

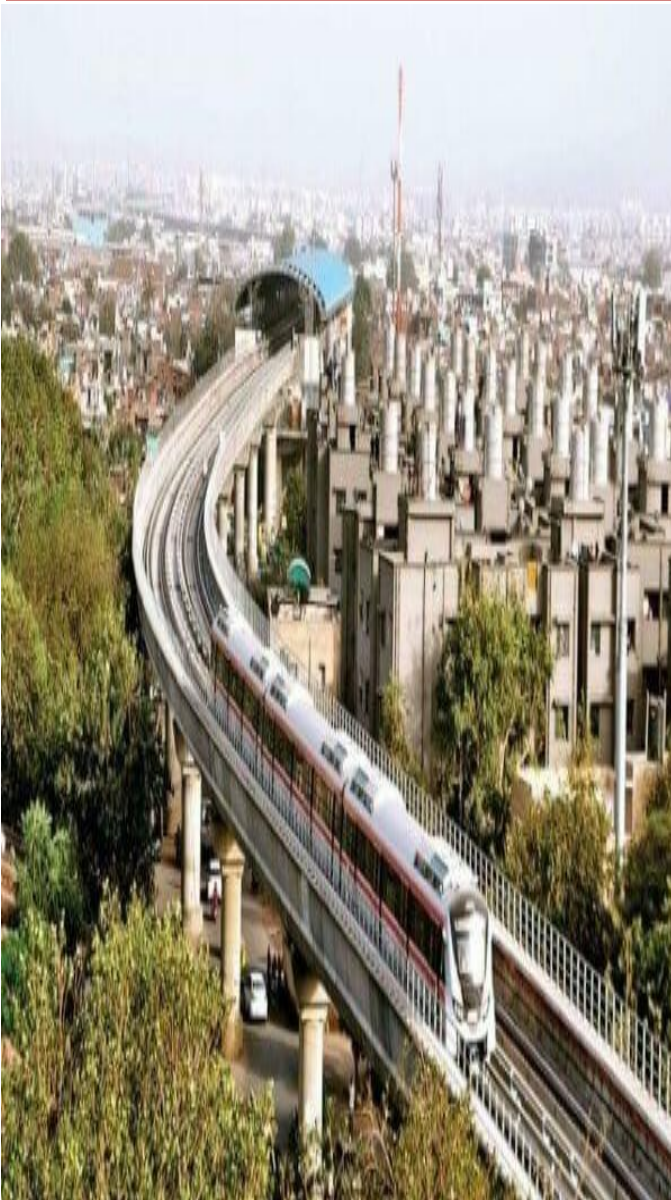


RFP Document

No. GMRC/SYSTEM/RFTP-03/PH-II/2024

22nd JUNE 2024

BID FOR FEASIBILITY STUDY, DESIGN, ENGINEERING, SUPPLY, CIVIL WORKS, PROCUREMENT, ERECTION OF SUITABLE STRUCTURE, INSTALLATION, TESTING, COMMISSIONING AND COMPREHENSIVE OPERATION & MAINTENANCE FOR 5 (FIVE) YEARS FOR 5 MW (INDICATIVE CAPACITY) (AC) GRID CONNECTED ROOFTOP SOLAR PHOTOVOLTAIC POWER PROJECT ON ROOFTOP OF 15 NOS. OF METRO STATIONS OF AHMEDABAD METRO RAIL PROJECT, PHASE II OF GUJARAT METRO RAIL CORPORATION (GMRC) LTD.



Issued by

Gujarat Metro Rail Corporation (GMRC) Ltd.

(SPV of Government of India and Government of Gujarat)

Block No.1, First Floor, Karmayogi Bhavan, Behind
Nirman Bhavan, Sector 10/A, Gandhinagar: 382010
Corporate Identification No (CIN): U60200GJ2010SGC059407

Ph. No: +91-79-23248572

FAX No: +91-79-23248573

Website: www.gujaratmetrorail.com

Disclaimer

- A. The information contained in this Request for Proposal (“RFP”) or subsequently provided to Bidder(s), in documentary or in any other form, by or on behalf of GMRC, any of their employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.
- B. This RFP is not an agreement and is neither an offer nor invitation by GMRC to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their Bid for qualification pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by GMRC or their advisors or employees or agents, in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for GMRC, their employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP.
- C. The assumptions, assessments, statements and information contained in this RFP may not be complete, accurate, adequate or correct. Each Bidder should therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.
- D. Information provided in this RFP to the Bidder(s) is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. GMRC would not have any responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.
- E. GMRC, their employees and advisors make no representation or warranty and shall have no liability to any person, including any Bidder or Bidder(s), under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this Bid or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption,

statement or information contained therein or deemed to form part of this RFP or arising in any way with prequalification of Bidders for participation in the Bidding process.

- F. GMRC also accept no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFP. GMRC may, in their respective absolute discretion but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFP.
- G. The issuance of this RFP does not imply that GMRC is bound to select and short-list prequalified Bids for Bid Stage (the “Bid Stage”) or to appoint the selected Bidder, as the case may be, for the Project[s] and GMRC reserves the right to reject all or any of the Bid or Bids without assigning any reasons whatsoever.
- H. The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the GMRC or any other costs incurred in connection with or relating to its Bid proposal. All such costs and expenses will remain with the Bidder and the GMRC shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Bid proposal regardless of the conduct or outcome of the Bidding process.

