixing of petty clamp on earth electrode and nut bolts, layer of grease shall be generously applied to cover total surface area to prevent corrosive effect of atmosphere.
d) Pre galvanised GI Strip with GI coating not less than 80 micron shall be used. Approved make of GI Flat are TISCO, Jindal (JSW), Essar or SAIL. Sufficient documentary evidence shall furnish to verify make of GI Flat used by the contractor.
e) Providing and fixing best quality of 63 mm dia. (approximately), HDPE DWC Pipe as per IS-14930 (part-2) with all accessories fittings, jointing etc, complete as directed by EIC (A) for passing of earthing cable / earth strip.

Chemical Compound (Backfill material):

Highly conductive and Eco friendly backfill material: The backfill material shall be highly conductive. The backfill Material shall be carbon based and of low resistance, non-corrosive, highly conductive carbon based powdered material that improves grounding effectiveness, especially in areas of high soil resistivity such as rocky and sandy areas. This material shall be suitable to be installed in either slurry or dry form. The material shall attain the hardening characteristics of cement when mixed with water or exposed to moisture while retaining its' properties. The backfill material shall confirm to the following specifications:

a) Shall be highly electrically conductive and non-soluble.
b) Shall not leach into ground.
c) Shall have a resistivity less than 0.1 ohm meter as per clause 14.5 (d) of IEEE 80
d) Shall be compatible with all copper grounding systems
e) Shall contain a corrosion inhibitor to mitigate corrosion of copper
f) Shall not contain hazardous chemicals
g) Shall not be affected by drought and shall be stable between -10˚ to + 50˚ C temperature.
h) Shall not depend on presence of moisture for conductivity but shall be electronically Conductive like metals.
i) Shall be suitable for any kind of soil
j) The compound should have been tested in a reputed laboratory for not containing any hazardous chemicals as per EPA Chapter 7.

Tests:

Type Tests

The materials offered in the tender should have been successfully type tested for the tests in line with the relevant standard and technical specification. The bidder shall be required to submit complete set of the type test reports along with the offer. Following type tests shall be carried out.

a) Current carrying capacity Test shall be carried out on the electrode as per relevant IS & it shall withstand capacity rating as mentioned in the specifications (i.e. 25KA for 1 sec.)
b) To analyze effect of corrosion, salt spray test as per relevant IS shall be carried out at any NABL approved laboratory.
c) Electrical properties test on conductive materials as specified in the specifications
d) Physical, chemical & electrical properties on earth enhancement material.
e) Toxic Content test on Conductive materials & earth enhancement material as per standard.

   In case the type tests are conducted earlier than seven years, all the type tests as per the relevant standard shall be carried out by the successful bidder in presence of purchaser's representative free of cost before commencement of supply. The undertaking to this effect should be furnished along with the offer without which the offer shall be liable for rejection.

   Even if the material has been type tested earlier, the MGVCL reserves the right to demand repetition of one or more tests included in the list of type test on requisite number of samples from any of the lots during the tenure of the supply, at purchaser's cost in the presence of purchaser's representatives. If the material does not withstand the type test, then the material supplied till then will be liable for rejection.

Acceptance Tests at Site:

a) The inspecting officer will carry out the acceptance tests on the materials as specified in the relevant standard with latest amendments and & this technical specification.
b) Physical check for earth electrode as per tender specification.
c) Resistivity of the complete earth electrode & Earth enhancement material shall be tested.
d) Chemical Composition Test on Chemical Compound (Backfill material) material used in earth electrode & Earth enhancement material shall be checked.

Test Certificates:

The tenderer shall furnish detailed type test reports of the offered material for the tests as per relevant IS and this specification. All these Type Tests shall be carried out at laboratories that are accredited by the National Accreditation Board of Testing and Calibration Laboratories (NABL) of Government of India. These tests should have been carried out within 7 years prior to the date of opening of this tender.

Civil work of Earth Pit Chamber / Inspection Chamber/ Cast iron Cover shall be done by GIPCL.

Detailed Specification for Installation of Earthing System :

General arrangement for earth system & earth electrode shall be as per the drawing attached. Procedure to be adopted for construction of earth electrode shall be as follows.

Construction of Earthing:

a) Earth pit shall be prepared as per drawing. 100mm bore up to 10 ft. deep shall be made using earth auger or any other method.
b) Sleeve the soil and remove the gravels and stones. If soil quality is good (without murum & rocks) then add some quantity of earth enhancement material in the soil for using as backfill.
c) If the soil seems unusable (Containing large quantity of gravel, stones, murum, sand etc) the replace the soil with black cotton soil.
d) Insert the electrode at the centre of the earth pit and arrange to keep it vertical in the pit.
e) Arrange for adequate quantity of water supply for the pit. (Approx. 600 litres). Water will be supplied by GIPCL Free of cost.
f) Fill the pit with the backfill material and keep on adding the earth enhancement material surrounding the electrode and simultaneously watering the pit.
g) With a steel bar or pipe keep on Peking the soil and stirring intermittently for removing the air pockets and proper settlement of the pit.
h) Procedure to be repeated till completion of the filling of the earth pit along with the packing materials and sufficient watering & adequate ramming.
i) The pit shall be very compactly rammed and watering for 2-3 days and addition of soil if required be done.
j) On completion of the installation, continuity of all conductors and joint shall be tested.

Measurement of Earth Resistance:

a) Measure the earth resistance as per IS-3043-1987 code of practice. Earth resistance value shall be less than 1 ohm in non-rocky/non-sandy surface by single electrode installation.
b) Valid calibration certificate from reputed government laboratory (ERDA, CPRI, NABL accredit labs) of earth tester shall be submitted before commencement of measurement.
c) Earth pit test report mentioning earth resistance measured value, reference IS, Serial no and make / model of earth tester, date, time; location, measured by, witness by and other required particulars shall be submitted for each earth pit.

Specifications of GI flat:

All transformer neutrals are to be connected to earth electrode by GI Flat. Earhting of various panels are covered in chapter of termination separately.

Supply of GI Flat or equivalent Single Core Cable:

a) Size: Not less than 25 x 6 mm.
b) GI coating shall be not less than 80 micron.

c) Approved make of MS Flat: ESSAR, Jindal (JSW), Tata Steel, and SAIL.

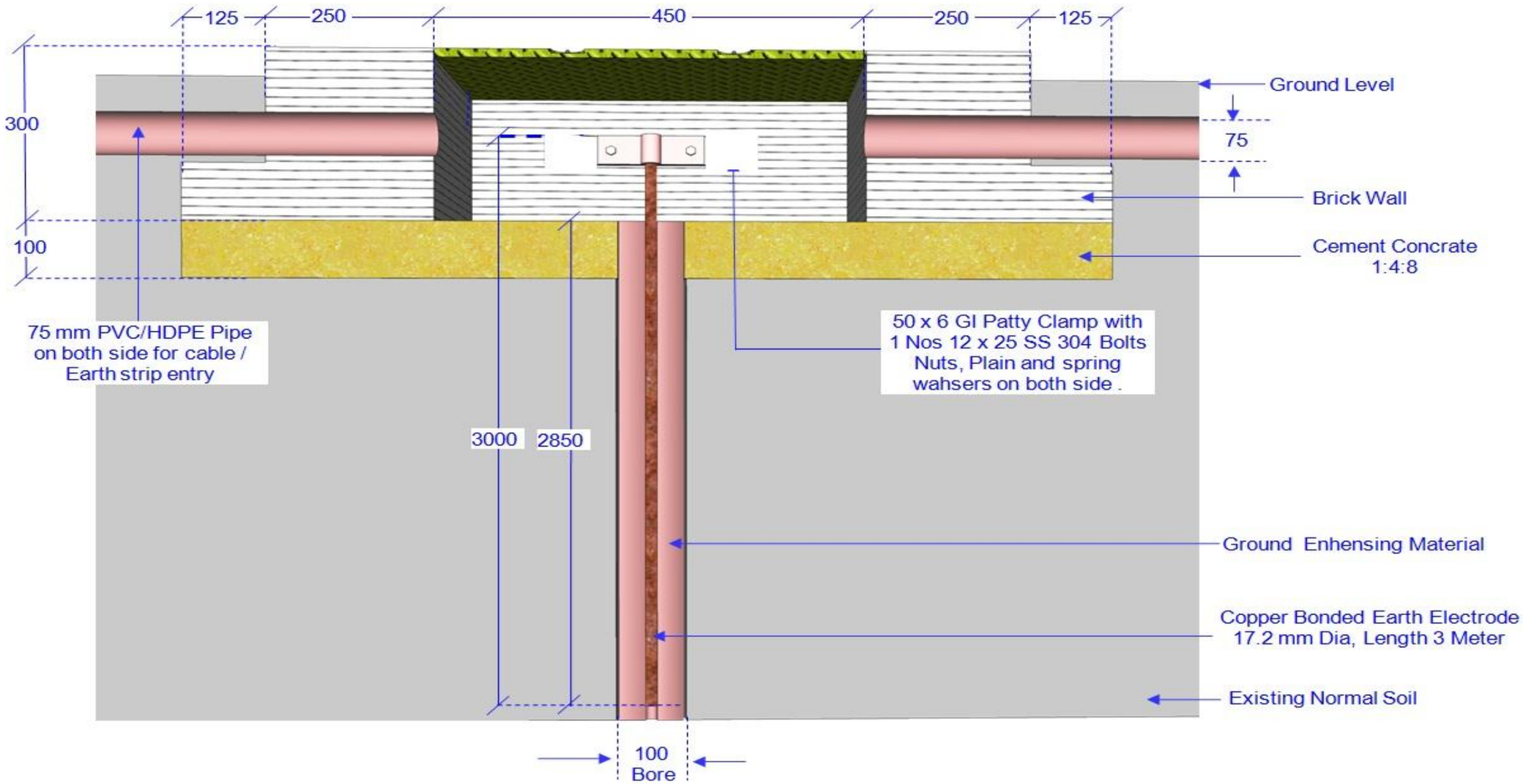
Installation of GI Flat:

a) Contractor shall install GI Flat/ equivalent Single core Cable from Solar Roof top plant equipment to earth pit as per requirement of site conditions.
b) All work such as cutting, bending, supporting, coating, drilling, brazing, clamping, bolting and connecting into structures, pipes, equipment frames terminals, rails or other devices shall be in the bidder's scope of work. The bidder shall also carry out the excavation and trenching work involved. The bidder shall also back-fill and reinstates the trenches after installation of earthing conductors.
c) GI Flat is to be connected at earth pit (patty clamp) by SS 304 Hardware (Set of nut bots, plain washer, spring washers etc).

Connection of each equipment of Solar Roof top to Existing Plant Earthing System:

As shown in Single Line Diagram, Each equipment shall be connected to Existing Plant Earthing system for 2 x 50 KW Solar Plants. Supply, laying, termination of required material, GI Flat / Cable as per this tender specifications is in scope of Bidder/ Contractor.

Front Sectional View

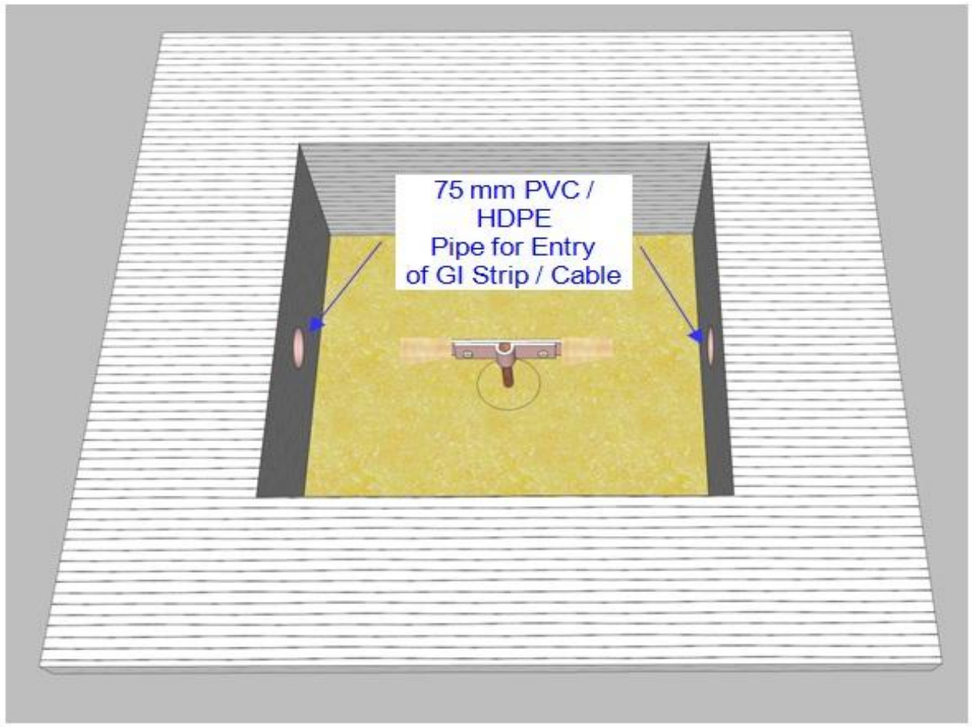


Proprietary and confidential drawing and intellectual property of GIPCL.

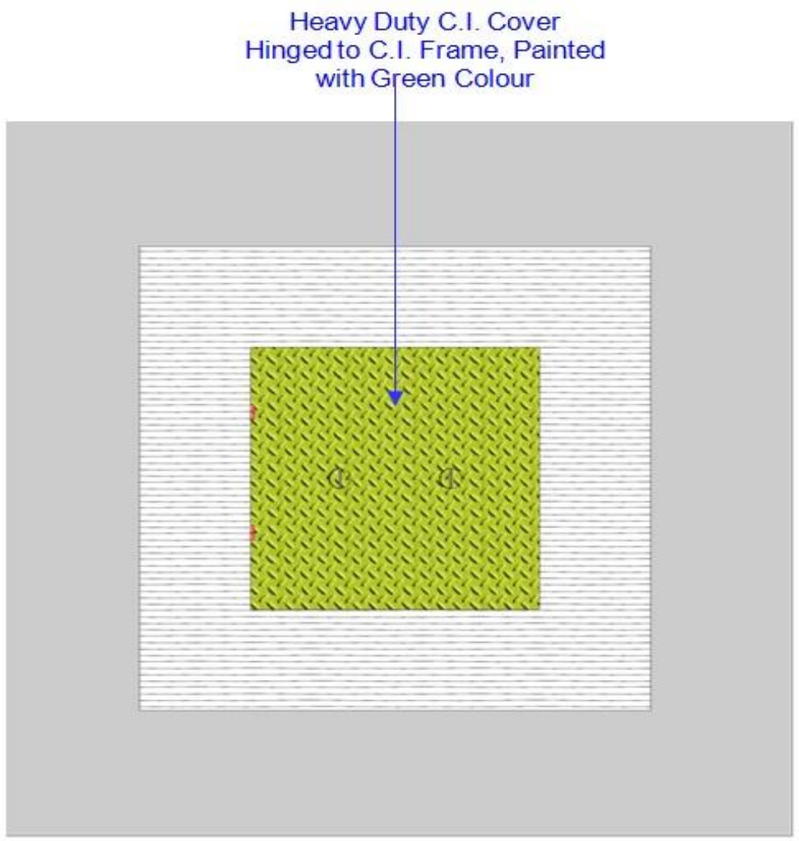
Note:
1. Not to Scale. Dimensions are to read & not to be measured
2. All Dimension are in mm.

Gujarat Industries Power Company Limited.
Details of Eathpit Page 1 of 3

Top View without Cover



Top View with Cover

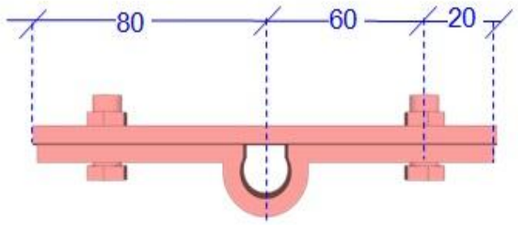


Proprietary and confidential drawing and intellectual property of GIPCL.

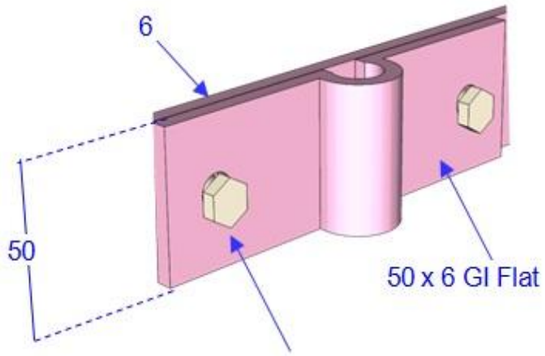
Note:
1. Not to Scale. Dimensions are to read & not to be measured
2. All Dimension are in mm.