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NOTICE INVITING TENDER (NIT)



GUJARAT METRO RAIL CORPORATION (GMRC) LIMITED

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,
Sector 10/A, Gandhinagar: 382010,
Gujarat, India

TENDER NOTIFICATION No: GMRC/SYSTEM/RFTP-03/PH-II/2024

Date: 22-06-2024

E-Tender is invited from reputed and experienced agencies for the following tender:

Tender Name	Tender Fees
Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 nos. of Metro stations of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd.	INR 25,000/-

Interested bidders are requested to visit <https://tender.nprocure.com/> for eligibility criteria, applying / downloading the tender document. The last date and time for Bid Submissions of Tender is 15:00 Hrs. on **29-07-2024**.

Any alterations in Eligibility Criteria cum Qualification Requirements, and terms of the Tender Document, or any amendment to the Tender Document, etc, will be uploaded on <https://tender.nprocure.com/> and GMRC's Website www.gujaratmetrorail.com without any obligation or press notification or other proclamation.

**Managing Director
GMRC, Gandhinagar**

NOTICE INVITING TENDER**GUJARAT METRO RAIL CORPORATION (GMRC) LIMITED.**

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,
Sector 10/A, Gandhinagar: 382010,
Gujarat, India

1. Name of Work:

GUJARAT METRO RAIL CORPORATION (GMRC) LIMITED invites Open Tenders under single stage, two packet system from **Agencies**, who fulfil qualification criteria as stipulated in Para 3.2 of this tender document / RFP, for the work, **“Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 nos. of Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd.”**

2. Important Dates**Table - A**

Sr.	Event	Date (and Time)
I.	Date of issue of Tender Document	22-06-2024
II.	Approximate cost of work	INR 22.50 Crore (Including all taxes)
III.	Bid Validity	One hundred eighty (180) days from the date of opening of the Technical Bid of this Tender
IV.	Last date of Submission of Queries/clarifications from Tenderers	<p>05-07-2024 up to 1700 Hrs.</p> <p>Queries/clarifications from bidders after due date and time shall not be acknowledged.</p> <p>The interested applicants can send their Queries/clarifications through E-mail to anupam.gupta@gujaratmetrorail.com , and snehal.shah@gujaratmetrorail.com</p>

V	Pre- bid Meeting to be held through Video Conferencing / online on	06-07-2024 at 11:30 hrs. The interested applicants can send details (i.e. Name, Mobile no., Email ID, Name of firm) to participation in pre-bid meeting through E-mail to anupam.gupta@gujaratmetrorail.com , snehal.shah@gujaratmetrorail.com on or before 05-07-2024
VI.	Last Date and time of submission Of Tender (Both Online and Physical Form)	29-07-2024, 15:00 Hrs. • Financial Bid is to be filled up on the online portal https://tender.nprocure.com/ as per details required to be provided and mentioned in the Appendix - 15, of the Tender document. • Technical Bid is to be submitted physically in printed and duly signed & is also to be uploaded online at https://tender.nprocure.com/ .
VI.	Date of opening of Tender Fee, EMD Cover and Technical Bid Physical	The Last day of Tender Submission at 1530 Hrs.
VII.	Opening of Financial Bid	Will be decided by GMRC and will be intimated to Qualified Bidders.
VIII.	Target date for Commissioning of Project	180 days from Letter of Award
IX.	Tentative Date for completion of Performance Ratio Test	Within 15 (fifteen) days from receipt of Commissioning certificate from GEDA
X.	Operation and Maintenance (O&M) Period	After Completion of Performance Ratio (PR) Test of all the sites allotted to the EPC Contractor, O&M period shall start and it shall be of five (5) years from the date of completion of PR Test.
XI.	EMD Validity	240 (180 + 60) days from the date of opening of the Technical Bid of this Tender

Note: The above mentioned dates are subject to amendment, in which case the amendments shall be uploaded on GMRC and N Procurement Site

Table - B

Sr.	Particular	Amount (and Validity)
I.	Tender Fees* (non-refundable)	Rs. 25,000 (Twenty five Thousand) inclusive of GST (Non-refundable) as Demand Draft. Banker's cheque (Demand Draft /Banker's cheque drawn on a Scheduled Commercial Bank based in India and should be in favour of "Gujarat Metro Rail Corporation Ltd" payable at Gandhinagar/Ahmedabad)

II.	Earnest Money Deposit* (EMD) (Refundable/ adjustable)	INR. 22.50 Lacs /- (Rupees Twenty Two Lacs Fifty Thousand Only) with a validity as per Clause No. XI of Table A (Important Dates) To be submitted in the form of Bank- Guarantee / Demand Draft / FDR
III.	Security Deposit cum Performance Bank Guarantee (PBG)	10% of the EPC Contract Price, to be submitted within seven (7) days, along with the acceptance of LoA, initially valid for 180 days + 60 days, thereafter, it will be renewed yearly basis till completion of O&M Period To be submitted in the form of Bank- Guarantee / Demand Draft / FDR. Release of Security Deposit cum Performance Bank Guarantee (PBG) (a) 50% of PBG will be released after successful completion of PR test. (b) Remaining 50% of PBG will be released after completion of O&M Period.

* As per MSEs (Micro and Small Enterprises) Act 2012 and amendment thereof, the firms registered under MSEs / NSIC (i.e. National Small Industries Corporation) are exempted in submission of Tender Fees and Tender Security subject to submission of valid registration certificate under appropriate category of Housekeeping, or cleaning work as applicable as on the date of tender submission.

In case the bidder who has been exempted Tender Cost / Tender Security being Micro & Small Enterprises / NSIC (i.e. National Small Industries Corporation), and;

- (i) Withdraws his Tender during the period of Tender validity; or
- (ii) becomes the successful bidder, but fails to commence the work (for whatsoever reasons) as per terms & conditions of Tender; or
- (iii) refuses or neglects to execute the contract; or
- (iv) fails to furnish the required Performance security within the specified time,

The bidder shall be debarred from participating in future tenders for a period of 1 year from the date of discharge of tender/ date of cancellation of LOA/ annulment of award of contract as the case may be. Thereafter, on expiry of period of debarment, the bidder may be permitted to participate in the procurement process only on submission of required Tender Cost/ tender Security.

Further the Employer may advise the authority responsible for issuing the exemption certificate to take suitable actions against the bidder such as cancellation of enlistment certificate etc.

4. Eligible Applicant

4.1 Purchase Preference to Local Suppliers/Preference to Make in India:

Only 'Class-I local supplier' and 'Class-II local Supplier', as defined below, are eligible to participate for the subject tender.

a) Definitions:

- i. 'Local content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, in percent.
- ii. 'Class-I local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content equal to or more than 50%, as defined under the Order No. P-45021/2/2017-PP(BE-II) dated 04.06.2020 issued by Department for Promotion of Industry and Internal Trade (DPIIT). Minimum local content for 'Class-I local supplier' shall be 60% for the subject tender.
- iii. 'Class-II local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under the Order No. P-45021/2/2017-PP(BE-II) dated 04.06.2020 issued by Department for Promotion of Industry and Internal Trade (DPIIT).
- iv. 'Non - Local supplier' means a supplier or service provider, whose goods, services or works offered for procurement, has local content less than or equal to 20% for the subject tender, as defined under the Order No. P-45021/2/2017-PP(BE-II) dated 04.06.2020 issued by DPIIT.
- v. 'L1' means the lowest tender or lowest bid received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.
- vi. 'Margin of purchase preference' means the maximum extent to which the price quoted by a class-I local supplier may be above the L1 for the purpose of purchase preference. Margin of purchase preference shall be **20%** for the subject tender.

b) Procedure for Purchase Preference in procurement of goods or works which are divisible in nature: NOT APPLICABLE FOR THE SUBJECT TENDER

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is from a local supplier, the contract for full quantity will be awarded to L1.
- ii. If L1 bid is not a 'Class-I local supplier', 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the 'Class-I local supplier' will be invited to match the L1 price for the remaining 50% quantity subject to the Class-I local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.
- iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price or accepts less than the offered quantity, the next higher 'Class-I local supplier' within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly.
- iv. In case some quantity is still left uncovered on Class-I local suppliers, then such balance quantity may also be ordered on the L1 bidder.

c) Procedure for Purchase Preference in procurement of goods or works which are not divisible in nature and in procurement of services where the bid is evaluated on price alone: APPLICABLE FOR THE SUBJECT TENDER

- i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is from a local supplier, the contract will be awarded to L1.
- ii. If L1 is not 'Class-I local supplier', the lowest bidder among the 'Class-I local supplier', will be invited to match the L1 price subject to Class-I local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such 'Class-I local supplier' subject to matching the L1 price.
- iii. In case such lowest eligible 'Class-I local supplier' fails to match the L1 price, the 'Class-I local supplier' with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly.
- iv. In case none of the 'Class-I local supplier' within the margin of purchase preference matches the L1 price, the contract may be awarded to the L1 bidder.

d) Minimum local content and verification of local content:

- i. The 'Class-I local supplier' / 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of minimum local content and provide self- certification that the item offered meets the minimum local content requirement for 'Class-I local supplier' / 'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.
- ii. In case of procurement for a value in excess of Rs. 10 crores, the class-I local supplier/ class-II local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content after completion of works to the Engineer.
- iii. If any false declaration regarding local content is found, the company shall be debarred for a period of three years from participating in tenders of all metro rail companies.
- iv. Supplier/bidder shall give the details of the local content in a format attached as Appendix-26 and Appendix-26A of FOT duly filled to be uploaded along with the technical bid. In case, bidder do not upload/submit Appendix-26 and Appendix-26A of FOT duly filled along with their technical bid, supplier/bidder shall be considered as 'Non-local supplier' and will not be eligible to participate for estimated value of purchases up to Rs. 200 crores except Global tender enquiries in terms of Clause 3(b) of Order No. P-45021/2/2017- PP(BE-II) dated 04.06.2020 issued by Department for Promotion of Industry and Internal Trade (DPIIT).

e) Complaints relating to implementation of Purchase Preference

Fees for such complaints shall be Rs. 2 Lakh or 1% of the value of the local item being procured (subject to maximum of Rs. 5 Lakh), whichever is higher. In case the complaint is found to be incorrect, the complaint fee shall be forfeited. In case, the complaint is upheld and found to be substantially correct, deposited fee of the complainant would be refunded without any interest.

4.2 Bidder from a country, which shares a land border with India

I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority (i.e. Department for Promotion of Industry and Internal Trade – DPIIT). The detail circular may be referred on this website: <https://doe.gov.in/procurement-policy-divisions>.

II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

III. "Bidder from a country which shares a land border with India" for the purpose of this Order means:

- (a). An entity incorporated, established or registered in such a country; or
- (b). A subsidiary of an entity incorporated, established or registered in such a country; or
- (c). An entity substantially controlled through entities incorporated, established or registered in such a country; or
- (d). An entity whose beneficial owner is situated in such a country; or
- (e). An Indian (or other) agent of such an entity; or
- (f). A natural person who is a citizen of such a country; or
- (g). A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

IV. The beneficial owner for the purpose of (iii) above will be as under:

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation-

a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;

b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or

2. Voting agreements;

In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;

3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;

4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;

5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person

VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

5. Other Pre-Qualification Criteria

Please refer Chapter / Para 3.2 (i.e. Pre-Qualifying Requirements (PQRs)/ Eligibility Conditions) of this tender document.