Gujarat Industries Power Company Limited
Details of Eathpit Page 2 of 3

Top View of Clamp



Isometic View of Clamp



Set of SS 304 M12 x 25
Bolts, Nuts and Spring
and Plain Washers

Top View of Clamp and
Earth Rode

After fixing clamp on
Electode, Surface
Shall be Covered by
Grease

The copper used shall be type DHP alloy No. 122 CDA and 99.95% copper.
The minimum thickness of copper layer shall be uniform 250 micron.

Proprietary and confidential drawing and intellectual property of GIPCL.

Note:
1. Not to Scale. Dimensions are to read & not to be measured
2. All Dimension are in mm.

Gujarat Industries Power Company Limited.
Details of Eathpit Page 3 of 3

4.11.3 **Grid Islanding:**

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

4.12 AC Distribution Panel Board:

a) 4 Pole MCCB / MCB with isolation feature shall be provided in ACDB. MCCB’s are to be provided for 50 KW Plants and MCB is to be provided for 10 and 20 KW Plant. Basic Specification of MCCB Shall be of 4P, 18 KA, Adjustable Short circuit, and Adjustable overload /over current, DIN Mounted, termination by Spreader terminal with required inter-phase barrier and shrouds of OEM make. MCB short circuit rating shall be 10 KA.
b) AC Distribution Panel Board shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode shall be in the scope of Contractor.
c) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
d) All the Panel’s, totally enclosed, rigid, Wall mounted, air - insulated, cubical type suitable for operation on three phase with neutral, 415 volts, 50 Hz with removal gland plate and cable entry from Bottom Entry.
e) The panels shall be designed for minimum expected ambient temperature of 50 degree Celsius, 85 percent humidity and dusty weather.
f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
g) Should conform to Indian Electricity Act and rules (till last amendment).
h) All the 415 AC devices / equipment like bus support insulators, circuit breakers, SPDs, etc., mounted inside the panels shall be suitable for continuous operation and satisfactory performance.
i) Shall be of Metal Sheet with powder Coating

Specification of Constructional Features of ACDB:

a) Panel shall be fabricated with prudent panel manufacturing process.
b) Supplier is free to decide the dimensions of the panel as there is no space restriction at site. However dimensions are to be proposed by the supplier with consideration possible future components and shall have spacious design.
c) Welding shall be carried out with appropriate welding process and technology.
d) Panel shall comply as per prevalent IS.
e) Panel shall be Wall Mount indoors. Wall mounting Clamps / arrangement shall be designed such that back of panel remain projected by 25 to 30 mm from wall.
f) Panel shall be fabricated out of cold rolled sheet steel; the minimum thickness shall be as follow.

i. Frame (Top and Bottom) 1.6 mm
ii. Doors 1.6 mm
iii. Side/ Top covers 1.6 mm
iv. Panel partition 1.6 mm
v. Gland Plate 1.6 mm

g) Panel shall be totally enclosed dust and vermin proof, best quality synthetic / neoprene rubber gasket shall be provided around doors covers and other cut-outs

h) All Cable Entry Shall be from Bottom Only. Gland plate shall be provided on ACDB compartment with required holes and spare holes. Party shall supply best quality grommet to plug the holes.

i) Finish and Surface Preparation:

i. Surface is to be prepared with Sand / Shot Blasting.
ii. Epoxy Power coating (Exterior and interior) after seven tank process with minimum thickness of 70 micron.
iii. Exterior – RAL 7035
iv. Interior – White (Preferred) or RAL 7035

Panel shall have excellent aesthetic look and finish.

j) All doors shall be provided with adequate number of best quality cam type locking knobs. Concealed Hinges of good quality shall be provided. Location of Hinges (right or left side) shall be as per GA drawing. Doors shall be removal type.

k) Labels

i. All labels shall comprise white letters engraved on Black background.
ii. Labels shall be made of 3 ply lamicoid or Anodized Aluminium.
iii. Size of lettering shall be minimum 50 mm for panel description and designation. (As shown in GA Drawing)
iv. Size of lettering shall be minimum 5 mm for component designation.
v. Live terminal shall be protected with proper insulating front barrier.
vi. CAUTION , Name plate “CAUTION LIVE TERMINAL “ Shall be provided at all points where the terminals are likely to remain live and isolation is required before opening.
vii. 415 V Hazard Board shall be provided on the panel appropriately.

l) Two nos of earthing bolts shall be provided on each side of panel.

m) Holes on Gland plate shall be provided with proper grommets.

4.13 Cables:

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

i) All cables and connectors used for installation of 130 KW (AC) rooftop solar plants must be of solar grade which can withstand harsh environment conditions including high temperatures, UV radiation, rain, humidity, dirt, attack by rodents, moss and microbes for 25 years and voltages as per latest IEC standards. (Note: DC cables for outdoor installations should comply with the EN50618 / TUV 2PfG 1169/09.07 or equivalent IS.

ii) Wires with sufficient ampacity and parameters shall be designed and used so that average voltage-drop at full power from the PV modules to inverter should be maximum 1% (including diode voltage drop).

iii) The size of each type of cable selected shall be based on minimum voltage drop, however, the maximum drop shall be limited to 2%.

iv) All wires used for connecting the modules and array should conform to the NEC standards.

v) For the DC cabling, XLPE or, XLPO insulated and sheathed, UV-stabilized single core multi-stranded flexible copper cables of 6 Sq mm shall be used; Multi-core cables shall not be used.

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

vii) Proper laying of cables have to be ensured in appropriate GI Cable trays, DWC conduit pipes as per site requirement.

viii) The DC cables from the SPV module array shall run through a UV-stabilized DWC conduit pipe of adequate diameter with a minimum wall thickness of 1.5 mm and meet IEC 60227/IS 694, IEC 60502/IS1554 standards.

ix) Positive and Negative DC Cable Shall run through separate DWC conduit pipe only (From SPV Module to Inverter). This is to reduce possible fire risk, this is mandatory.

x) Temp. Range: -10°C to + 80°C

xi) Price of Length of AC Cable mentioned at section 4.7 shall be integral part of Supply of Balance of System.

4.14 Termination:

All termination shall be done by ETP- Copper tin plated Heavy Duty Copper lugs with appropriate sleeve.

4.15 Safety Measures:

The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc. Also during project execution period, the EPC Contractor shall ensure the clearance from the respective dept. / Control Room of Plant area and follow Work Permit system of GIPCL on routine basis.

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

4.17 Vendor List:

The list of acceptable makes for equipment / system are as listed below:

Sr. No.	Description	Vendor Name
1	PCU / Inverter	Schneider Elect. Ltd
		ABB India Ltd.
		Sungrow

		Delta Electronics
		Huawei
		Bidder to propose other reputed make based on reference and credentials for approval of GIPCL
2	PV Modules	Top 20 from List of Tier-1 manufacturer as per Bloomberg BNEF Q3 2019 report and fulfilling the other tender requirements, subject to approval of Owner (Indian make Vikram, TATA, BHEL, Warree, Adani are acceptable OR Indian PV Module Manufacturers having 500 MW per annum capacity and 1000 MW cumulative installation, with single plant of 50MW or more operational since 1 year)
3	AC and DC Cable	M/s Polycab
		M/s LAPP
		M/s Siechem
		M/s KEI Cables
		M/s UniFlex Cables
		M/s Cords Cables
		M/s Suyog Electricals Ltd.
		M/s Apar
		M/s Universal
4	Steel Structure for MMS	ESSAR
		TISCO
		SAIL
		JINDAL
5	Switchgears, MCB, MCCB etc.	ABB
		Schneider Elect. Ltd
		Siemens
		Hager.
6	Earthing Pit Materials	Ashlok
		Powertrac
		ERICO
7	Lugs	Dowell
		Comet
		3D
8	Cable Glands	Comet / 3D
9	Lighting Arrestor	Reputed make , subject to approval from GIPCL
10	Tariff Energy Meter and Current Transformer.	Secure Energy Meter / As approved by MGVCL/GETCO.

		Bidder shall propose the make and get it approved from GIPCL
11	Terminal Block	Elemax, Connectwell, Wago

NOTES:

1. The final make selected out of the recommended makes listed above shall be subject to the Owner's approval during detailed Engineering.
2. Wherever the make is not specified for any other items, the contractor shall submit credential for vendors for relevant items / equipments, out of which Owner shall decide acceptance of vendor based on review of credentials. This shall have no price implication. Owner reserves the right to reject the proposed vendor without assigning any reason.
3. Bidder may suggest /request for approval of Additional vendor with credentials and details for review and approval of Owner. Owner may consider the request in case proposed additional vendor is reputed and meeting the tender specification requirements. Owner reserves the right to reject the proposed vendor without assigning any reason.

4.18 Quality Certification, Standards and Testing for Grid-connected Rooftop Solar PV Plants:

Quality certification and standards for grid-connected rooftop solar PV systems are essential for the successful mass-scale implementation of this technology. It is also imperative to put in place an efficient and rigorous monitoring mechanism, adherence to these standards. Hence, all components of grid-connected rooftop solar PV system/ plant must conform to the relevant standards and certifications given below:

IEC 61215/ IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61701	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
IEC 61853- Part 1/ IS16170: Part 1	Photovoltaic (PV) module performance testing and energy rating -: Irradiance and temperature performance measurements, and power rating
IEC 61730-1,2	Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction, Part 2: Requirements for Testing
Solar PV Inverters	
IEC 62109-1, IEC 62109-2	Safety of power converters for use in photovoltaic power systems – Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS 61683 (as applicable)	Photovoltaic Systems - Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
IEC 62116/ UL 1741/ IEEE 1547 (as applicable)	Utility-interconnected Photovoltaic Inverters - Test Procedure of Islanding Prevention Measures

IEC 60255-27	Measuring relays and protection equipment - Part 27: Product safety requirements
IEC 60068-2 / IEC 62093 (as applicable)	Environmental Testing of PV System - Power Conditioners and Inverters
Fuses	
IS/IEC 60947 (Part 1, 2 & 3), EN 50521	General safety requirements for connectors, switches, circuit breakers (AC/DC): **a)** Low-voltage Switchgear and Control-gear, Part 1: General rules **b)** Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers **c)** Low-voltage switchgear and Control-gear, Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units. **d)** EN 50521: Connectors for photovoltaic systems - Safety requirements and tests
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems
Surge Arrestors	
NFC 17-102:2011	Lightening Protection Standard
IEC 60364-5-53/ IS 15086-5 (SPD)	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control
IEC 6164311:2011	Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
Cables	
IEC 60227/IS 694, IEC 60502/IS 1554 (Part 1 & 2)/ IEC69947 (as applicable)	General test and measuring method for PVC (Polyvinyl chloride) insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables
Earthing /Lightning	
IEC 62561 Series (Chemical earthing) (as applicable)	IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrodes IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the

	thermo-plastic type with IP 65 protection for outdoor use, and IP 54 protection for indoor use
Energy Meter	
IS 16444 or as specified by the DISCOMs	For 1x10 KW (AC) RTS: Bi-directional Energy meter of 0.2 s accuracy class(with Import & Export/Net energy measurements)
IEC 60687 IEC 6205211/ IEC 62053-22 / IS14697	For 2x50 KW(AC) + 1x20 KW(AC) RTS :A.C. direct connected watt-hour Smart energy Meter (Class 0.2 s and 0.5 s)
Solar PV Roof Mounting Structure	
(IS 2062/IS 4759)	Material for the Structure Mounting

Note- Equivalent standards may be used for different system components of the plants. In case of clarification following person/agencies may be contacted.

- Ministry of New and Renewable Energy (Govt. of India)
- National Institute of Solar Energy
- The Energy & Resources Institute
- TUV Rheinland
- UL

PART – V

GENERAL CONDITIONS

OF

CONTRACT (GCC)

5.1 Submission of Tender:

a) Contents of Bidding Document:

The bidder is advised to visit the site to study the actual working conditions, before submitting their offer. The bidders shall examine the site of works and its surroundings and obtain for himself at his own responsibility all information that may be necessary for preparing the bid and entering into a contract. All costs and liabilities arising out of the site visit shall be at bidder's account.

Any error in description or quantity or omission in the contract document shall not vitiate the contract or release the contractor from executing the work comprised in the contract according to drawings and magnitude of the works and requirement of materials, equipment, tools and labour, etc., and as to what all works he has to complete in accordance with the contract documents irrespective of any defects, omissions or errors that may be found in the contract documents.

b) Clarification of Bidding Documents:

Prospective Bidders requiring any further information or clarification of the Bidding Documents may notify the Owner in writing through email at the Owner's mailing address indicated in the 'Invitation to Bids'. The Owner will respond in writing to request for information or clarification of the Bidding Documents which it receives at least a week earlier than the deadline for the submission of Bids prescribed by the Owner. The Owner's response (including an explanation of the query) will be sent in writing by email / website.

c) Amendment of Bidding Documents

(i) At any time prior to the deadline for submission of Bids, the Owner may, for any reason, whether at their own initiative or in response to a clarification requested by prospective Bidder, modify the Bidding Documents by amendment. Bidder is requested to visit web site frequently till last date.

(ii) In order to afford prospective Bidders reasonable time in which to take the amendment into account in preparing their Bids, the owner may, at their discretion, extend the deadline for the submission of Bids.

d) Documents Comprising the Bid:

Refer ITB Section of the Tender document.

e) Conditional tender shall not be OPENED/ACCEPTED.

f) The timely completion of this job is of UTMOST IMPORTANCE and hence the Owner reserves the right to award this Contract to more than one party at their sole discretion.

g) Competency of the Contractor:

No contract shall be awarded except when the responsible Contractor is capable of performing the class of work contemplated. Before the award of this Contract, any Contractor may be required to show that he has the necessary facilities,

experience, ability and financial resources to perform the work in satisfactory manner within the time stipulated. Contractor may be required to furnish to the Owner, with a statement, as to their experience and their financial status

5.2 Earnest Money:

a) The Bidder must submit earnest money as per the RFP Document. Bids not accompanied with earnest money deposit will be rejected. The earnest money can be paid by crossed demand draft or Bank Guarantee from any Nationalised/Scheduled Bank in the prescribed format as indicated in the tender document in favour of Gujarat Industries Power Company Ltd.

b) The Bank Guarantee so furnished by the Contractor shall be only in the format prescribed by the Owner and valid for 120 days from the last date of submission of Bid. No interest shall be paid by the Owner on the Earnest Money deposited by the Contractor.

5.3 Validity:

Tender submitted by Bidder shall remain valid for acceptance for a period of 120 days from the last date of Bid submission.

5.4 Addenda/Corrigenda:

Addenda/ Corrigenda to the tender documents may be issued prior to the date of opening of the tenders to clarify documents or to reflect modification in the design or contract terms.

5.5 Right of Owner to accept or reject Tender:

a) The right to accept the tender will rest with the Owner. The Owner further does not bind himself to accept the lowest tender and reserves the authority to reject any or all the tenders received without assigning any reason whatsoever. The quoted rates would hold good for such eventualities. Tenders in which any of the particulars and prescribed information are missing or incomplete in any respect and / or the prescribed conditions are not fulfilled are liable to be rejected. The decision for the owner in respect of the above shall be final and binding on the Bidder.

b) Canvassing in connection with tenders is strictly prohibited. The submitted tenders of the Bidder who resort to canvassing are liable to rejection. Tenders containing uncalled remarks or any additional conditions are liable to be rejected.

5.6 Time Schedule:

a) The work shall be executed strictly as per the Time Schedule given in Letter of Intent (LOI) / Order. The period of construction given in time schedule includes the time required for mobilization as well as testing, rectification if any, re-testing and completion in all respects to entire satisfaction of the Owner.

b) A joint programme of execution of the work will be prepared by the Owner and contractor based on priority requirement of this project.

5.7 Construction Schedule and presentation:

The construction schedule shall be in the form of network of PERT CHART/ CPM or other suitable presentation for the programme of the work indicating there in the different components item of works and time required for completion of each components item wise/ month wise so as to complete the work in all respects within the

stipulated period. Before award of the work the contractor is also required to make the presentation to satisfy owner of their proposal for construction schedule in the form of BAR CHART and organizational resources, equipments, machineries, manpower to be deployed for timely completion of the project.

5.8 Field management and Controlling Authority:

a) The field management will be responsibility of the Project Manager/Owner's representatives nominated by the Owner.

b) It shall be the responsibility of the contractor to plan and execute the works strictly in accordance with site instructions and avoid hindrance to the works being executed by other agencies.

5.9 Note to Schedule of Rates:

a) The schedule of rates should be read in conjunction with all the other sections of the Tender.

b) The Contractor shall be deemed to have studied the drawings, specifications and details of work to be done within time schedule and to have acquainted himself of the conditions prevailing at site.

c) The quantities shown against the various items are only approximate. Any increase or decrease in the quantities shall not form the basis of alternation of the rates quoted and accepted.

d) The owner reserves the right to interpolate the rates for such items of work falling between similar items of lower and higher magnitude.