NOTE TO BIDDERS:

1. The tenderer may download the tender document along with Addendum (if any) from N Procurement's site <https://tender.nprocure.com/> and GMRC's Website www.gujaratmetrorail.com.
2. Tender is invited in two parts i.e. (a) Technical Bid [Submission in Online as well as physical form] (b) Financial bid (online).

(a) Technical Bid (submission in Online as well as physical form)

- Technical Bid – physical submission

Technical Bid shall be submitted in three separate Envelope / Cover duly completed in all respects. These three envelopes will be wrapped in an outer envelope addressed to designated officer, duly super scribing on top the RFP/ Tender No., Name of the work, time and date of submission. The Technical Bid to be submitted both in physical as well as soft copy (PENDRIVE/CD). The physical submission to be submitted in two copies (i.e. 1 Original & 1 copy). The envelope should also bear the name and address of the Tenderer.

Cover –1, should marked as “Tender Fees and EMD (Earnest Money Deposit)”, Each and every page of these submission (i.e. Technical Bid, Cover 1 to 3) must be signed, stamped by the authorised person of the firm / Agency) **(Submission to be made online as well as physical form)**

Cover –2, should marked as “Technical Bid (PQR document, Appendix, etc)” The submissions in Envelope / Cover – 2 are to be given in spiral / binder book with index, page numbering. **(Submission to be made online as well as in physical form)**

Cover –3, should marked as “Signed Copy of the Tender Document(s) along with Addendum & Clarifications (if any)” containing the unfilled copy of Tender Document signed and stamp as token of acceptance of all terms and conditions mentioned in tender document **(Submission to be made in physical form)**

The outermost envelope/package will contain these three sealed inner envelopes.

The Bid duly completed in all respects with the inscription as mentioned above should be submitted on or before the last date and time of submission to GM (Contract) at office address mentioned in the NIT.

- **Technical Bid – online submission (i.e. Cover 1 & 2 only)**

The bidder to ensure that submission of Technical Bid is to be made online & in Physical form. There shall not be any change to technical bid submitted Online & Physical. In case of any discrepancy in submission of Technical Bid between physical and online form, the Technical Bid submitted online will prevail and will be considered for evaluation.

(b) Financial bid (online).

Financial Bid is not to be submitted in physical form as it has to be filled up on online portal (i.e. <https://tender.nprocure.com/>). Financial Bids of those bidders who qualify in the Technical evaluation as per the criteria laid down in the document shall only be opened online.

The tender form for the financial bid is prescribed in tender document as ‘Online financial proposal’ at Appendix - 15.

3. Tenderers are advised to keep in touch with e-tendering portal <https://tender.nprocure.com/> and GMRC’s website www.gujaratmetrorail.com for any updates, Addendum, Clarification, etc.
4. The Technical Submission should be submitted by RPAD / speed post/ in person in sealed cover only. Otherwise the offer will not be considered and no any further communication in the matter will be entertained.
5. It shall be the responsibility of the bidder / tenderer to ensure that this tender is to be

submitted in physical form (i.e. Technical Bid) and online form (i.e. Financial bid) on e-tendering portal <https://gmrcnprocure.com> before the deadline of submission. Non submission of any one of the above submission shall be considered as non-responsive and liable to be summarily rejected.

6. No Tender shall be accepted in any case after due date and time of receipt of the Tender, irrespective of delay due to postal services or any other reasons and GMRC does not assume any responsibility for late receipt of the Tender.
7. If any Scheduled event(s) of tender activity falls on public holiday, then the same will be conducted on the next working day at the same mentioned time.
8. All interested parties are requested to understand this Tender in detail in order to comply with GMRC's requirements including but not limited to the fees and deadlines, selection criteria, selection methodology, scope of work, and minimum technical standards. They shall strictly abide by ALL terms prescribed in this Tender and provide accurate information to the best of their knowledge without misleading the Company to be considered for participation in this Project.
9. Tender fee (non-refundable) will be accepted by DD drawn in favour of the "Gujarat Metro Rail Corporation (GMRC) Ltd " payable at Gandhinagar/Ahmedabad. Tenders submitted without Tender Fee shall not be accepted. The envelope for Tender Fee should be superscribed as "Tender Fee". Cheques are not acceptable.
10. Bidder(s) have to pay total EMD of as per Clause No. iii of Table B (Important Amounts) above. EMD shall be in the form of Bank Guarantee in favour of "Gujarat Metro Rail Corporation (GMRC) Ltd" payable at Gandhinagar/Ahmedabad. The envelope for EMD should be superscribed as "EMD". Cheques are not acceptable.
11. It is mandatory for all Bidders to submit their Price Bid (Appendix 15) on N Procurement Site only. Bidders to note that Price Bid (Appendix 15) of only those Bidders shall be opened on N Procurement Site who are found technically qualified and are found reasonably responsive to GMRC's Tender terms and conditions and Scope of Work.
12. The tenderers may obtain further information/clarification, if any, in respect of these tender documents from the office of Managing Director, [Attn: GM (Contract)], Gujarat Metro Rail Corporation (GMRC) Limited, Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan, Sector 10/A, Gandhinagar - 382010, Gujarat, India, Gujarat. Contact No. 079-232-48572, Ext. No. 526 / 527, email id: anupam.gupta@gujaratmetrorail.com, snehal.shah@gujaratmetrorail.com.
13. GMRC also does not bind itself to accept the lowest rate. GMRC shall award of work after evaluation looking into feasibility, capacity and competency of the agency.