5.10 Interpretation of Contract Documents:

a) Complete documents forming the contract are to be taken as mutually explanatory. Should thereby any discrepancy, inconsistency, error or omission in the contracts or any of them the matter may be referred to Owner who shall give decisions and Issue to the contractor instructions directing in what manner the work is to be carried out. The decision of Owner shall be final and conclusive and the contractor shall carry out work in accordance with this decision.

b) Works shown in the drawing but not mentioned in the specification or described in specification but not shown in the drawings shall nevertheless be deemed to be included in the same manner as if they had been specifically shown upon the drawings as well as described in the specifications.

c) Unless otherwise stated specifically, the 'singular' shall also mean 'plural' and vice versa wherever the context so requires words implying 'persons' shall include relevant 'corporate companies or registered association' or 'body of individuals' or 'firm of partnership' as case may be.

5.11 Use of Contract Documents & Information:

The Contractor shall not, without GIPCL's prior written consent, disclose the Contract or any provision thereof or any specification, plan, drawing, pattern therewith to any person other than person employed by the Contractor in performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend strictly for purpose of performing the Contract only.

5.12 Bidder to obtain his own information:

a) The Bidder shall for all purposes and whatsoever reason may be, deemed to have himself independently obtained all necessary information for the purpose of preparing his tender. The correctness of the details given in the Tender Document as guideline information to help the Bidder but to make- up the tender is not

guaranteed.

b) The Bidder shall be deemed to have examined the tender documents, to have obtained his own information in all matters whatsoever that might influence carrying out of the works at the scheduled rates and satisfied himself to the sufficiency of his tender. Any error in description or quantity or omission there from shall not vitiate the contract or release the contractor from executing the work comprised in the contract according to drawings and specifications at the scheduled rates. He is deemed to know the scope, nature and magnitude of the works, the requirements of materials and labour involved etc. and as what works he has to complete in accordance with the contract document whatever be the defects, omissions or errors that may be found in the Contract Document. The contractor shall be deemed to have visited site and surroundings areas, to have satisfied himself to the nature of all existing structures, and also as to the nature and the conditions of available facilities, means of transport and communications and possible interruptions thereto the access to and egress from site. He is deemed to have acquainted himself his liability for payment of Government Taxes, Customs Duties and other charges.

c) Any neglect or failure on the part of the Bidder in obtaining necessary and reliable information or issues stated above or any other matters affecting the contract shall not relieve him from any risks or liabilities or the entire responsibility for completion of the works at the scheduled rates and time in strict accordance with the contract documents.

d) Any change in layout due to site conditions or technological requirement shall be binding on the contractor and no extra claim on this account shall be entertained.

e) No verbal agreement or inference from conversation with any officer or employee of the Owner either before, during or after the execution of the contract agreement shall in any way affect or modify and of the terms or obligations herein contained.

5.13 Security Deposit:

a) The Contractor shall furnish security deposit amount in the form of Bank Guarantee from any Scheduled bank in the prescribed proforma.

b) If Contractor /sub-contractor or their employees damages, breaks, deface or destroy the property belonging to the owner or other during the execution of the contract, the same shall be made good by the contractor at his own expense and in default thereof; the Owner may cause the same to be made good by other agencies and recover expenses from the contractor (for which the certificate of Owner shall be final).

c) All compensation or other sums of money payable by the contractor to the Owner or recoveries to be made under terms of this contract may be deducted from or paid by the sale of a sufficient part of his security deposit or from any sums which may be due or may become due to the contractor by the Owner on any account whatsoever. No interest shall be payable by the Owner for sum deposited as security deposit.

5.14 Forfeiture of Security Deposit:

Whenever any claim against the Contractor for the payment of a sum of money arises out of or under the contract, the Owner shall be entitled to recover such sum by appropriating in part or whole the security deposit of the contractor, forming whole or part of such security deposit. In the event of security being insufficient or if no security has been taken from the contractor, then the balance or the total sum recoverable as the case may be, shall be deducted from any sum then due or which at any time thereafter may become due to the contractor. The contractor shall pay to the Owner on demand any balance remaining due.

In the event of any breach by the contractor or any loss or damage occasioned to the owner which in the opinion of the Owner has arises, the decision where of shall be final and binding on the contractor or in the event of the termination of the contract for any such breach, the security deposit is liable to be forfeited. The decision of forfeiture by the Owner shall be final and binding to the contractor.

5.15 Time of Performance:

The work covered by this contract shall be commenced as per the agreed terms of LOI / Work Order and be completed on or before the dates as mentioned in the time schedule of completion of works.

5.16 Force Majeure:

"Force Majeure" shall mean any event beyond the reasonable control of the EPC Contractor, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected, and includes riots (other than among the Contractor/Supplier's employee), civil commotion, war (whether declared or not), invasion, act of foreign enemies and hostilities, civil war, rebellion, revolution, insurrection, military coup, damage from aircraft, nuclear fission, embargoes, quarantines, acts of God such as earthquake (above 7.0 magnitude on Richter scales), lightning, unprecedented floods, fires not caused by Suppliers negligence and accepted as such by the Owner whose decision shall be final and binding. It is clarified that normal rainy season/ monsoons do not constitute Force Majeure.

If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure ("Affected Party"), then Affected Party shall notify the other in writing of the occurrence of such event and its termination, in writing by registered notice within twenty fours (24) hours of such occurrence and termination thereof giving full particulars and satisfactory evidence in support of its claim.

The Affected Party shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed.

The Affected Party shall use reasonable efforts to mitigate the effect of Force Majeure upon its performance of the Contract and to fulfill its or their obligations under the Contract.

Delay or non-performance by Affected Party caused by the occurrence of any event of Force Majeure shall not (a) constitute a default or breach of the Contract; (b) give rise to any claim for damages or additional cost or expense occasioned thereby, if and to the extent that such delay or non-performance is caused by the occurrence of an event of Force Majeure.

If the Supplier/EPC Contractor is unable to perform its obligations specified in this Contract pursuant to Force Majeure for more than three (3) months, Owner shall have the right to, at its sole discretion; terminate this Contract in whole or part.

The Supplier/EPC Contractor shall not claim any compensation for Force Majeure, and shall take appropriate steps to maintain safety of and to insure labour and materials utilized by him under the Contract.

5.17 Failure by the Contractor to comply with the provisions of the Contract:

(a) If the contractor refuses or fails to execute the work or any separate part thereof with such diligence as will ensure its completion within the time specified in the contract or extension thereof or fails to perform any of his obligation under the Contract or in any manner commits a breach of any of the provisions of the contract it shall be open to the Owner at its option by written notice to the Contractor to: -

(i) Determine the Contract: In which event the Contract shall stand terminated and shall cease to be in force and effect on and from the date appointed by the Owner on that behalf, whereupon the contractor shall stop forth with any of the contractor's work then in progress, except such work as the Owner may, in writing, requires to be done to safeguard any property or work, or installations from damage, and the owner, for its part, may take over the work remaining unfinished by the Contractor and complete the same through fresh contractor or by other means, at the risk and cost of the Contractor, and any of his sureties if any, shall be liable to the owner for any excess cost occasioned by such work having to be so taken over and completed by the Owner over and above the cost at the rates specified in the schedule of quantities and rates.

(ii) Without determining the Contract: To take over the work of the contractor or any part thereof and complete the same through a fresh contractor or by other means at the risk and cost of the Contractor. The contractor and any of his sureties are liable to the Owner for any excess cost over and above the cost at the rates specified in the schedule of quantities/ rates, occasioned by such works having been taken over and completed by the Owner. Besides, the contractor shall also be liable for any compensation accruing under relevant clause of tender.

(iii) In other cases, the decision of the Owner is binding on the contractor.

(b) In such events of clause 5.17 (a) (i) or (ii) above

i. The whole or part of the security deposit furnished by the Contractor is liable to be forfeited without prejudice to the right of the Owner to recover from the contractor the excess cost referred to in the sub-clause aforesaid, the Owner shall also have the right of taking possession and utilizing in completing the works or any part thereof, such of materials, equipment and plants available at work site belonging to the contractor as may be necessary and the Contractor shall not be entitled for any compensation for use or damage to such materials, equipment and plant.

ii. The amount that may have become due to the Contractor on account of work already executed by him shall not be payable to him until after the expiry of six (6) months reckoned from the date of termination of contract or from the taking over of the work or part thereof by the Owner as the case may be, during which period the responsibility for faulty materials or workmanship in respect of such work shall

under the contract, rest exclusively with the contractor. This amount shall be subject to deduction of any amounts due from the Contractor to the Owner under the terms of the contract authorized or required to be reserved or retained by the Owner

(b) Before determining the contract as per clause 5.17 (a) (i) or (ii) above provided in the judgments of the Owner, the default or defaults committed by the Contractor is/are curable and can be cured by the Contract if an opportunity given to him, then the Owner may issue notice in writing calling the Contractor to cure the default within such time specified in the notice

(c) The Owner shall also have the right to proceed or take action as per clause 5.17(a) (i) or (ii) above, in the event that the contractor becomes bankrupt, insolvent, compounds with his creditors, assigns the contract in favour of his creditors or any other person or persons or being a company or a corporation goes into liquidation, provided that in the said events it shall not be necessary for the Owner to give any prior notice to the contractor

(d) Termination of the Contract as provided for in sub-Clause 5.17 (a) (i) above shall not prejudice or affect their rights of the Owner which may have accrued up to the date of such termination

5.18 Contractor remains liable to pay compensation if action not taken under clause 5.17

In any case in which any of the powers conferred upon the owner by clause 5.17 hereof shall have become exercisable and the same had not been exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall not withstanding be exercisable in the event of any further case of default by the contractor for which by any clause or clauses hereof he is declared liable to pay compensation amount to the whole of his security deposit and the liability of the contractor for past and future compensation shall remain unaffected. In the event of the Owner putting in force the powers vested in him under the proceeding clause 5.17 he may if he do so desires, take possession of all or any tools and plants, materials in or upon the works of the site thereof belonging to the contractor or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates or in case of these not being applicable at current market rates to be certified by Owner whose certificate thereof shall be final, otherwise the Owner may give notice in writing to the contractor of the works, foremen or other authorized agent, requiring him to remove such tools, plant, materials from the premises (within a time to be specified in such notice), and in the event of the contractor failing to comply with any such requisition, the Owner may remove them at the contractor's expenses or sell them by auction or private sale on account of the contract and at his risk in all respects without any further notice as to the date, time or place of sale and the certificate of the Owner as to the expense of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

5.19 No Compensation for alteration in or restriction of Work:

At any time from the commencement of the work if the Owner decides for whatsoever

reason, not to carry out the whole work or part thereof as specified in the tender, then Owner shall give notice in writing of the fact to the contractor, who shall have no claim to any payment or compensation on whatsoever account (profit or advantage which he might have derived by executing the work in full) neither shall he have any claim for compensation by reason of any alterations having been made from the original specifications, drawings, designs and instructions which may involve any curtailment of the work as originally contemplated.

5.20 Change in Constitution:

When the contractor is a partnership firm the prior approval in writing from the Owner shall be obtained before any changes are made in the constitution of the firm, where the contractor is an individual or a Hindu undivided family business concern. Such approval as aforesaid shall, like wise be obtained before such contractor enters into any agreement with other parties, where under the reconstituted firm would have the right to carry out the work hereby undertaken by the contractor.

5.21 Termination of Contract:

Termination by Company (GIPCL)

The Company, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons thereof to the Contractor, referring to this GCC:

(a) if the EPC Contractor/Contractor becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Supplier/EPC Contractor is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Supplier/EPC Contractor takes or suffers any other analogous action in consequence of debt

(b) If the Supplier/EPC Contractor assigns or transfers the Contract or any right or interest therein in violation of the provision of this Contract;

(c) If the Supplier/EPC Contractor, in the judgment of Company has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. For the purpose of this Sub-Clause:

"Corrupt practice" 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 Company and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive Company of the benefits of free and open competition.

(d) If the Supplier/EPC Contractor

(i) has abandoned or repudiated the Contract;

(ii) has without valid reason failed to commence work on the Facilities promptly or has suspended the progress of Contract;

(iii) has materially breached the conditions of the Contact;

(iv) persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause;

(v) Refuses or is unable to provide sufficient materials, services or labor to execute and complete the Facilities in the manner specified in the Contract;

(e) The Company may, without prejudice to any other rights it may possess under the Contract, give a notice to the Supplier/EPC Contractor stating the nature of the default and requiring the Supplier/EPC Contractor to remedy the same. If the Supplier/EPC Contractor fails, to remedy or to take steps to remedy the same, within [fourteen (14)] days of its receipt of such notice, then Company, may terminate the Contract forthwith, by giving a notice of termination to the Supplier/EPC Contractor.

Upon receipt of the notice of termination from Company, the Supplier/EPC Contractor shall either immediately or upon the date specified in the notice of termination:

(a) Cease all further work, except for such work as Company may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition;

(b) Terminate all subcontracts, except those to be assigned to Company pursuant to paragraph (d) (iii) below;

(c) Remove all EPC Contractor/Supplier's Equipment from the Site, repatriate the /Supplier's and its Sub-Contractors' personnel from the Site, remove from the Site any wreckage, rubbish and debris of any kind, and leave the whole of the Site in a clean and safe condition.

(d) In addition, the Supplier/ EPC Contractor shall:

(i) Deliver to Owner the parts of the Facilities executed by the Supplier/ EPC Contractor up to the date of termination provided the Company requests for the same;

(ii) To the extent legally possible, assign to Company all right, title and benefit of the Supplier/ EPC Contractor to the Facilities and to the Plant and Equipments as at the date of termination, and, as may be required by Company, in any subcontracts concluded between the Supplier/ EPC Contractor and its Sub-Contractors;

(iii) Deliver to Company all non-proprietary drawings, specifications and other documents prepared by the EPC Contractor /Supplier or its Sub-Contractors as at the date of termination in connection with the Facilities.

Upon termination of the Contract pursuant to this GCC Clauses, Company may enter upon the Site, expel the EPC Contractor /Supplier, and complete the Facilities and the Scope of Work as specified in the Contract, either itself or by employing any third party at the sole cost of the EPC Contractor /Supplier. Company shall have right in case the termination has happened because of EPC Contractor /Supplier's default, to claim the price from the EPC Contractor/Supplier that it incur for completion of the

Facilities and/or the additional cost it incur in case of replacing the EPC Contractor /Supplier by some other Contractor/supplier. The Performance Guarantee shall also be forfeited by the Company in case the Contract is terminated because of the EPC Contractor /Supplier's default and it has failed to compensate the Company for the cost incurred or to be incurred which has arisen due to such event.

5.22 Members of the Owner not individually liable:

No Director or official or employee of the Owner shall in any way be personally bound or liable for the acts or obligations of the Owner under the contract or answerable for any default or omission in the observance or performance of the acts, matters or things which are herein contained.

5.23 Owner not bound by Personal representation:

The Contractor shall not be entitled to any increase on the scheduled rates or any other rights or claims whatsoever by reason of any representation, explanation, statement or alleged understanding promise or guarantees given or to have been given to him by any person.

5.24 Contractor's Sub-ordinate Staff and their Conduct:

a) The contractor on award of the work shall name and depute a qualified engineer having sufficient experience in carrying out work of similar nature to whom the equipment, materials if any, shall be issued and instruction for works given. The contractor shall also provide to the satisfaction of the Owner sufficient and qualified staff to supervise the execution of the works, competent sub-agents, foremen and leading hands including those specially qualified by previous experience to supervise the types works comprised in the contract in such manner as will ensure the best quality and expeditious working. At any time of in the opinion of the Owner any additional, qualified experienced staff is considered necessary, they shall be employed by the contractor without additional charge. The contractor shall ensure to the satisfaction of the Owner that sub-contractors, if any, shall provide competent and efficient supervision over the work entrusted to them.

(b) If any of the contractor's sub-contractor's, agents, sub-agents, assistants, foremen or any employee in the opinion of Owner be guilty of any misconduct or be incompetent or insufficiently qualified or negligent in the performance of their duties or that in the opinion of the Owner, undesirable for administrative or any other reasons, for such or person (s) to be employed on the works, then at the directions of Engineer-in- Charge the Contractor shall at once remove such person (s) from employment with the works without the written permission of the Engineer –in-Charge. Vacancy so created shall be immediately filled at the expenses of the contractor by a qualified and competent substitute. Should the contractor be requested to repatriate any person removed from the works he shall do so and shall bear all costs in connection there with.

c) The contractor shall be responsible for the proper behaviour of all the staff, foremen, workmen and others, shall exercise proper degree of control over them and in particular without prejudice to the said generality the contractor shall be bound to prohibit/ prevent any employees from trespassing or acting in any way detrimental or prejudicial to the interest of the community or the properties or the occupiers of land or properties in the neighbourhood. In the event of such trespassing, the contractor shall be responsible for all consequent claims or actions for damages or injury or any other grounds whatsoever. The decision of the Owner upon any matter arising under this clause shall be final.