14. GMRC reserves the right to accept or reject any or all proposals without assigning any reasons. No tenderer shall have any cause of action or claim against the GMRC for rejection of his proposal.

15. Help-Desk Link for E-Tendering:-

In case bidders need any clarifications or if training required to participate in online tenders, they can contact (n) Procure Support team:-

(n)Code Solutions-A division of GNFC Ltd.,

(n)Procure Cell

304, GNFC Infotower, S.G. Road, Bodakdev, Ahmedabad – 380054 (Gujarat)

Contact Details

Fax : +91-79-40007533

E-mail : nprocure@ncode.in

TOLL FREE NUMBER : 7359 021 663

16. Operating System & System Requirements

Computer: Win 8.1 or higher

Java Runtime Environment (JRE) : Ver 1.8 and above

Full Administrative Rights: For Network/ Corporate User

PKI Component: 32 Bit /64 Bit

Supported Browser: Google Chrome/ Microsoft Edge/ Mozilla Firefox (Preferably Latest Version)

Internet Connection: Preferably High Speed

Digital Signature Certificate Legally valid class 3.

New DSC Purchase & Renewal L: 079 – 66743289/ 66743300 / 200

Email Id :	dscsupport@ncode.in
	dscsales@ncode.in

DSC Support Toll Free Number: 7359-021-663

(n) Procure Bidding Manuals: <https://tender.nprocure.com/support>

--- End of Section ---

1 Definition& Interpretation

1.1 Definitions

The following words and expressions shall have the meanings hereby assigned to them:

- 1.1.1 **“Associate”** means with respect to any specified Person, any other Person directly or indirectly controlling, controlled by or under common control with such specified Person;
- 1.1.2 **“Adjudicator”** means the person, who shall be an engineer or a firm of engineers who is appointed by the Company to act as the adjudicator to make a decision on or to settle any dispute or difference between the Company and the Contractor referred to it or her by the parties pursuant to RFP (Adjudicator) hereof.
- 1.1.3 **“Applicable Law”** means any statute, law, regulation, ordinance, notification, rule, regulation, judgment, order, decree, bye-law, approval, directive, guideline, policy, requirement or other governmental restriction or any similar form of decision of, or determination by, or any interpretation or administration having the force of law in the Republic of India and the State Government, by any Government Authority or instrumentality thereof, whether in effect as of the date of this Contract or thereafter.
- 1.1.4 **“Backup Meter”** means the meter installed, operated and maintained by the Successful Bidder Solar Power Developer as per the provisions laid in the section 10 metering which shall be connected to the same core of the current transformer (CT) and Potential Transformer (PT) to which the Main Meter is connected and shall be used for 10 accounting and billing of electricity in case of failure/repair/maintenance of Main Meter;
- 1.1.5 **“B.I.S”** shall mean specifications of Bureau of Indian Standards (BIS)
- 1.1.6 **“Bid”** shall mean the bid submitted by the Bidder in response to the RFP/Tender Document No. “GMRC/SYSTEM/RFTP-03/PH-II/2024” issued by the Company.
- 1.1.7 **“Bidder”** shall mean Bidding Company or a Bidding Individual submitting the Bid. Any reference to the Bidder includes Bidding Company / Bidding Individual

including its successors, executors and permitted assigns severally, as the context may require;

1.1.8 **“Bid Security”** shall mean the unconditional and irrevocable bank guarantee to be submitted along with the Bid at the RFP stage.

1.1.9 **“Bid Capacity”** shall means capacity offered to the bidder in this Bid under invitation.

1.1.10 **“Bid Deadline”** shall mean the last date and time for submission of Bid in response to this RFP.

1.1.11 **“CEA”** shall mean Central Electricity Authority.

1.1.12 **“Capacity Utilization Factor (CUF)”** means the ratio of the annual output of the plant in kWh versus contracted plant capacity for number of days. $CUF = \text{plant output in kWh} / (\text{contracted plant capacity in kW(AC)} \times 365 \times 24)$.

1.1.13 **“Change in Law”** means the occurrence of any of the following after the date of Bid:

- i) the enactment of any new Indian law as applicable to the State;
- ii) the repeal, modification or re-enactment of any existing Indian law;
- iii) the commencement of any Indian law which has not entered into effect until the date of Bid;
- iv) a change in the interpretation or application of any Indian law by a judgement of a court of record which has become final, conclusive and binding, as compared to such interpretation or application by a court of record prior to the date of Bid; or

1.1.14 **“Change in Ownership”** means a transfer of the direct and/or indirect legal or beneficial ownership of any shares, or securities convertible into shares, that causes the aggregate holding of the {selected bidder/Associate}, together with {its/their} Associates in the total Equity to decline below (i) 51% (fifty one per cent) thereof during Construction Period, (ii) 33% (thirty three per cent) thereof during a period of 3 (three) years following COD, and (iii) 26% (twenty six per cent) thereof, or such lower proportion as may be permitted by GMRC during the remaining

Agreement Period; provided that any material variation (as compared to the representations made by the Successful EPC Contractor during the bidding process for the purposes of meeting the minimum conditions of eligibility or for evaluation of its application or Bid, as the case may be,) in the proportion of the equity holding of {the selected bidder/ any Consortium Member} to the total Equity, if it occurs prior to COD, shall constitute Change in Ownership;

1.1.15 **“Competent Authority”** shall mean The Sr. DGM (Civil & Procurement) of GMRC, himself and/or a person or group of persons nominated by CGM/DRSE for the mentioned purpose herein.