(d) If and when required by the Owner, all contractor's personnel entering upon the owner's premises shall be properly identified by badges of a type acceptable to

the owner which must be worn at all times on Owner's premises.

(e) It is made clear that no relationship of Owner and employee is created between the owner and the contractor labourer and no claim for employment of any such labourer shall be tenable or entertained.

5.25 Sub-letting Work:

a) No part of the contract nor any share or interest there in shall in any manner or degree be transferred, assigned or sublet by the contractor directly or indirectly to any person, firm or corporation whatsoever except as provided for in the succeeding sub-clauses without the consent in writing of the Owner.

b) **Sub – Contracting of Works:**
The Owner may give written consent to sub-contract for the execution of any part of the works at the site, provided the contractor submits each individual sub-contract to the Owner for approval of mode of operation and agency for the work. The contractor is advised not to enter into contract before the consent of Owner.

c) **Contractor's liability not Limited by Sub-Contractors:**
Notwithstanding any sub-letting with such approval as aforesaid and notwithstanding that the Owner shall have received copies of any sub-contracts, the contractors shall be and shall remain solely responsible for the quality and proper and expeditious execution of the works and the performance of all the conditions of the contract in all respects as if such sub- contract or sub-letting had not taken place, and as if such work had been done directly by the contractor.

d) **Owner may terminate sub-contracts:**
If any sub-contractor engaged upon the works at the site executes any work which in the opinion of the Owner is not in accordance with the contract documents, the owner may by written notice to the contractor request him to terminate such sub-contract. The contractor upon the receipt of such notice shall terminate and dismiss the sub-contract and the sub-contractor. The owner shall have the right to remove such sub-contractor from the site if contractor fails to vacate the sub-contractor immediately.

e) **No remedy for action taken under this clause:**
For action taken by the owner under this clause shall not relieve the contractor of any of his liabilities under the contract or give rise to any right or compensation, extension of time or otherwise.

5.26 Power of Entry:

If the contractor shall not commence the work in the manner described in the contract documents or if he at any time in the opinion of the Owner.

a) fail to carry on the works in conformity with the contract documents or
b) fail to carry on the works in accordance with the contract schedule or
c) substantially suspend work or the works for a period of fourteen days without authority from the Owner or
d) fail to carry on and execute the works to the satisfaction of Owner or
e) fail to supply sufficient or suitable constructional plant, temporary works, labour materials or other things or
f) Commit, suffer or permit any other breach of any of the provisions of the contract on his part to be performed or observed or persist in any of the above mentioned breaches of the contract for fourteen days, after notice in writing shall have been given to the contractor by the Owner requiring such breach to be remedied or

g) If the contractor abandons the works or

h) If the contractor during the continuance of the contract shall become bankrupt, make any arrangement or composition with his creditors, or permit any execution to be levied or go into liquidation whether compulsory or voluntary not being merely a voluntary liquidation for the purpose of amalgamation or reconstruction then in any such case, the owner shall have the power to enter upon the works and take possession thereof and of the materials, temporary works, constructional plant, and stock thereon, and to revoke the contractor's license to use the same, and to complete the works by his agents, other contractors, or workmen, or to relate the same upon any terms and to such other person, firm or corporation as the Owner in his absolute discretion may think proper to employ and for the purpose aforesaid to use or authorize the use of any materials, temporary works, constructional plant, and stock as aforesaid, without making payment or allowance to the contractor for the said materials other than such as may be certified in writing by Owner to be reasonable, and without making any payment or allowance to the contractor for the use of temporary said works, constructional plant and stock or being liable for any loss or damage thereto and if the Owner shall by reason or his taking possession of the work or of the works being completed by other contractor (due account being taken of any such works which may be omitted) than the amount of such excess as certified by the Owner shall be deducted from any money which may be due for work done by the contractor under the contract and not paid for any deficiency shall forthwith be made good and paid to the Owner by the contractor and the Owner shall have power to sell in such manner and for such price as he may think fit all or any of the constructional plan, materials etc. constructed by or belonging to and to recoup and retain the said deficiency or any part thereof out of the proceeds or the sale.

5.27 Contractor's Responsibility:

a) The contractor shall conform in all respect with the provisions any statutory regulation, ordinance or bye-laws of any local or duly constituted authorities or public bodies which may be applicable from time to time to the works or any temporary works. The contractor shall keep the Owner indemnified against all penalties and liabilities of every kind, arising out of non-adherence to such statues, ordinances, laws, rules, regulations, etc.

b) The Contractor shall acquire in its name all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings that are necessary for the delivery of the equipments at Site.

5.28 Serving of Notices:

a) To the Contractor:

Any notice may be served on the contractor or his duly authorized representatives at the job site or by registered mail directly to the address furnished by the contractor.Proof of issue of such notice should be conclusive of the contractor having been duly informed of the contents.

b) To the Owner:

Any notice to be given to the Owner under the terms of the contract shall be served by sending the same by Registered mail to or delivering the same at the office of M/s. Gujarat Industries Power Company Ltd. addressed to the head/ site in-charge.

5.29 Rights of various Interests:

a) The Owner reserves the right to distribute the work between more than one Contractors. The contractor shall cooperate and afford the other contractors all reasonable opportunity for access to the works for the carriage and storage of materials and execution of their works

b) Wherever the work being done by any department of the Owner or by the contractor employed by the Owner as per the contingent upon work covered by this contract, the respective rights and various interests involved shall be determined by the Owner to secure the completion of the various portions of the work in general harmony.

5.30 Execution of Works:

All the work shall be executed in strict conformity with the provisions of the contract documents explanatory detailed drawings, specifications and instructions by the Engineer-in-Charge whether mentioned in the contract or not. The contractor shall be responsible for ensuring that works are executed in the most substantial, proper and workman like manner using the quality materials and labour, throughout the job Completion in strict accordance with the specifications and to the entire satisfaction of the Owner. Any loss or damage to existing structure and properties belonging to the Owner, if such loss or damage is due to fault and/or the negligence or willful acts or omission of the contractor, his employee, agents, representatives or sub contractor. In such cases, the decision of GIPCL for compensation against such loses will be final and binding to the Contractor.

5.31 Work on Sundays and Holidays:

For carrying out works on Sundays and holidays, the contractor will have to keep the Owner or his representative informed at least two days in advance and obtain permission in writing. The contractor shall observe all labour laws and other statutory rules and regulations in force. In case of any violation of such laws, rules and regulations, consequence if any, including the cost thereto shall be exclusively borne by the contractor and the Owner shall have no liability whatsoever on his account.

5.32 General Conditions of Erection & Installation Work:

a) The normal working hours are as detailed in any Labour agreement appropriate to the works and are generally 7:00 hrs to 20:00 hrs. (Indian Standard Time). The Contractor shall take permission from OWNER for extended working hours. The Contractor shall note that he has to take all precautions and full fill the requirements for round the clock as per site work plan to meet the target dates.
b) The contractor must arrange for the placement of workers in such a way that the delayed completion of the work or any parts thereof or for any reason whatsoever will not affect their proper employment. The Owner will not entertain any claim for old time payment whatsoever.
c) The contractor shall submit to the Owner reports at regular intervals regarding the status and progress of work including colour photographs every month showing the progress of work duly endorsed by the site Engineer should be submitted with the report.
d) All the waste material, debris should be disposed off to the outside premises or any other designated place on regular basis as instructed by Owner for which no separate payment shall be made by GIPCL.
e) Contractor should mobilize all resources for efficient & smooth execution of contract with effect from the issuance of LOI or Work order.

5.33 Labour Laws:

Contractor shall comply with any and all laws, ordinances, regulations and decision of courts concerning the health, sanitary arrangements, wages, welfare, safety and employment of any and all of his workers upon the Project or any portion thereof and shall exclusively bear the consequences of failure to comply therewith Contractor shall Indemnify and hold Owner harmless from any claims, fines or penalties which may be made against Owner as result of Contractor's failure to fulfill these obligations.

Without limiting the generality of the foregoing, Contractor shall fully comply with.
The contractor shall obtain clearance from the Labour Department regarding the compliance of the labour laws and submit to the owner for record.

a) No labour below the age of 18 (eighteen) years shall be employed on the work.
b) The contractor shall not pay less than what is provided under law to labourers engaged by him on the work.
c) The contractor shall at his expense comply with all labour laws and keep the Owner indemnified in respect thereof.
d) The contractor shall pay equal wages for men and women in accordance with applicable labour laws.
e) If the contractor is covered under the contractor labour (Regulation and Abolition) Act, he shall obtain a licence from licensing authority (i.e. office of the labour commissioner) by payment of necessary prescribed fee and the deposit, if any, before starting the work under the contract.
f) The Contractor shall employ labour in sufficient numbers either directly or through sub- contractors to maintain the required rate of progress and of quality to ensure workmanship of the degree specified in the Contract and to satisfaction of the Owner.
g) The contractor shall comply with the provisions of the payment of Wages Act 1936, Minimum Wages Act 1938, and Employees Liability Act 1928. Workmen's Compensation Act, 1923, Industrial Dispute Act 1947, the Maternity Benefit Act 1961, Employees Provident Fund Act, 1952 and Contract Labour regulation and abolition Act 1937, Employment of Children Act 1938 or any modifications thereof or any other law relating thereto and rules made there under from time to time.
h) The Owner shall on a report having been made by an Inspecting Officer as defined in Contract Labour (Regulation and Abolition) Act 1970 have the power to deduct from the moneys due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or Workers by reason of non- fulfillment of the Conditions of the Contractor for the benefit of workers, non-payment of wages or of deductions made from his or their wages which are not justified by the terms of the Contract or non- observance of the said regulations.
i) The Contractor shall indemnify the Owner against any payments to be made under and for the observance of the provisions of the aforesaid Acts without prejudice to his right to obtain indemnity from his sub- contractors.

5.34 Safety norms:

a) Manpower/employees deputed by Contractor shall have to observe all the safely procedures and precautions as per GIPCL norms. They shall use all the required personal protective equipment (PPE) like Safety Helmet, Welding Helmet, Safety Goggles, Hand gloves, Safety shoes, Safety belts etc. while execution of the entire job.
b) As this job is to be executed at the Roofs of buildings, Contractor shall ensure that deputed manpower is medically fit for working at height and not having any problem like height phobia, giddiness etc.
c) GIPCL Doctor shall examine the manpower/persons deputed by Contractor at site and provide fitness certificate without any cost to contractor. If a person is found medically unfit, he will be not allowed to work for 130 KW (AC) Rooftop solar projects.
d) Contractor shall have to take necessary Workmen compensation policy/ or group personal accidents policy to protect their manpower/representatives/employees against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. GIPCL will not be responsible for any accident or injury to the contractor's manpower and GIPCL will not take any liability arising out of any kind of damage or loss to contractor's manpower.
e) It is contractor's whole and sole responsibility to complete the entire job in safe manner without any untoward incident.
f) The entire job shall be executed in safe manner under supervision of competent

supervisor of Contractor. GIPCL will not allow any unsafe working or working without proper arrangements & safety equipments.

g) GIPCL reserve the right to stop the work at any time in case of any unsafe condition is notified during execution of the work.

h) Contractor shall maintain first aid facilities for his employees and those of his subcontractors.

i) Contractor shall make outside arrangements for ambulance service and for treatment of industrial injuries. Name of those providing these services shall be furnished to Owner prior to start of Work.

j) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or Electric Shock. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

5.35 Safety Regulations:

a) In respect of all labour, directly or indirectly employed in the work for the performance of contractor's part of this agreement, the contractor shall at his own expense arrange for all the safety provisions as per (i) Safety codes of Indian Standards Instructions (ii) The Electricity Act, and (iii) Regulations (iv) Safety/Precautions shall be taken while working on Height as per prevailing Indian safety norms. Rules and orders made there under and such other acts as applicable.

b) The contractor shall observe and abide by all fire and safety regulations of the Owner. Before starting the work, contractor shall consult Owner/Owner's representative/Safety Engineer and must make good to the satisfaction of the Owner any loss or damage due to fire to any portion of the work done under this contract or to any of the Owner's existing property.

5.36 General Rules:

Smoking within the Battery Area/ Plant premises/ GIPCL House is strictly prohibited. Violators of the "No Smoking" rules shall be discharged immediately".

5.37 Contractor's Barricades:

a) Contractor shall erect and maintain barricades required in connection with his operation to guard or protect:

(i) Areas adjudged hazardous by Contractor's or Owner/Owner's representative.

(ii) Owner's existing property subject to damage by Contractor's operation

b) Contractor's employees and those of his sub-contractors shall become acquainted with Owner's barricading practice and shall respect the provisions thereof.

5.38 Inspection and Testing:

Company, or its authorized representative shall have, at all reasonable time, access to the Supplier's premises and also shall have the power, at all reasonable times, to inspect and examine the materials and workmanship of project work during its manufacture, shop assembly and testing. If part of the plant is required to be manufactured in the premises other than the Supplier's, the necessary permission for inspection shall be obtained by the EPC Contractor/Supplier at its own cost from the Company or its duly authorized representative.

The Owner shall have the right to serve notice in writing to the EPC Contractor /Supplier on any grounds of objections, which he may have in respect of the work. The Supplier has to satisfy the objection, otherwise, Owner at its liberty may reject all or any component of plant or workmanship connected with such work.

Neither the waiving of inspection nor acceptance after inspection by the Owner shall, in any way, absolve the Contractor of the responsibility of supplying the plant and equipment strictly in accordance with specification and drawings etc.

(a) The Owner/Owner's representative will have full power and authority to inspect the works in progress at any time wherever the premises/ workshops situated, of the Contractor, person, firm or corporation where works in connection with the contract may be or where materials are being or intended to be supplied. The Contractor shall afford or procure every facility and assistance to Owner to carry out such inspection. The contractor shall, at all time during the usual working hours and at all other times at which reasonable notice of the intention of the Owner or his representative to visit the works shall have been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing be present for the purpose. Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

(b) **Priority List :** The priority list for approval of the materials for all the items of works shall be as follows:

i. As approved by the Owner.
ii. ISI marked.
iii. Conforming to IS.
iv. As per the make specified in the relevant item of work.
v. Equivalent to the make specified.

5.39 Discrepancies between Instructions:

Wherever a reference to any Indian Standard appears in the specifications, it shall be taken to mean as a reference to the latest edition of the same in force on the date of agreement. The distance which constitutes lead shall be determined along the shortest practical route and not necessarily the route actually taken. The decision of the Owner's Engineer in this regard shall be taken as final. Where no lead is specified, it shall mean "all leads".

Should any discrepancy arise between the various instructions furnished to the contractor or his agents or staff or if any doubt arises on the meaning or implementation of any such instructions or should there be any difference of opinion on the issues, the contractor shall refer the matter immediately in writing to the Owner whose decisions thereon shall be final and conclusive. No claim on losses alleged to have been caused by such discrepancies between instructions, doubts or misunderstanding shall in any event be admissible.

5.40 Alterations in Specifications and Designs:

The Project Head shall have power to make any alterations, in omission from additions to or substitutions, for the schedule of rates, the original specifications, drawings and instructions that may appear to him to be necessary or advisable during the progress of the work, and the contractor shall be bound to carry out such altered/ extra/ new items of work in accordance with any instructions which may be given to him in writing signed by the Project Head and such alterations, omissions, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor without any cost

implication to GIPCL, on the same conditions in all respects on which he agreed to do the main work.

5.41 Action where no Specification is used:

In case of any class of work for which there is no such specification supplied by the Owner as is mentioned in the tender document such work shall be carried out in accordance with the Indian Standard Specifications. If the Indian Standard Specifications do not cover the same, the work should carried out as per standard Engineer in Practice subject to the approval of the Owner.

5.42 Tests for Quality Work:

(a) All materials and workmanship shall be of the respective kinds described in the contract documents and in accordance with the instructions of the Owner and shall be subjected from time to time to such tests at contractor's cost as the Owner may direct at the place of manufacture or fabrication or at the site or at all or any such places. The contractor shall provide assistance, instruments, machines, labour and materials as are required for examining, measuring and testing any workmanship as may be selected and required by the Owner.

(b) All the tests that will be necessary in connection with the execution of the work as decided by Owner shall be carried out at the Govt. approved testing laboratory.

(c) If any tests are required to be carried out in connection with the work or materials or workmanship not supplied by the contractor, such tests shall be carried out by the contractor as per the instructions of Owner and cost of such tests shall be in the scope of Contractor.

5.43 Samples:

The contractor shall furnish to the Owner for approval when request or if required by the specifications, adequate samples of all materials and finished to be used in the work at no extra cost. Such samples shall be submitted before the work is commenced and in sample time to permit tests and examinations thereof. All materials furnished and finishes applied in actual work shall be fully equal to the approved samples.

5.44 Liabilities for defects, imperfections etc. and rectifications thereof:

If it shall appear to the Owner that any work has been executed with unsound, imperfect or unskilled workmanship, or with materials of any inferior description, or that any materials or articles provided by the contractor for the execution of work are unsound or of quality inferior to that contracted for, or otherwise not in accordance with the contract, the contractor shall on demand in writing from the Owner or his authorized representative specifying the work, materials or articles complained of, notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith rectify or remove and reconstruct that work so specified and provide other proper and suitable materials or articles at his own charge and cost, and in the event of failure to do so within a period to be specified by the Owner in his demand aforesaid, the Owner may on expiry of notice period rectify or remove, and re-execute the work or remove and replace with others, the materials or articles complained of as the case may be at the risk and expense in all respects of the contract. The decision of the Owner as to any question arising under this clause shall be final and conclusive.

5.45 Suspension of Work:

The contractor shall if ordered in writing by the Owner, or his representative, temporarily suspend the works or any part thereof such period and such time as so ordered and shall not, after receiving such written orders, proceeds with the work therein, ordered to be suspended until he shall have received a written order to

proceed therewith. The contractor shall not be entitled to claim compensation for any loss or damage sustained by him by reason of temporary suspension of the works aforesaid. An extension of time for completion, corresponding with the delay caused by any such suspension of the works as aforesaid will be granted to the contractor should be apply for the same provided that the suspension was not consequent to any default or failure on the part of the contractor.

5.46 Possession Prior to Completion:

The Owner shall have the right to take possession of or any completed or partially completed work or part of the work. Such possession or use shall not be deemed to be an acceptance of any work completed in accordance with the contract. If such prior possession or uses by the Owner delay the progress of work, equitable adjustment in the time of completion will be made and the contract agreement shall be deemed to be modified accordingly.

5.47 Warranty and Guarantee:

The contractor shall guarantee the installation/work for a period as indicated in RFP documents. Any damage or defect that may arise though remained undiscovered at the time of issue of completion certificate, connected in any way with the equipment or materials supplied by him or in the workmanship shall be rectified or replaced by the contractor at his own expenses as deemed necessary by the Owner or in default the Owner may cause the same to be made good by other agency and deduct expenses (of which the certificate or Owner shall be final from any sums that may be then or at any time thereafter become due to the contractor or from his security deposit, or the proceeds of sale thereof or of a sufficient portion thereof.

If the contractor feels that any variation in work or in quality of materials or proportions would be beneficial or necessary to fulfill the guarantees called for, he shall bring this in writing to the notice of the Owner

From the commencement to completion of the work, the contractor shall take full responsibility for the care of all works including all temporary works and in case any damage, loss or injury shall happen to the work or to any part thereof or to any temporary works from any cause whatsoever, shall at his own cost repair and make good the same so that on completion the work shall be in good order and in conformity in every respects with the requirements of the contract and the Owner Instructions.

a) **Defects prior to Taking Over:**

If at any time before the work is taken over, the Owner shall:

Decide that any work done or materials used by the contractor or any sub-contractor is defective or not in accordance with the contract, or that the works or any portion thereof are defective, or do not fulfill the requirements of contract (all such matter, being hereinafter, called 'Defects' in this clause) and (b) as soon as reasonably practicable gives to the contractor notice in writing of the said decision specifying particulars of the defects claimed to exist or to have occurred then the contractor shall at his own expenses and with all speed make good the defects so specified.

In case contractor shall fail to do so, the Owner may take, at the cost of contractor, such steps as may in all circumstances be reasonable to make good such defects. The expenditure so incurred by the owner to be recovered from the amount due to the contractor. The decision of the Owner with regard to the amount to be recovered from the contractor will be final and binding on the contractor. As soon as the works have been completed in accordance with the contract (except

minor respects that do not affect their use for the purpose for which they are intended and except for maintenance thereof provided in other relevant clauses of General Conditions of Contract) and have passed the tests on completion, the Owner shall issue a certificate (hereinafter called completion certificate) in which he shall certify the date on which the works have been so completed and have passed the said tests and the Owner shall be deemed to have taken over the works on the date so certified.

(b) **Defects after Taking Over:**

In order that the contractor could obtain a completion certificate he shall make good with all possible speed, any defect arising from the defective materials supplied by the contractor or that may have been notices or developed, after the works or group of the works has been taken over, the period allowed, for carrying out such work will be normally one month. If any defect be not remedied within a reasonable time, the owner may proceed to do the work at contractor's Risk and expenses and deduct from the final bill such amount as may be decided by the Owner. If by reason of any default on the part of the contractor a completion certificate has not been issued in respect of every portion of the works within one month after date fixed by the contract for the completion of the works, the Owner shall be a liberty to use the work or any portion thereof in respect of which a completion certificate has not been issued, provided that the works or the portion thereof so used as aforesaid shall be afforded reasonable opportunity for completion of these works for the issue of completion certificate.

Please also refer technical part / Special Condition of contracts of the tender for Warranty/Guarantee.

5.48 Change Order:

"Change Order" means a written order from the OWNER to the CONTRACTOR after the Zero Date of the Contract requiring a change in any part of the Work or supply of Goods that may involve change (Addition/Deletion) in the Scope of Work or supply of Goods.

5.49 Payment of Contractor's Bills:

No payment shall be made for works estimated to cost less that Rs.10,000/- till the whole of the work shall have been completed and a certificate of completion given. But in case of works estimated to cost more than Rs.10,000/- the contractor, on submitting the bill thereof be entitled to receive a monthly payment proportionate to the part thereof approved and passed by Owner, whose certificate of such approval and passing of the sum so payable be final and conclusive against the contractor. This payment will be made within 30 days from the date of receipt of clear Invoice with all supporting documents after making necessary deductions as stipulated elsewhere in the contract document for materials, security deposit etc., or any statutory recoveries.

Payment due to the contractor shall be made by the Owner, by Crossed Account Payee Cheque/ NEFT/RTGS. In no case will owner be responsible if the Cheque is mislaid or misappropriated by un-authorized person/ persons. In all cases, the contractor shall present his bill duly pre-receipted on proper revenue stamp.

Also Refer Special Condition of contract / Technical documents for payment terms.

All payment shall be made in Indian Currency.

5.50 Completion Certificate:

(a) Intimation for completion of work:

When the contractor fulfils his all obligations as per Contract, he shall intimate to Owner for completion of the work. After inspection of works, Owner will inform the defects/pending points/punch points to Contractor. Contractor shall attend all the defects/ pending points/ punch points. After completion of works, Operational Acceptance Test (OAT) of all individual (2x50 + 1x20 + 1x10 KW(AC)) rooftop solar Plants shall be arranged by Contractor.

(b) **Issue of Completion Certificate:**

The Contractor shall submit the warranty/Guarantee /defect liability period to the Owner.

After completion of Operational Acceptance Test (OAT), test report shall be prepared by contractor and shall be submitted to Owner. After review, Owner will initiate the process of internal approval for the OAT test report. Subject to meeting, the tender performance requirements, after successful completion of OAT test and internal approval by Owner, shall issue the completion certificate to the Contractor.

5.51 Certificate and payments no evidence of completion:

Except the final Certificate no other certificate or payment against a certificate or on general account shall be taken to be an admission by the Owner of the due performance of the contract of any part thereof or of occupancy or validity of any claim by the Contractor.

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5.52 Taxes, Duties, Octroi etc.:

The price quoted shall be inclusive of all applicable taxes, duties, levies as applicable (as per the format of the Financial Proposal), which shall be paid on production of documentary evidences for the same. Bidders shall quote the rates as well as all taxes and duties based on the concessional exemption that can be availed by the Bidder.

The Price shall be deemed to include and cover all costs, expenses, taxes, duties, levies, royalties, foreign exchange variation etc. and liabilities of every description and all risks associated in execution, completing and handing over the work to the Owner by the Contractor.

GIPCL shall deduct income tax, works contract tax /GST or any other similar tax as applicable on works contract as per the prevailing rates from the bills of the Contractor. GIPCL shall not be responsible for any liability on this account on the Contractor in respect of this contract and exclusion of any applicable taxes at prescribed rates due to ignorance or otherwise shall not form a reason for claiming anything extra at a later date.

Statutory variations in the tax shall be permitted as under:

(A) Statutory variations during original contractual completion period :

(i) If any increase takes place in taxes and duties due to statutory variation, then GIPCL shall admit the same on production of documentary evidences.

(ii) If any decrease takes place in taxes and duties due to statutory variation, the same shall be passed on to GIPCL shall admit the decreased rate of taxes and duties while making the payment.

(B) Statutory variations beyond original contractual completion period :

(i) If reasons for extension of contractual completion period is attributable solely to GIPCL, the provisions of (A) (i) above shall apply.

(ii) If reasons for extension of contractual completion period is attributable to Bidder, then:

(a) If any increase takes place in taxes and duties due to statutory variation, then GIPCL shall not admit the same; however GIPCL shall admit the taxes and duties at the rate prevailing during payment of last invoice raised during original contract completion period.

(b) If any decrease takes place in taxes and duties due to statutory variation, the same shall be passed on to GIPCL or GIPCL shall admit the decreased rate of taxes and duties while making the payment.

Variation on account of exchange rate will not be payable. No statutory variation shall be payable by GIPCL on the input items. i.e. raw materials etc.

No statutory variation shall be admitted if the excise duty becomes payable because of exceeding of the prescribed limits for turnover of the Bidder.

Any subsidies, deduction to promote Renewable energy passed by Government of Gujarat/Statutory bodies or Government of India shall be directly passed to Owner during contract period.

5.53 Damage to Property or to any person or any third Party:

a) Contractor's rate shall deem to include taking into account that he has to work in operating plant premises and GIPCL House (MD Residence), shall take sufficient care in moving the equipments and materials from one place to another so that they do not cause any damage to any person or to the property of the Owner or to a third party including cables, pipelines etc. In the event of such damages including eventual loss of production and operation of the plants or services in any plant or establishment as estimated by the Owner or ascertained or by the third party shall be borne by the Contractor.

b) Contractor shall also be responsible for making good to the satisfaction of the Owner any loss or any damage to all structures and properties belonging to the Owner or being executed or procured or being procured by owner or by other agency within the premises of all the work or Owner. If such loss or damages is due to fault and or the negligence or willful acts or omission of the contractors, his employees, agents, representatives or sub-contractors.

c) The contractor shall indemnify and keep the owner harmless of all claims for damages to property other than owner's property arising under or by reason of this contract if such claims result from the fault and/ or negligence or willful acts or omission of the contractor, agents, representative or sub-contractor.

5.54 Demurrage Dues:

The contractor shall pay demurrage charges incurred by the Owner because of the contractor's failure to load or unload any goods or materials within the time allowed by Transport Agency for such loading or unloading as charges incurred by the contractor

within the permissible time as also charges due on consignments booked by or to him. In case the contractor fails to pay these charges, these charges shall be deducted from any sums, which may be due or become due to the contractor in terms of this contract and/ or any other contract.

5.55 Statutory Acts, Rules and Standards:

The EPC Contractor /Supplier shall comply with all Applicable Laws, which include all the national, provincial, municipal or other laws that affect the performance of the Contract and bind upon the EPC Contractor /Supplier. The EPC Contractor /Supplier shall indemnify and hold harmless Company from and against any and all liabilities, damages, claims, fines, penalties and expenses of whatever nature arising or resulting from the violation of such laws by the EPC Contractor /Supplier or its personnel's.

5.56 Contractor to Indemnify the Owner:

a) The contractor hereby agrees and undertake to indemnify and keep indemnified the Owner and every representative, Officer, employee and agent of the owner, also the Engineer-in-Charge and his staff against all actions, proceedings, claims, losses, demands, costs and expenses of whatsoever nature incurred or suffered or arising out of or in connection with the matters referred to in the relevant Clauses in this tender document and elsewhere for all actions, proceedings, claims, demands, costs and expenses which may be made against the Owner for or in respect of or arising out of any failure on the part of the contractor in the performance of his obligations under the contract. The Owner shall not be liable for or in respect of any demand or compensation payable under any law in respect of or as in consequence of any accident or injury to any workmen or other person in the employment of the contractor or his sub- contractor or otherwise and the contractor stands to indemnify and keep indemnified the Owner at all times during the pendency of the Contract against all such damages and compensation and against all claims, proceedings, costs, charges and expenses of whatsoever nature.

b) **Payment of Claims and Damages:**
Should the Owner have to pay any money in respect of such claims or demands as aforesaid the amount so paid and the cost incurred by the Owner shall be charged to and paid by the Contractor and the contractor shall not be at liberty to dispute or question the right of the Owner to make such payments notwithstanding the same may have been made without his consent or authority or in law or otherwise to the contrary

c) In every case in which by virtue of the provisions of section 12, sub-section (i) of workmen's compensation Act, 1923 or other applicable provision of Workman Compensation act or any other act, the Owner is obliged to pay compensation to workman employed by the contractor in execution of the works, the Owner will recover from the contractor the amount of the compensation so paid, and without prejudice to the rights of Owner under section 12, sub- section (2) of the said act. Owner shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due to the contractor whether under this contract or otherwise. The Owner shall not be bound to contest any claim made under section 12 sub-section (I) of the said Act except on the written request of the contractor and upon his giving to the Owner full security for all costs for which the Owner might become liable in consequence of contesting such claims

5.57 Arbitration:

All disputes or differences whatsoever which shall at any time arise between the parties hereto touching or concerning the works or the execution thereof of the contract or the rights touching or concerning the works or the execution thereof of this contract or the construction meaning operation or effect thereof or to the rights or liabilities of the parties or arising out of or in relation thereto whether during or after completion of the contract or whether before or after determination, fore- closure or breach of the contract (other than those in respect of which the decision of any person is by the contract expressed to be final and binding shall after written notice by either party to the contract to the other of them and to the Appointing Authority hereinafter mentioned be referred for adjudication to a sole Arbitrator to be appointed as hereinafter provided.

For the purpose of appointing the sole Arbitrator referred to above, the Appointing Authority will send within thirty days of receipt of the notice, to the contractor a panel of three names of persons.

The contractor shall on receipt of the names as referred selected any one of the person names to be appointed as a sole Arbitrator and communicate his name to the Appointing Authority within thirty days of receipt of the names. The appointing Authority shall there upon without any delay appoint the said person as the sole Arbitrator. If the contractor fails to communicate such selection as provided above within the period specified, the Appointing Authority shall make the selection and appoint the selected person as the sole Arbitrator.

If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacate his office due to any reason whatsoever sole Arbitrators shall be appointed as aforesaid. The work under the contract shall, however continue during the arbitration proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issues notices to both the parties fixing the date of the first hearing.

The Arbitrator may, from time to time, with the consent of the parties, enlarge the time for making and publishing the award.

The Arbitrator shall give a separate award in respect of each dispute or difference and shall give a reasoned and speaking award/ awards.

The venue of arbitration shall be at Vadodara.

The fees, if any, of the Arbitrator shall, if required to be paid before the award is made and published be paid half and half by each of the parties. The costs of the reference and of the award including the fees, if any of the Arbitrator shall be in the discretion of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid may fix or settle the amount of costs to be so paid.

The award of the arbitrator shall be final and binding on both the parties. Subject to

aforesaid, the provisions of the Arbitration Act 1996 or any Statutory modification or re-enactment thereof and the rules made there under, and for the time being in force shall apply to the arbitration proceeding under this clause.

5.58 Jurisdiction/Governing Laws:

(a) For all disputes arising of this contract, the jurisdiction shall be lie under the jurisdiction of direct courts in the respective areas in the State of GUJARAT (India) only.

(b) **Governing Laws:**

The contract shall be governed by and constructed according to the laws in force in INDIA.

5.59 Language:

All documents, drawings, instructions, design data, calculations, safety manuals, reports, labels and any other date shall be in English Language. All correspondence between the Company (GIPCL) and the bidder shall be in English language.

5.60 Other Conditions:

5.60.1 The Successful bidder shall not transfer, assign or sublet the work under this contract or any substantial part thereof to any other party without the prior consent of GIPCL in writing.

5.60.2 The Successful bidder or its subcontractors shall not display the photographs of the work and not take advantage through publicity of the work without written permission of owner of the Rooftop (GIPCL).

5.60.3 The Successful bidder or its subcontractors shall not make any other use of any of the documents or information of this contract, except for the purposes of performing the contract.

5.61 Rights & Remedies under the Contract only for the Parties:

This contract is not intended & shall not be construed to confer on any person other than the GIPCL & Successful bidder hereto, any rights and / or remedies herein.

5.62 Debarred from Participating in GIPCL's Tender:

GIPCL reserves the right to carry out the performance review of each Bidder from the time of submission of Bid onwards. In case it is observed that a bidder has not fulfilled its obligations in meeting the various timelines envisaged, in addition to the other provisions of the RFP, such Bidders may be debarred from participating in GIPCL's any future tender for a period as decided by the competent authority of GIPCL.