1.1.16 **“Commercial Operation date”** with respect to a Unit or the Facility, as the case may be, shall refer to the date on which successful PR test is conducted for such Unit or Facility;

1.1.17 **“Commissioned”** means, in respect of a Unit or the Facility, as the case may be, passing of the Commissioning Test by the Units, as certified by the GMRC/GEDA/ DISCOM/Torrent or its representative(s) and interconnection of the Unit with the Distribution Grid for receiving the Delivered Energy and “Commission” and “Commissioning” shall be construed accordingly;

1.1.18 **“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.

1.1.19 **“Company”** means Gujarat Metro Rail Corporation (GMRC) Ltd (SPV of Government of India and Government of Gujarat) includes the legal successors or permitted assigns of the Company.

1.1.20 **“Contracted Capacity”** shall mean the Total aggregate capacity in KWp, proposed or finalized after feasibility study to be allocated by GMRC to the Successful Bidder through this bidding process as per terms and conditions specified therein.

- 1.1.21 **“Contract”** or **“Contract Agreement”** shall mean the agreement between the GMRC and the successful EPC contractor for the execution of the works including therein all documents such as the invitation to tender, instructions to Bidders, General Conditions of Contract. Special Conditions of Contract, Job Specifications, General Requirements, Time Schedule of Completion of Job, Drawings, Letter of Award awarding the work, Agreed variations, if any etc.
- 1.1.22 **“Contract Documents”** means the documents listed in Appendix 19: Contract Agreement.
- 1.1.23 **“Contractor/ EPC Contractor”** means the person(s) whose bid to perform the Contract has been accepted by the GMRC and is named as such the Contract Agreement, and includes the legal successors or permitted assigns of the Contractor.
- 1.1.24 **“Contractor’s Equipment”** means all plant, facilities, equipment, machinery, tools, apparatus, appliances or things of every kind required in or for installation, completion and maintenance of Facilities that are to be provided by the Contractor, but does not include Plant and Equipment, or other things intended to form or forming part of the Facilities.
- 1.1.25 **“Construction Period”** means the period from Effective Date till date the project got commissioned.
- 1.1.26 **“Commissioning Tests”** means the tests to be carried out to determine the Commissioning of the Unit or Facility, as the case may be, in accordance with the Testing Procedures specified by MNRE and as defined in this RFP in Timeline (Clause No. 6.9);
- 1.1.27 **“Chartered Accountant”** shall mean 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.
- 1.1.28 **“Day”** means calendar day of the Gregorian calendar.
- 1.1.29 **“Delivery Point”** shall be the interconnection point at which the Successful EPC Contractor shall deliver the power to the 15 nos. of stations. The metering shall be done at this point of Interconnection. All charges and losses up to the Delivery Point

shall be borne by the Successful EPC Contractor;

- 1.1.30 **“Delivered Energy”** means the Electricity measured by the Main Meter at the Delivery Point;
- 1.1.31 **“Development Period”** means the period starting from Effective date till the project get Commissioned
- 1.1.32 **“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. 6.13 (Defect Liability) hereof.
- 1.1.33 **“Distribution Code”** means, collectively, the Metro’s Electricity Distribution Code /Manual and Related Matters Regulations; and the SERC Standard of Performance of Distribution Licensee, as amended from time to time;
- 1.1.34 **“Distribution Grid”** means the distribution system for the operation of which Torrent Power/ Metro holds the distribution rights;
- 1.1.35 **“Document” or “Documentation”** means documentation in printed or written form, or in tapes, discs, drawings, computer programmes, writings, reports, photographs, films, cassettes, or expressed in any other written, electronic, audio or visual form;
- 1.1.36 **“Drawings”** means all of the drawings, calculations and documents pertaining to the Project. This shall include both the electrical and civil drawing(s);
- 1.1.37 **“Distribution Utility”** means the local electric distribution owner and operator providing electric distribution and interconnection services to Purchaser at the Premises;
- 1.1.38 **“Effective Date”** for this Contract shall mean the date of issuance of Letter of Award (LoA) by the Owner.
- 1.1.39 **“Electricity”** means the electrical energy measured in kilowatt-hours;

- 1.1.40 **“Emergency”** means a condition or situation that is likely to endanger the safety of the individuals on or about the Project, including Users thereof, or which poses an immediate threat of material damage to any of the Project Assets;
- 1.1.41 **“EPC”** shall mean Engineering, Procurement & Construction.
- 1.1.42 **“EPC Contract”** means the engineering, procurement and construction contract or contracts entered into by the GMRC with one or more Successful Contractors for, inter alia, engineering and construction of the Project in accordance with the provisions of this RFP;
- 1.1.43 **“EMD”** shall mean Earnest Money Deposit.
- 1.1.44 **“Engineer”** shall mean the authorized officer of the GMRC/ Appointed agency (Third Party Engineering) by GMRC to act as Engineer to supervise the work for the purpose of the contract.
- 1.1.45 **“Facilities”** means the Plant and Equipment to be supplied and installed, as well as all the Installation Services to be carried out by the Contractor under the Contract for enabling the installation, construction, testing and commissioning of the Rooftop Solar Power System(s).
- 1.1.46 **“GMRC”** means Gujarat Metro Rail Corporation (GMRC) Ltd. (SPV of Government of India and Government of Gujarat)
- 1.1.47 **“Government Authority”** means Government of India, any central government or state government or any governmental department, commission, board, body, bureau, agency, authority, undertaking, court or other judicial or administrative body or any sub-division or instrumentality thereof, central, state, or local, having jurisdiction over the Contractor, the Facility, or the performance of all or any of the services, obligations or covenants of Contractor under or pursuant to this Contract or any portion thereof.
- 1.1.48 **“Guarantee Test(s)”** means the Performance & Guarantee test(s) specified in the (Guarantee Test) to be carried out to ascertain whether the Facilities or a specified part thereof is able to attain the Functional Guarantees.