5.63 Correspondence:

Bidder requiring any Techno-Commercial clarification of the bid documents may contact in writing by e-Mail.

Name	Contact Number	Email id
Shri S.N.Purohit	0265- 2234341	snpurohit@gipcl.com
Shri P.S.Goyal	0265-2234411	psgoyal@gipcl.com

Verbal clarifications and information given by the GIPCL or its employees or its Representatives shall not be in any way entertained.

PART – VI

DEFINITIONS

&

ABBREVATIONS

DEFINITIONS & ABBREVIATIONS

In this "Bid / RfP Document" the following words and expression will have the meaning as herein defined where the context so admits:

1.1. "**Affiliate**" means a company that either directly or indirectly

a. controls or

b. is controlled by or

c. is under common control with

A Bidding Company and "control" means ownership by one company of at least twenty six percent (26%) of the voting rights of the other company.

1.2. **"B.I.S."** means specifications of Bureau of Indian Standards (BIS).

1.3. "**Bid/Tender**" means the Techno Commercial and Price Bid submitted by the Bidder along with all documents/ credentials/ attachments/ annexure etc., in response to this RFS, in accordance with the terms and conditions hereof.

1.4. **"Bidder/Bidding Company"** means Bidding Company submitting the Bid. Any reference to the Bidder includes Bidding Company/ including its successors, executors and permitted assigns as the context may require"

1.5. **"Bid Deadline"** shall mean the last date and time for submission of Bid in response to this RFP as specified in Bid Information Sheet.

1.6. **"Bid Capacity** " means capacity offered by the bidder in his Bid under invitation.

1.7. **"CEA"** means Central Electricity Authority.

1.8. **"Chartered Accountant"** means a person practicing in India or a firm whereof all the partners practicing in India as a Chartered Accountant(s) within the meaning of the Chartered Accountants Act, 1949.

1.9. "**Competent Authority''** means General Manager (Business Development & Baroda Operation) of Gujarat Industries Power company Limited himself and/or a person or group of persons nominated by GM for the mentioned purpose herein.

1.10. "**Commissioning"** means Successful completion of the Project / Works by the Contractor and plant has been Successfully operated by the Contractor, for the purpose of carrying out Operational Acceptance Test (OAT) as defined in RfP.

1.11. "**Completion**" means that the Facilities (or a specific part thereof where specific parts are specified in the Scope of Work) have been completed operationally and structurally and put in a tight and clean condition and that all work in respect of

Commissioning of the Facilities or such specific part thereof has been completed as per the Scope of Work.

1.12. **"Company"** means a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto.

1.13. **"Contractor**" means the person(s) whose bid to perform the Contract has been accepted by the Employer and is named as such in the Contract Agreement, and includes the legal successors or permitted assigns of the Contractor.

1.14. "**Capacity Utilization Factor" (CUF**) shall have the same meaning as provided in CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2009 as amended from time to time.

1.15. "**Day**" means calendar day of the Gregorian calendar.

1.16. "Defect Liability Period" means the period of validity of the warranties given by the Contractor, during which the Contractor is responsible for defects with respect to the Facilities (or the relevant part thereof) as provided in Clause No. 3.13 (Defect Liability period) hereof.

1.17. **"Eligibility Criteria**" means the Eligibility Criteria as set forth in Clause 2.2 of this RfP.

1.18. "**Financially Evaluated Entity**" means the company which has been evaluated for the satisfaction of the Financial Eligibility Criteria set forth in Clause 2.2.2 hereof.

1.19. "**GEDA**" means the Gujarat Energy Development Agency

1.20. "GIPCL" means Gujarat Industries Power Company Limited, Vadodara .

1.21. **"IEC**" means specifications of International Electro-Technical Commission.

1.22. "**KW**" means Kilo-Watt.

1.23. **"KWh**" means Kilo-Watt-hour.

1.24. **"MNRE"** means Ministry of New and Renewable Energy, Government of India.

1.25. **"Net-worth**" shall have same meaning as defined in Company Act 2013 and Amendment, if any.

1.26. **"O&M"** means Operation & Maintenance

1.27. "**Owner**" means Gujarat Industries Power Company Ltd.

1.28. "**Project capacity**" means Capacity in KW (AC) allocated to the Bidder for implementation of rooftop solar projects by GIPCL. The project capacity specified is on "AC" output side only.

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

$$\frac{\text{Measured output in KWh at the point of measurement during testing period}}{\text{Installed Plant capacity in KW (DC) x measured radiation intensity in KWh/m}^2}$$

1.31 "**Parent Company**" means a company that holds at least Fifty percent (50%) of the paid-up equity capital directly or indirectly in the Bidding Company as the case may be;

1.32 "**Project Company"** means Company incorporated by the bidder as per Indian Laws in accordance with Clause no 2.2 of Part - II.

1.33 "**Price Bid**" means Envelope II of the Bid, containing the Bidder's quoted Price as per the Annexure of this RFP;

1.34 **Qualified Bidder**" means the Bidder(s) who, after evaluation of their Techno Commercial Bid as per Clause 2.3 of Part-ll stand qualified for opening and evaluation of their Price Bid;

1.35 **"RfP"** means the bidding document issued by the Company including all attachments vide RFP No. GIPCL/RTS/EPC/130 KW(AC)/2019

1.36 "**Rooftop Solar PV**" shall mean solar PV array/system installed on the flat /inclined roof of the building / elevated platform on metallic or concrete structure minimum 10 feet above ground level.

1.37 "**Site**" means the land/building roofs and other places upon which the Facilities are to be installed, and such other land/building roofs or places as may be specified in the Contract as forming part of the Site.

1.38 "**Statutory Auditor**" shall mean the auditor of a Company appointed under the provisions of the Companies Act, 1956 / 2013 or under the provisions of any other applicable governing law.

1.39 "**Successful Bidder(s) / Contractor(s) / Project Developers(s**)" means the bidder who has been awarded the Contract and described as Contractor for the "Project".

1.40 "**SNA**" shall mean State Nodal Agency.

1.41 "Tendered Capacity" Total 130 KW(AC) (2x50 + 1x20 + 1x10) KW (AC)

1.42 "Ultimate Parent Company " shall mean a company which directly or indirectly owns at least twenty-six percent (26%) paid up equity capital in the Bidding Company) and/or in the Financially Evaluated Entity and such Bidding Company and /or the Financially Evaluated Entity shall be under the direct control or indirectly under the common control of such company.

1.43 "Wp" shall mean Watt Peak

PART – VII

APPENDIX

Bidders are requested to enclose this sheet above the copy of the Bid submitted and mention "Y" in the Yes column if the respective document is enclosed in its Bid.

Sr. No.	Enclosures	Attached	
		Yes (Y)	No (N)
1.	Format for Covering Letter		
2.	Bidder's General Information		
3.	Bidder's Eligibility Criteria Form		
4.	Documentary Evidence Showing The Bidder's Claim Of Meeting Eligibility Criteria As Mentioned In Tender		
5.	Format for No Deviation Certificate		
6.	Format of Disclosure of Technology Proposed		
7.	Schedule Of Price (With Price Blanked)		
8.	Documents as per Annexure-2		
9.	Format for Letter of Authority for Bid submission (Annexure – 4)		
10.	Bank Guarantee for Earnest Money Deposit (EMD) (Annexure – 5)		
11.	Format for declaration of eligibility (Annexure-9)		
12.	Certificate of Incorporation, Memorandum of Association, Article of Association		
13.	Copy of (GST) Service tax registration number		
14.	Copy of Income Tax Permanent account No. (PAN), TIN of the Firm, Permanent EPF account No.		
15.	RFP document in hardcopy with sign and seal on each page.		

To,
Shri S N Purohit
General Manager (BD & BO),
M/s. Gujarat Industries Power Co. Ltd
PO: Petrochemical Dist. Vadodara-391 346
Gujarat, India.

Sub:Submission of the RFP Document No. GIPCL/RTS/EPC/130 KW(AC)/2019 dated 21-11-2019

Dear Sir,

We, the undersigned, have considered and complied with the "Instructions to Bidders" and have accepted the terms stipulated in the RFP documents. The scope of work to be offered by the Bidder shall include but not be limited to Design, Engineering, Supply & Procurement, Erection, Testing and Commissioning of Photovoltaic Rooftop Solar Plants of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara and 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, in the State of Gujarat. The Successful Bidder shall be required to ensure the continuous running of plant without any interruption for a period of One year. All the above shall be as per RFP Document No. GIPCL/RTS/EPC/130 KW(AC)/2019.

Also we have familiarized ourselves with the, Buildings Roof surfaces and subsurface, metrological, climatologically and environmental conditions which may exist in the installations area. In full cognizance and compliance with these aforesaid conditions and the regulations of local government authorities, we the undersigned do hereby offer for the Design, Engineering, Supply & Procurement, Erection, Testing and Commissioning of Photovoltaic Rooftop Solar Plants of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara and 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, on EPC basis in the State of Gujarat for which we have Bid. The work covered under the Bid shall be completed to the entire satisfaction of yourselves or your representative in conformity with the RFP documents at the prices accompanying this Bid.

It is a term of our Bid that the Project shall be handed over installed, interconnected, tested, commissioned and modified and shall achieve commissioning not later than 4 (Four) months from the date of LOI. This shall be the essence of the Contract between us.

We further agree and stipulate as follows:

i) Until the final Contract Documents are prepared and executed the RFP documents with any modifications, additions, deletions agreed with the Company(s) and your written acceptance thereof, shall constitute a binding Contract between us, upon terms contained in aforesaid documents and the Financial Proposal accompanying the Bid.

ii) That the Company will not supply any material. In all respects we shall be fully self-sufficient in the performance of the work.

iii) I/ We understand that you are not bound to accept the lowest of the Bid you may receive.

iv) I/ We shall make available to the Company any additional information it may find necessary or require to supplement or authenticate the qualification statement.

v) I/ We acknowledge the right of the Company to reject our Bid without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.

vi) I/ We understand that you may cancel the bidding process at any time and that you are neither bound to accept any Application that you may receive nor to invite the Applicants to Bid for the Project, without incurring any liability to the Applicants.

vii) I/ We further certify that in regard to matters relating to security and integrity of the country, we or any of our Associates have not been charge-sheeted by any agency of the Government or convicted by a Court of Law.

viii) I/ We further certify that no investigation by a regulatory authority is pending either against us or against our Associates or against our CEO or any of our directors/ managers/employees.

ix) I/ We undertake that in case due to any change in facts or circumstances during the bidding process, we are attracted by the provisions of disqualification in terms of the provisions of this RFP; we shall intimate the Company of the same immediately.

x) We understand that the selected Bidder shall either be an existing Company incorporated under the Indian Companies Act, 1956 or Companies Act 2013.

xi) I/ We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by the Company in connection with the selection of Applicants, selection of the Bidder, or in connection with the selection/ bidding process itself, in respect of the above mentioned Project and the terms and implementation thereof.

xii) I/ We agree and undertake to abide by all the terms and conditions of the RFP document.

xiii) We agree to keep the bidding valid for acceptance for a period of 120 (One Hundred and Twenty)days from the due date of this tender (hereinafter referred to as validity period) and the Bid shall not be withdrawn on or after the opening of bidding till the expiration of the validity period or any extension thereof.

xiv) We also undertake not to vary/modify the Bid during the validity period or any extension thereof.

xv) We represent that we have fully satisfied ourselves as to the nature and location of the Project having in mind the general and local conditions and other factors incidental to the performance of the works and the costs thereof.

xvi) We further represent that from our own investigation of the Site of the Project we have fully satisfied ourselves as to the character, quality and quantity of surface and other conditions to be encountered in the performance of the works and we understand and represent that any failure to acquaint ourselves in respect of these matters and the other factors and conditions as set forth shall not relieve us from any responsibility for estimating properly the difficulty and cost of successfully performing the works.

xvii) We also acknowledge and accept that you shall not pay for any discontinuance or low performance rate resulting from malfunction of / or inadequacy of our equipment, instruments or personnel.

xviii) We agree to return to you all reports and technical data provided for our use in preparing this Bid and in the subsequent conduct of the works. We undertake that we will not use the same for any other work/purpose.

xix) We further represent that we have familiarized ourselves with all the terms and provisions of the various parts of the bidding documents and that in making our Bid, we do not rely upon any representation made by any agent or employee of yourselves in respect of the terms of the bidding documents or the nature of the performance of the works.

xx) We submit this Bid with the full understanding that our Bid fully complies with all the terms and conditions of the RFP documents including Bid evaluation criteria and that no deviation/exception to the RFP documents have been taken by us. We also agree that in case we have taken any exceptions/ deviations to the RFP documents, the Company will be free to reject our offer on account of such exceptions/deviations.

Dated this _____ day of _____ 20____ (Year)

Signature: _____

In the capacity of: _____

Duly authorized to sign Tenders for and on behalf of (Name & Address):

_____

_____

Witness:_____

To,
Shri S N Purohit
General Manager (BD & BO),
M/s. Gujarat Industries Power Co. Ltd
PO: Petrochemical Dist. Vadodara-391 346
Gujarat, India.

Sub:Tender No. GIPCL/RTS/EPC/130 KW(AC)/2019 for Implementation of Photovoltaic Rooftop Solar Plants of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara Gujarat & 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, Gujarat, on EPC Basis.

1. Name of the bidder
2. Date of incorporation/ or commencement of business
3. Status of Firm / Company: [Mark√] Proprietorship Firm / Partnership Firm / Company(Private or Public)
4. Registered Office Address:
5. Telephone No. & Fax No.:
6. E-mail ID & Website :
7. GST No. (Copy Attached)

8. Rooftop Solar EPC Contracts execution capacity:

EPC Contracts executed in KW(AC) in Gujarat			**EPC Contracts executed in KW(AC) in India**		
Current Year	**Last Year**	**Second Last Year**	**Current Year**	**Last Year**	**Second Last Year**

9. Plant details:
   a) Location :_____
   b) Description :_____

10. Details of EPC Rooftop Solar Project work executed during last 3 years.

Sr. No.	Project details	Capacity /Size of the Plant (KW(AC))	Year of Completion	No. Of Orders in hand

11. Details of testing facilities available at works:

    a) List of testing equipment.
    b) Quality Plan for manufacturing and Tests carried out on items offered
    c) Details of the test organization available.

12. Describe Quality Control Organization, if any, and give the organization chart.

    a) Are goods offered subject to batch test, random sampling, or full 100% test for Quality check?
    b) Are tests carried out by factory employees or by a separate testing agency?
    c) Are independent quality Control Organization checks made and certificates issued?

13. ISO Certification[If any] [If 'Yes', Please Furnish Details]:

14. Bidder to submit details of qualified manpower for design, engineering, procurement, supply, project execution expertise and experience for development of solar PV power plant.

15. Bidder to submit the company profile with organ gram, manpower details, Bidders manpower for execution of GIPCL's project.

Company Seal

Signature of Bidder

BID ELIGIBILITY CRITERIA FORM

[A] TECHNICAL INFORMATION

The Bidders shall submit the following documentary evidence in support of the above criteria:

a. Rooftop Solar EPC Contracts executed with cumulative commissioned capacity of 100 KW or above in India:

Sr. No.	Project Details	Project capacity (AC/DC) in KW	Supporting document attached (YES/NO)		
			Copy of LoA or work order with zero date and completion schedule	Commissioning certificate	Certificate of satisfactory completion
1					
2					
3					
4					

b. Details of single project of 50 KW or above capacity installed and commissioned.

Sr. No.	Project details	Capacity /Size of the Plant (KW)	Year of Completion	No. of Orders in hand

[B] FINANCIAL INFORMATION

FINANCIAL DATA FOR LAST THREE AUDITED FINANCIAL YEAR

Sr. No.	Description	FY 2016-17	FY 2017-18	FY 2018-19
1	Current Assets			
2	Current Liabilities			
3	Working Capital(1-2)			
4	Annual Turnover			
5	Paid Up Share capital			
6	Free Reserves and Surplus			
7	Networth of Bidder Funds			
8	Profits before Taxes			
9	Return on Equity			

Attached are copies of the last three audited balance sheets, including all related notes, and income statements as indicated above, complying with the following:

i) All such documents reflecting the financial situation of the Bidder.
ii) Historic financial statements must be audited by a certified Chartered Accountant and must be complete, including all notes to the financial statements.
iii) Historic financial statements must correspond to accounting periods already completed and audited (no statement for partial periods shall be accepted).
iv) Filling up of all information is mandatory. Not providing any information or not in line with audited reports accompanied shall make Bid liable for rejection.

Company Seal **Signature of Bidder**

Date:

To,

Shri S N Purohit
General Manager (BD & BO),
Gujarat Industries Power Company Ltd.,
P.O. - Petrochemical,
Dist.: Vadodara-391346.

Sub: No Deviation Certificate regarding Tender for Design, Engineering, Procurement & Supply, Erection, Testing & Commissioning of Photovoltaic Rooftop Solar Plants of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara, Gujarat and 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, Gujarat, on EPC Basis by Gujarat Industries Power Company Ltd.,

Dear Sir,

We, _____
(Bidder's name), confirm our acceptance to all terms and conditions mentioned in the Tender Document, and all subsequent clarifications, in totality and withdraw all deviations raised by us, if any. Further, We declare that all the pages of tender document including all attachments have been read and signed this declaration as a token of acceptance of tender document.

SEAL AND SIGNATURE OF BIDDER

Date:

APPENDIX-5: FORMAT FOR DISCLOSURE OF SOLAR PV TECHNOLOGY PROPOSED

Proposed DC Capacity for each Rooftop solar plants (KWp)	50 KW(AC) STG-1	50 KW(AC) STG-2	20 KW(AC) ADM. Building	10 KW(AC) GIPCL House
PV Module				
Type				
Manufacturer				
Model No.				
Module Capacity				
No. Of Modules				
PCU/Inverter				
Type				
Configuration/Block Size				
Manufacturer				
Model No.				
No. Of Inverters				
Inverter Capacity at 50 Deg. C temperature (KW(AC))				

Date:

To,
Shri S N Purohit
General Manager (BD&BO),
Gujarat Industries Power Company Ltd. ,
P.O.- Petrochemical,
DIST: Vadodara-391346.

Sub: Financial Proposal for Bid for Tender for Design, Engineering, Procurement & Supply, Erection, Testing and Commissioning of Photovoltaic Rooftop Solar Plants of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara Gujarat & 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, Gujarat, on EPC Basis by Gujarat Industries Power Company Ltd.,

Dear Sir,

I,_____
, present the Financial Proposal for the Bid for "Tender for Design, Engineering, Procurement & Supply, Erection, Testing and Commissioning of Photovoltaic Rooftop Solar Plants of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara Gujarat and 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, Gujarat, on EPC Basis through the Tender Document No. _____, confirming that:

i. I agree to all the terms and conditions set forth in this Tender Document. If awarded the Project, the implementation of the Project shall also conform to the terms and conditions, as well as specifications indicated in the Tender Document and as finally indicated by the Evaluation Committee.
ii. Rates quoted in this Bid is for destination prices inclusive of all taxes (unless stated otherwise), levies, duties, packing, forwarding, freight, insurance, loading, unloading, supply, installation, commissioning, and any/all charges for successful Engineering, Supply & Installation, Testing and Commissioning, "Project" at the Site. The break-up of taxes considered are also furnished in price bid.
iii. Rates quoted in this Bid are INCLUSIVE of taxes and duties. The statutory variation in taxes shall be admissible in accordance with the Taxes and duties of Tender Document. Under no circumstances shall escalation in the prices of this Tender Document be entertained.
iv. The details quoted herein stand valid for at least 120 days from the date of opening of the Price Bid.

SCHEDULE OF PRICE

All Schedules of Prices to be submitted online only

Submission Due Date:
(As per Bid Submission Instruction of RFP)

Sr No.	Project Nominal Capacity and location	Min. DC Capacity offered in KWp [A]	Total EPC Cost (excluding Taxes & Duties) Rs. [B]	Taxes and Duties Rs. [C]	Total EPC Cost Rs. [D] = [B] + [C]
1	**STG#1 Building – 50 KW**				
2	**STG#2 Building- 50 KW**				
3	**Adm. Building – 20 KW**				
4	**GIPCL House – Sama road 10 KW**				
5	**Total (in Figures)**				
6	**Total (in Words)**				
7	**Quoted Rate in Rs/KWp = 5D / 5A**				

NOTE:

1) The total of the break-up price (**PRICE FOR SUPPLY OF EQUIPMENTS, ERECTION, TESTING, COMMISSIONING**) shall match with the lump sum total price quoted on EPC basis in price schedule. In case of any discrepancy, the price quoted in the price schedule shall be considered.
2) The Price should be written both in words & figures. No correction in price should be done.
3) Quoted Price should be FIRM and in Indian Rupees Only.
4) Any item of work not mentioned in the above particulars but written elsewhere in the scope of work or in Technical Specification or essentially required for completion of works, commissioning, safety of equipment and operating personnel shall be deemed to have been included in the above particulars.

5) The ACDB location of each rooftop solar plants i.e. (2x50 KW(AC) + 1x20 KW(AC) + 1x10 KW (AC)) shall be communicated to bidders during pre-Bid meeting, Bidders are advised to actually measure the length of Cable from ACDB to point of interconnection/synchronisation with grid and confirm the measurement before quoting the price bid for each rooftop solar projects.
6) The prices quoted should be inclusive of all taxes, duties and levies including GST/Service Tax etc.
7) No variation due to change in forex rate shall be admissible.
8) Delivery point for equipments/materials shall be GIPCL Vadodara Complex for 2X50 KW(AC) + 1x20 KW(AC) and GIPCL House near GIPCL Circle, Sama Road, Vadodara for 1x10 KW(AC) Solar Project.
9) Bidder shall indicate clearly all types of Taxes and duties applicable on above rates. However, Taxes and Duties shall be paid at actual as per statutory provision.
10) If any Statutory Rebate / concession / benefit in taxes and duties is available in lieu of Solar Power Policy shall be passed on to GIPCL.
11) Arithmetical errors will be rectified on the following basis: If there is a discrepancy between words and figures, the amount written in words will prevail.
12) Selection of Bidder shall be based on e-Reverse auction process.
13) The rates quoted by the Contractor shall remain firm inclusive of all taxes and binding till completion of the project in all respect. The rates shall not be subject to escalation. Rates shall be deemed to include and cover all costs, expenses, taxes, duties, levies, royalties, foreign exchange variation etc., and liabilities of every description and all risks associated in execution, completing and handing over the work to the Owner by the Contractor. However, any statutory changes in taxes / duties / levies will be to GIPCL's account. Further any benefits due to statutory changes in taxes / duties / levies shall be passed on to GIPCL. GIPCL shall deduct income tax, works contract tax /GST or any other similar tax as applicable on works contract as per the prevailing rates from the bills of the Contractor. GIPCL shall not be responsible for any liability on this account on the Contractor in respect of this contract and exclusion of any applicable taxes at prescribed rates due to ignorance or otherwise shall not form a reason for claiming anything extra at a later date.

Any subsidies, deduction to promote Renewable energy passed by Government of Gujarat/Statutory bodies or Government of India shall be directly passed to GIPCL during contract period.

GIPCL shall not be responsible for any liability on account of changes taxes / duties / levies in respect of this contract after the schedule project completion date.

Signature:
Name:
Designation
Email:

Seal of Organization

PART VIII

ANNEXURES

1. Details of Site Location:

(A) 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex:

2x50 KW(AC) at STG-1 and STG-2 buildings Roof
1x20 KW(AC) at ADM. Building Roof.

Address: Gujarat Industries Power Company Ltd.
P.O Petrochemical-391346
Dist. Vadodara, Gujarat

Coordinates: 50 KW(AC) at STG-1 building (22°22'35.37"N 73° 6'6.11"E)
50 KW(AC) at STG-2 building (22°22'36.43"N 73° 6'3.62"E)
20 KW(AC) at ADM. building (22°22'30.93"N 73° 6'9.72"E)

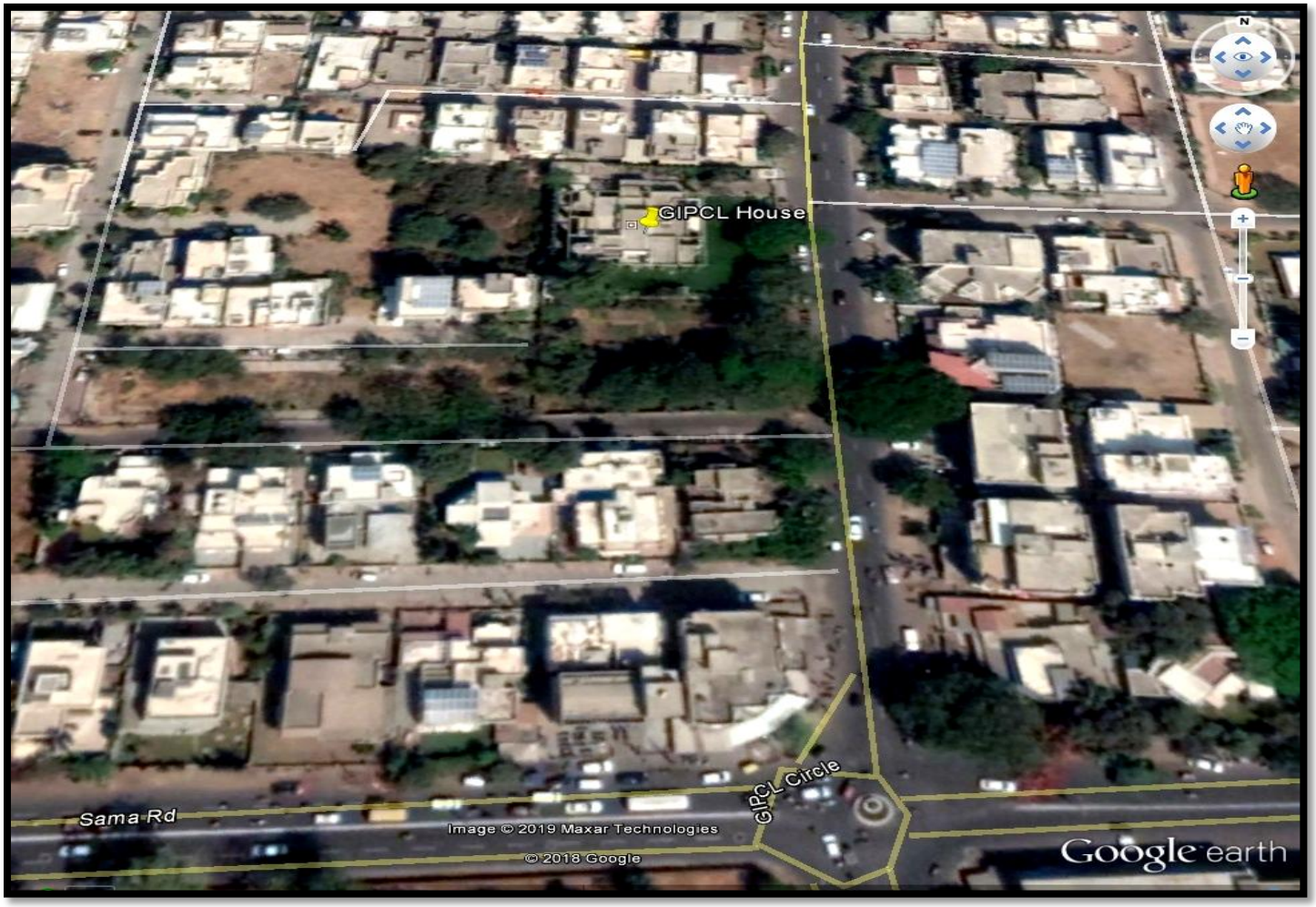
Key Map for Location of STG-1&2 and ADM. Buildings

(B) 1x10 KW(AC) at GIPCL House (MD Residence)

Address: GIPCL House
Near GIPCL Circle, Sama road, Vadodara Gujarat

Coordinates: (22°20'16.49"N 73°11'32.30"E)

Key Map for Location of GIPCL House



Technical Documents to be submitted along with the technical bid (Soft copy as well as Hard copy)

1. Plant single line diagram
2. DC Capacity
3. AC Capacity
4. Inverter Size Configuration

Details of Major Equipments / Items (To be submitted with Bid)

Sr. No.	Description	Make	Model	Capacity / Rating
1.	PV Modules			
2.	DC Cables			
3.	PCUs / Inverters			
4.	AC/DC Cables			
5.	Remote Monitoring System			
6	ACDB			

1) Detailed design, specifications and calculations of the MMS.
2) Plant Layout for each rooftop solar plants.
3) Detailed schematic drawing of control and protection circuit for Inverter.
4) MMS drawing along with weight
5) Bill of Material shall include item description, type, weight, quantity, make, part / model number, specification etc. for all equipments / items supplied for the project.
6) Installation manual for all equipments supplied under this RFP.
7) Operation and maintenance manual for all equipments supplied under this RFP.
8) Earthing drawings for all equipments supplied under this RFP.
9) Parameter settings of inverter.
10) Technical datasheets, GA Drawings, system design documents/philosophy for all equipments supplied under this RFP.
11) MQP,QAP and testing procedure for all equipments supplied under this RFP.
12) Any other documents required for each projects not mentioned above.

All documents / drawings shall be submitted in PDF as well as editable format like autocad, excel, word etc as per requirement by GIPCL.

Documents to be submitted after award of Contract in Soft copy and Hard Copy:

a) PV Module:

1) GA drawing of PV module indicating detailed dimensions, DC cable length, details of mounting holes, etc.
2) Performance data at STC as well as NOTC.
3) Graphs indicating: (a) Efficiency v/s. Temperature at incident irrad. For 200W/m2, 400 W/m2, 600W/m2, 800W/m2, 1000W/m2. (b) Efficiency v/s. Incident radiation at STC condition. (C) I-V curves at various temperatures like STC, 6 º C, 25 º C, 35 º C, 46 º C as well as at various incident radiations for 200W/m2, 400 W/m2, 600W/m2, 800W/m2, 1000 W/m2. (d) Temperature Vs Power at incident radiation for 200W/m2, 400 W/m2, 600W/m2, 800W/m2, 1000W/m2.
4) IEC certificates and other certificate as applicable.
5) Certificate of PV Cell and PV Cell QC documents from Original cell manufacture applicable to PV Modules supplied under this contract.
6) Installation Manual
7) List of Sr. No. / RFID as per details mentioned in tender specification in Scope of Work for PV Modules.
8) Warrantee & Guarantee Certificate.
9) O & M Manual

Further following details to be filled by the Bidder after award of contract:

A.	**Minimum guaranteed performance parameters**	**Information to be filled in by the Bidder**
1	Manufacture	
2	Make of PV Cell with country of origin	
3	Model	
4	Type (Type of Technology)	
5	Annual manufacturing capacity	
11	Power rating under standard testing conditions(STC) i.e.	
12	Power rating under PTC(PVUSA (Photovoltaic Utility scale application)Test condition)	
13	Tolerance in power rating	
14	Rated Power per Square meter (watts) of module	
15	Module Efficiency at STC	
16	Temperature co-efficient of power (%/^{O}C)	
17	Permitted module temperature under continuous duty	
18	Module efficiency under irradiance of 200 W/m^2, 25 ^{O}C and AM 1.5	
19	Power rating at Normal Cell Operating Temperature	
20	Series Fuse Rating (amps)	
B.	**General Electrical Characteristics under STC**	
1	Voc (Open circuit voltage at STC)	
2	Isc (Short circuit current at STC)	
3	Vmp (Voltage at maximum power point at STC)	
4	Imp (Current at maximum power point at STC)	
5	Individual cell voltage, current ,power & efficiency	
6	No. of Bus bar in module	
7	Open-Circuit Voltage Temperature Coefficient (mV per degree C)	
8	Short-Circuit Current Temperature Coefficient (mA per degree C)	
9	Fill factor(Shall be ≥0.75)	
C.	**Guaranteed overall design specifications**	
1	General module configuration	
2	Maximum system voltage	
3	Maximum reverse current	
4	Structural strength for sustaining wind load	
5	Permitted module temperature on continuous duty	
6	Front glass	
7	Module frame material	
8	Weather module frame is anodized ? (YES/NO)	
9	Encapsulants/sealants	
D.	**Junction box**	

1	No. Of bypass diodes	
2	Diode ratings	
3	Moisture trap	
4	IP Protection	
5	Voltage drop in diode	
E.	**Module connecting cable**	
1	Type of conductor	
2	Size of the conductor	
3	Electrical ratings	
4	Environment characteristics	
5	Length	
6	Electrical ratings	
F.	**Cable connector**	
1	Type	
2	Electrical ratings	
3	Compatibility	
4	Contact resistance	
5	IP Protection	
G	**Physical parameter of module**	
1	Length in mm	
2	Width in mm	
3	Depth in mm	
4	Module area in sq. Meter	
8	Total number of Cells in module	
9	Cells in series	
10	Cells in parallel	
11	Cells in series per bypass diode	
12	Weight in Kg	
H	**Commercial**	
1	Material/product Warranty(years)	
2	First year degradation(Max % to be quoted)	
3	Standard degradation per year after first year (%)	
4	Power warranty (years)	

a) PCU/Inverter:

1) Datasheets for electrical and mechanical properties indicating all the parameters specified in the Scope of Work.
2) Performance data at STC
3) Graphs indicating:

    a. Efficiency and AC output v/s. temperature

    b. Efficiency v/s. AC output incident radiation at STC and NOTC

    c. Efficiency and output curves at various incident radiation

    d. Pout AC v/s. Pin DC

    e. Efficiency profile v/s. Input power

4) IEC certificates
5) Compliance certificate as per GETCO/GUVNL/GEDA/MNRE/DISCOM requirements
6) Warranty documents
7) Installation manual
8) SLD of inverter showing switches, breakers, no of inputs, configuration etc.