- 1.1.49 **“Good Industry Practice”** means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced operator engaged in the same type of undertaking as envisaged under this RFP and which would be expected to result in the performance of its obligations by the Successful Bidder in accordance with this RFP, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner;
- 1.1.50 **“Installation Services”** means all those services ancillary to the supply of the Plant and Equipment for the Facilities, to be provided by the Contractor under the Contract; e.g., transportation and provision of marine or other similar insurance, inspection, expediting, Site preparation works (including the provision and use of Contractor’s Equipment and the supply of all civil, structural and construction materials required), installation, Commissioning, carrying out guarantee tests, operations, maintenance, the provision of operations and maintenance manuals, training of Company's personnel etc.
- 1.1.51 **“Interconnection Facilities”** means all the facilities installed by the EPC Contractor at the Relevant Premises of 15 nos. of Metro Stations (Entry / Exist, Foot Over Bridge, Utility Rooms etc.) to enable GMRC to receive the Delivered Energy from the Project at the Delivery Point, including transformers, and associated equipment, relay and switching equipment, protective devices and safety equipment;
- 1.1.52 **“Installed Capacity”** means the aggregate capacity of Rooftop solar systems all 15 nos. of Metro stations as certified after the commissioning test at the generating Metro stations.
- 1.1.53 **“Installation Work”** means the construction and installation of the System and the start-up, testing and acceptance (but not the operation and maintenance) thereof, all performed by or for the EPC Contractor at the Premises;

- 1.1.54 **“Insurance Cover”** means the aggregate of the maximum sums insured under the insurances taken out by the Successful Bidder, and includes all insurances required to be taken out by the Successful Bidder but not actually taken, and when used in the context of any act or event, it shall mean the aggregate of the maximum sums insured and payable or deemed to be insured and payable in relation to such act or event;
- 1.1.55 **“Intellectual Property”** means all patents, trade-marks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blue prints, programmes and manuals, drawings, copyright (including rights in computer software), database rights, semi-conductor, topography rights, utility models, rights in know-how and other intellectual property rights, in each case whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;
- 1.1.56 **“Law”** shall mean in relation to this Agreement, all laws including Electricity Laws in force in India and any statute, ordinance, regulation, notification or code, rule and shall further include without limitation all applicable rules, regulations, orders, notifications by an India Governmental Instrumentality pursuant to or under any of them and shall include without limitation all rules, regulations, decisions and orders of the Appropriate Commission;
- 1.1.57 **“Losses”** means all losses, liabilities, claims, demands, suits, causes of action, judgments, awards, damages, cleanup and remedial obligations, interest, fines, fees, penalties, costs and expenses (including all attorneys’ fees and other costs and expenses incurred in defending any such claims or other matters or in asserting or enforcing any indemnity obligation);
- 1.1.58 **"kWh"** shall mean Kilo-Watt-hour;
- 1.1.59 **"kWp"** shall mean Kilo-Watt Peak;
- 1.1.60 **“Month”** means calendar month of the Gregorian calendar.
- 1.1.61 **“MNRE”** means Ministry of New and Renewable Energy, Government of India.

- 1.1.62 **“Main Meter”** means for each Unit, the Metering System which would primarily be used for accounting and billing of Electricity generated by Units comprising the Facility to be installed at the Delivery Point and operated and maintained by the Successful Bidder.
- 1.1.63 **“Maintenance Manual”** shall have the meaning ascribed to it in Clause 8.2;
- 1.1.64 **“Material Adverse Effect”** means a material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a material financial burden or loss to either Party;
- 1.1.65 **“Metering System”** means the meters and other applicable devices/instruments installed and used for measurement of Electricity, delivered from the Electricity generated by Units comprising the Facility, as per the specifications provided in RFP and shall comprise of the Main Meter and the Back Up Meter;
- 1.1.66 **“Metering Date”** means the first Business Day of each calendar month subsequent to the month in which the Solar Power is generated by the EPC Contractor. The billable units shall be equal to the difference between the meter reading on the Metering Date and the meter reading on the previous month’s Metering Date;
- 1.1.67 **“Mobilization of the Contractor”** means performance by the Contractor of that entire thing necessary to be fully ready to execute Work at site satisfying all Work pre-requisites stipulated in the Contract. Mobilization of the Contractor shall include but shall not be limited to providing of all transport from points of origin to Site, all equipment and materials of construction, all personnel, satisfaction of government requirements, all logistical support to the construction operations and setting up at site in a condition of full readiness to execute Work.
- 1.1.68 **“Month”** means a period of thirty (30) days from (and excluding) the date of the event, where applicable, else a calendar month;
- 1.1.69 **“KW”** means Kilo-watts;
- 1.1.70 **“Notice of Award of Contract/Letter of Award”** shall mean the official notice issued by the GMRC notifying the contractor that his bid has been accepted.