[Format for Letter of Authority for Pre-Bid Meetings, Bid submission]

Ref: Date:

To,
Shri S. N Purohit
Gujarat Industries Power Co. Ltd.,
PO: Petrochemical
Dist. Vadodara-391 346
Gujarat, India.

Sub: Tender No. GIPCL/RTS/EPC/130 KW(AC)/2019 Design, Engineering, Procurement and Supply, Erection, Testing and Commissioning of Photovoltaic Rooftop Solar Plants of 2x50 KW(AC) + 1x20 KW(AC) at GIPCL Vadodara Complex, P.O Petrochemical 391346, Vadodara Gujarat and 1x10 KW(AC) at GIPCL House (MD Residence) near GIPCL Circle, Sama Road, Vadodara, Gujarat, on EPC Basis

Dear Sir,

I/We, ---------- hereby authorize the following representative(s) for bid submission, and subsequent communication and attending meetings against the above Bidding Documents:

[1] Name & Designation	:	----------
Signature	:	----------
Phone/Cell	:	----------
Fax	:	----------
E-mail	:	----------
[2] Name & Designation	:	----------
Signature	:	----------
Phone/Cell	:	----------
Fax	:	----------
E-mail	:	----------

We confirm that we shall be bound by all commitments made by afore mentioned authorized representative(s).

Yours Faithfully,

Place: (Signature of Authorised Signatory of Bidder)

Date: Name:
Designation & Seal

Note: This "Letter of Authority" should be on the "letter head" of the Firm / Bidder and should be signed by a person competent and having the 'Power of Attorney' to bind the Bidder. Not more than two [02] persons per Bidder' are permitted to attend Pre-bid meeting.

ANNEXURE-5 FORMAT FOR BANK GUARANTEE FOR EARNEST MONEY DEPOSIT (EMD)

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution, duly signed on each page. Foreign entities submitting Bid are required to follow the applicable law in their country]

Reference No. …….Bank Guarantee No. ……. Dated: …….

EMD BANK GUARANTEE FORMAT FOR TENDER /RFP No._____

(BANK GUARANTEE ON NON-JUDICIAL STAMP PAPER OF Rs.100)

WHEREAS M/s. _____

(Name and Address of the Firm) having their registered Office at _____ (Address of the Firm's registered Office) (hereinafter called the Tenderer) wish to participate in the Tender No._____ for _____ of (supply / Erection / Supply & Erection / Work) of _____

(Name of the material / equipment / work) for _____ Gujarat Industries Power Company Limited and WHEREAS a Bank Guarantee for (hereinafter called the "Beneficiary") Rs. _____ (Amount of EMD) valid till _____ (mention here date of validity of this Guarantee) which is required to be submitted by the Tenderer along with the Tender.

We, _____

(Name of the Bank and address of the Branch giving the Bank Guarantee) having our registered Office at _____ (Address of Bank's registered Office) hereby gives this Bank Guarantee No. _____

dated _____ and hereby agree unequivocally and unconditionally to pay immediately on demand in writing from the Gujarat Industries Power Company Limited or any Officer authorized by it in this behalf any amount not exceeding Rs._____ (amount of EMD) (Rupees

_____ _____) (in words) to the said Gujarat Industries Power Company Limited on behalf of the Tenderer.

We, _____ (Name of the Bank) also agree that withdrawal of the Tender or part thereof by the Tenderer within its validity or non-submission of Security Deposit by the Tenderer within one month from the date of Tender or a part thereof has been accepted by the Gujarat Industries Power Company Limited would constitute a default on the part of the Tenderer and that this Bank Guarantee is liable to be invoked and encashed within its validity by the Beneficiary in case of any occurrence of a

default on the part of the Tenderer and that the encashed amount is liable to be forfeited by the Beneficiary.

This agreement shall be valid and binding on this Bank upto and inclusive of _____ (mention here the date of validity of Bank Guarantee) and shall not be terminated by notice or by Guarantor change in the constitution of the Bank or the Firm of Tenderer or by any reason whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given, conceded with or without our knowledge or consent by or between the Tenderer and the Gujarat Industries Power Company Limited.

"Notwithstanding anything contrary contained in any law for the time being in force or banking practice, this Guarantee shall not be assignable, transferable by the beneficiary (i.e. GIPCL). Notice or invocation by any person such as assignee, transferee or agent of beneficiary shall not be entertained by the Bank. Any invocation of the Guarantee can be made only by the beneficiary directly."

NOT WITHSTANDING anything contained hereinbefore our liability under this Guarantee is

restricted to Rs. _____ (amount of EMD) (Rupees

_____ (in words). Our Guarantee shall remain in force till _____ (date of validity of the Guarantee). Unless demands or claims under this Bank Guarantee are made to us in writing on or before _____ (date should be 1 month after the above validity period of BG), all rights of Beneficiary under this Bank Guarantee shall be forfeited and we shall be released and discharged from all liabilities there under.

Place:

Date:

(Please mention here complete Postal Address of Bank with Branch Code,

Signature of the Bank's authorized Signatory Telephone and Fax Nos) with official seal.

_____

INSTRUCTIONS FOR FURNISHING BANK GUARANTEE

i) The Guarantee validity should **120 days** from last date of Bid submission

ii) The Bank Guarantee by Bidders will be given on non-judicial stamp paper as per stamp duty applicable at the place where the Tender has emanated. The non-judicial stamp paper should be in name of the issuing bank.

iii) The Bank Guarantee by Bidder will be given from Nationalized/Scheduled bank as per Annexure-8.

iv) This bank guarantee/ all further communication relating to the bank guarantee should be forwarded to Gujarat Industries Power Company Limited, PO:Petrochemical-391346, Dist.: Vadodara, Gujarat only.

v) The full address along with the Telex/Fax No. and email address of the issuing bank to be mentioned.

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution, duly signed on each page. Foreign entities submitting Bid are required to follow the applicable law in their country]

Reference No. ……. Bank Guarantee No. ……. Dated: …….

(On stamp paper of Rs.100/-)

FORMAT OF BANK GUARANTEE FOR SECURITY DEPOSIT/ PERFORMANCE BANK GUARANTEE.

We, Bank of _____here by agree unequivocally and unconditionally to pay immediately on demand in writing from the Gujarat Industries Power Company Limited or any Officer authorized by it in this behalf any amount up to and not exceeding Rs._____ (in words) Rupees to the said Gujarat Industries Power Company Limited on behalf of M/s. _____ _____who have entered into a contract for the supply/works specified below:
L.O.I. No. _____dated

This agreement shall be valid and binding on this Bank upto and inclusive of _____and shall not be terminable by notice or by change in the constitution of the Bank or the firm of Contractors / Suppliers or by any other reasons whatsoever and our liability hereunder shall not be impaired or discharged by any extension of time or variations or alterations made, given conceded or agreed, with or without our knowledge or consent, by or between parties to the said within written contract.

"Notwithstanding anything contrary contained in any law for the time being in force or banking practice, this Guarantee shall not be assignable, transferable by the beneficiary (i.e. GIPCL). Notice or invocation by any person such as assignee, transferee or agent of beneficiary shall not be entertained by the Bank. Any invocation of the Guarantee can be made only by the beneficiary directly."

"NOTWITHSTANDING" anything contained herein before, our liability under this guarantee is restricted to Rs._____ (Rupees _____only). Our guarantee shall remain in force until __ (Date of validity of the Guarantee). Unless demands or claims under this Bank Guarantee are made to us in writing on or before_____ (Date of validity of the Guarantee), all rights of Beneficiary under this Bank Guarantee shall be forfeited and we shall be released and discharged from all liabilities there under;

Place:
Date:

Please Mention here Complete Postal Address of the Bank with Branch Code, Telephone and Fax Nos.	Signature of the Bank's Authorised two Signatories with Official Round Seal.

INSTRUCTIONS FOR FURNISHING PERFORMANCE BANK GUARANTEE

- The Bank Guarantee by Bidders will be given on non-judicial stamp paper as per stamp duty applicable at the place where the Tender has emanated. The non-judicial stamp paper should be in name of the issuing bank.
- The Bank Guarantee by Bidder will be given from bank as per Annexure-8 only.
- This Bank Guarantee/ all further communication relating to the bank guarantee should be forwarded to Gujarat Industries Power Company Limited, PO:Petrochemical-391346, Dist.: Vadodara, Gujarat.
- The full address along with the Tele/Fax No. and email address of the issuing bank to be mentioned.
- The Guarantee validity should be 18 months from the date of issue of LOI.

(To be executed on non-judicial stamped paper appropriate Value)

B. G. No. _____Date: ____

1. In consideration of Gujarat Industries Power Company Limited, having its registered office at PO: Petrochemical, Dist. Vadodara –391346, Gujarat State, India (hereinafter called "The Company Owner" which expression shall unless repugnant to the subject or context includes its legal representatives, successors and assigns) having agreed to make an advance payment of Rs……(Rupees……..only) to M/s. ……. (hereinafter called "the said Contractor (s)/ Seller(s)" which expression shall unless repugnant to the subject or context includes their legal representatives, successors and assigns) from the demand, terms and conditions of Contract/Order dated.....on production of a bank guarantee of equivalent amount.

2. We ……..Bank having its branch office at ……..do hereby agree and undertake to pay the amount due and payable under this guarantee without any demur, merely on a demand from the Company stating that in the opinion of the Company which is final and binding, the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of non-payment / adjustment of any part of the said advance or any dues to the company or any breach by the said Contractor(s)/seller(s) of any of the terms and conditions contained in the said contract(s) orders(s) or by reasons of the Contractor(s)/ Seller(s) failure to perform the said Contract(s)/ Order(s). Any such demand made on the Bank by the owner shall be conclusive as regards the amount due and payable by the Bank under this guarantee, However, our liability under this guarantee shall be restricted to an amount not exceeding Rs……..(Rupees……..only).

3. We undertake to pay to the Company any money so demanded not withstanding any claim dispute or disputes raised by the contractor (s)/ Seller(s) in any suit or proceeding pending before any office, court or tribunal relating thereto our liability under this present guarantee being absolute and unequivocal. The payment so made by us under this bond shall be valid discharge of our liability for payment there under. Our liability to pay is not dependable or conditional on the owner proceeding against the Contractor(s)/ Seller(s).

4. The guarantee herein contained shall not be determined or affected or suspended by the liquidation or winding up, dissolution or change of constitution or insolvency of the said Contractor(s)/Sellers but shall in all respect and for all purposes be binding and operative until payment of all money due or liabilities under the said Contract(s)/Order(s) are fulfilled.

5. We ……..Bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the

performance of the said Contract(s)/Order(s) and that it shall continue to be enforceable till all the dues of the company under or by virtue of the said Contract(s)/Order(s) have been fully paid and its claims satisfied or discharged or till a duly authorized officer of the Company certifies that the terms and conditions of the said Contractor(s)/ Order(s)have been fully and properly carried out by the said Contractor(s)/Seller(s) and accordingly discharges the guarantee.

6. Notwithstanding anything contained herein before, our liability shall not exceed Rs…….(Rupees……only) and shall remain in force till project completion date…….. as per LOI reference…….. dated……Unless a demand or claim under this Guarantee is made on us within three months from the date of expiry we shall be discharged from all the liabilities under this guarantee.

Date……. ……Bank

Corporate Seal of the Bank By its constitutional Attorney

Signature of duly Authorized person
On behalf of the Bank
With Seal & Signature code

Note: BGs to be furnished from any of the banks listed at Annexure -8. Address of Corporate Office should be referred in case of Foreign BG

ANNEXURE-8 LIST OF APPROVED BANKS FOR BANK GUARANTEE:

SCHEDULED PUBLIC SECTOR BANKS (INDIAN)	SCHEDULED FOREIGN BANKS
1. State Bank of India. 2. State Bank of Bikaner and Jaipur 3. State Bank of Hyderabad 4. State Bank of Mysore. 5. State Bank of Patialia. 6. State Bank of Travancore. 7. Allahabad Bank 8. Andhra Bank 9. Bank of Boroda 10. Bank of India 11. Bank of Maharashtra 12. Canara Bank 13. Central Bank of India 14. Corporation Bank 15. Dena Bank 16. Indian Bank 17. Oriental Bank of Commerce 18. Punjab National Bank 19. Punjab and Sind Bank 20. Syndicate Bank 21. Union Bank of India 22. UCO Bank 23. Vijaya Bank.	1. American Express Bank Ltd. 2. Bank of American NT & SA 3. Bank of Tokyo Ltd. 4. BNP Paribas 5. Barclays Bank Plc 6. Citi Bank NA. 7. Deutsche Bank A.G. 8. Hongkong & Shanghai Banking Corpn. 9. Standard Chartered Bank 10. JP Morgan Chase Bank NA
SCHEDULED PRIVATESECTOR BANKS (INDIAN) 1. ING Vysya Bank 2. Axis Bank Ltd. 3. ICICI Bank 4.. HDFC Bank 5. Yes Bank 6. IndusIand bank 7. Kotak Mahindra Bank	

(On the letter head of Company)

Ref. No. Date:

I/ We, M/s …… hereby certify that I/we have not been declared blacklisted/banned/de-listed/debarred from similar business by State/Central Govt. departments or Government Under takings in accordance with Clause No. 2.2.2 (c) of RFP document No. GIPCL/RTS/EPC130 KW(AC)/2019 on Banning of Business Dealings.

(Seal & Signature of the Bidder)

Performance Ratio (PR) - Test Procedure

1. Performance Ratio as determined through the PR Test Procedure specified here should not be less than 75% for Operational Acceptance Test (OAT).
2. The Performance Ratio Test to prove the guaranteed performance parameters of the power plants shall be conducted at site for each plants (2x50 KW(AC) + 1x20 KW(AC) + 1x10 KW(AC)) separately by the Contractor in presence of the Owner. The Contractor shall make the plant ready to conduct Operational Acceptance Test. The Operational Acceptance Test shall be commenced, within a period of one (1) month after successful Commissioning and, there will be continuous monitoring of the performance for 30 days. Any extension of time beyond the above one (1) month shall be mutually agreed upon. These tests shall be binding on both the parties to the contract to determine compliance of the equipment with the guaranteed performance parameters. This monitoring will be performed on the site under the supervision of GIPCL.
3. The test will consist of guaranteeing the correct operation of the plant over 30 days, by the way of the efficiency rate (performance ratio) based on the reading of the energy produced and delivered to the grid and the average incident solar radiation. During this period of 30 days, any 5 (five) instances of 15 (fifteen) minutes shall be taken to calculate the instantaneous Performance Ratio of 15 minutes block as per the formula given below in Point No. 5. If the PR of these fives instances is above 75%, then Operational Acceptance Test (OAT) shall be considered successful.
4. Effect due to variation of meteorological parameters e.g. ambient temperature, wind, speed, humidity etc. shall not be considered.
5. PR shall be demonstrated against the installed DC Capacity.
6. The test report for the calibration of Pyranometer shall be submitted by the Contractor for approval by GIPCL. The calibration should be traceable to a national/international laboratory.
7. The Efficiency or performance ratio (PR) of the PV Plants (according to IEC 61724) is calculated as follows:

Performance Ratio (PR) = **YA / YR**

Where;

Y_A = Final (actual measured) PV system yield in kilo-watt hours at the point of measurement during the testing period, and

Y_R = Reference yield calculated as the product of the insolation on the plane of the collector (i.e. PV modules) in KWh/ m^2 during the testing period and the installed DC capacity of the plant in KW.

Monitoring System for PR Verification

The following instrumentation shall be provided by contractor to determine the solar Plant Performance and the same shall be removed after successful completion of OAT.

- Power Meter at the point of metering/grid synchronising point.
- Power Meter for each inverter for reference only.
- Min. Two (2) nos. of calibrated pyranometers (reputed make) shall be installed on the plane of PV Module by the Contractor at mutually agreed locations by the Contractor and GIPCL . The Irradiance readings of these Pyranometers during the test period shall be made available in web based Remote monitoring system.
- Data measurement shall be witnessed in the format mutually agreed before the start of PR Test by the Owner and the Contractor jointly for the said period.
- The Contractor shall show the specified PR for Operational Acceptance Test.

In case the Pyranometer, Power meter or any instruments used for OAT is found to be working erratically then immediately the Contractor shall take necessary steps to rectify and/or recalibrate the instrument to the satisfaction of GIPCL and start the test again for next 30 days.

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