- 1.1.71 **“O&M”** means Operations and Maintenance of Rooftop Solar PV system;
- 1.1.72 **“Owner”** means Gujarat Metro Rail Corporation (GMRC) Ltd., for 5 MW capacity of Rooftop Solar PV Power project.
- 1.1.73 **“Operation Period”** means the period commencing from COD and ending on the Transfer Date;
- 1.1.74 **“Plant Capacity”** is defined as aggregate 5 MW indicative Rooftop Solar Photovoltaic Power project proposed at 15 nos. of Metro Stations as per the provisions in this Tender including but not limited to its design, engineering, procurement & supply, construction, testing, commissioning, compressive operation and maintenance.
- 1.1.75 **“Performance Ratio” (PR)** means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured and Temperature correction.
- 1.1.76 **“Pre-Commissioning”** includes checking and testing of the equipment, machinery etc. as required by the Contract, and making them ready for use.
- 1.1.77 **“Project Site/ Site”** means the parcels of rooftops, rights-of-way, easements and access roads comprised in the Relevant Buildings upon which the Unit(s) comprising the Project will be installed;
- 1.1.78 **“Project Manager”** means the person appointed by the Company in the manner provided in the RFP (Project Manager) hereof and named to perform the duties delegated by the Company.
- 1.1.79 **“Project”** means the development, designing, construction, installation, commissioning, comprehensive operation and maintenance of the Facility of the Rooftop solar systems at 15 nos. of Metro stations.;

1.1.80 **“Project Assets”** means all physical and other assets relating to and forming part of the Site including:

- i) rights over the Site in the form of licence, Right of Way or otherwise;
- ii) tangible assets such as civil works and equipment
- iii) Project Facilities situated on the Site;
- iv) all rights of the Owner under the Project Agreements;
- v) financial assets, such as receivables, security deposits etc;
- vi) insurance proceeds; and
- vii) Applicable Permits and authorisations relating to or in respect of the Project;

1.1.81 **“Project Site/ Site”** means the parcel of area of metro station/s , Rooftops, right of way, easements and access roads comprised in 15 nos of Metro stations on which the Rooftop solar panels project will be executed.

1.1.82 **“Prudent Utility Practices”** means those practices, methods, techniques and standards, that are generally accepted for use in electric utility industries taking into account conditions in India, and commonly used in prudent electric utility engineering and operations to design, engineer, construct, test, operate and maintain equipment lawfully, safely, efficiently and economically as applicable to power stations of the size, service and type of the Project, and that generally conform to the manufacturer’s operation and maintenance guidelines.

1.1.83 **"Punch list"** means those minor items/jobs relating to works outstanding at the time of issuance of "Certificate of Completion and Acceptance" which do not affect the normal operation of the company and which have been mutually agreed by the Company and the Contractor, to be carried out / further completed (within a fix time period) by the Contractor to the satisfaction of the Company in accordance with the Contract

- 1.1.84 **“RFP document”** shall mean the bidding document issued by the Company including all attachments vide RFP No. GMRC/SYSTEM/RFTP-03/PH-II/2024
- 1.1.85 **“Relevant Building”** means a Metro’s Building comprising the Project Site;
- 1.1.86 **“Relevant Premises”** means the rooftop on a Relevant Station Building, provided by GMRC to the Successful Bidder for the purpose of implementing the Project;
- 1.1.87 **“Request for Proposal”** or **“RFP”** shall have the meaning set forth in Preamble;
- 1.1.88 **“Right of Way”** means the access to the site with the intention of using it for installation of Project, including the way from the entry point to the rooftop through the shortest accessible way, easements and other rights of way, howsoever described, necessary for construction, operation and maintenance of the Projects in accordance with this RFP;
- 1.1.89 **“SECI”** means Solar Energy Corporation of India.
- 1.1.90 **“Solar Power System(s)”** means the Rooftop solar photovoltaic grid interactive power system(s) to be established at the site specified in the RFP.
- 1.1.91 **“Subcontractor”**, including vendors, means any person to whom execution of any part of the Facilities, including preparation of any design or supply of any Plant and Equipment, is sub-contracted directly or indirectly by the Contractor, and includes its legal successors or permitted assigns.
- 1.1.92 **“Successful Bidder”** means the bidder who has been awarded the Contract and described as Contractor for the “Project”.

1.1.93 **“Time for Completion”** shall be the date on or before which Commissioning of the Facility has to be achieved to the satisfaction of the Company and such date is specified in NIT.

1.1.94 **“Scheduled COD”** or **“Scheduled Commercial Operation Date”** means in respect of the Facility, the date falling on the Hundred fifty **(180) day** from the Zero Date (issuance of LoA), as extended or pre-poned in accordance with the provisions of this RFP;

1.1.95 **“Solar Power”** shall mean electricity generated from the rooftop solar generation project;

1.1.96 **“Solar Rooftop Power System/Project”** includes a solar PV panel power generation facility to be established by the Successful Bidder on the Relevant Premises of GMRC, having an Installed Capacity and includes the integrated assembly of photovoltaic panels, mounting assemblies, inverters, converters, metering, lighting fixtures, transformers, ballasts, disconnects, combiners, switches, wiring devices and wiring, and all other material comprising the Installation Work, including protection equipment and the like necessary to deliver the Electricity generated by it to Torrent at the relevant Delivery Points;

1.1.97 **“Specifications and Standards”** means the specifications and standards relating to the quality, quantity, capacity and other requirements for the Project, as set forth in RFP, and any modifications thereof, or additions thereto, as included in the design and engineering for the Project submitted by the Successful Bidder to, and expressly approved by, GMRC.

1.1.98 **“Statutory Entity”** means:

1.1.98.1 In case of a State:

- i) any ministry, department, sub-division, instrumentality or agency under the direct control of the state Government; or
- ii) any company, corporation, government undertaking or other authority under the direct control of the state Government; or
- iii) any other entity under the direct control of the state Government or established under law; or
- iv) State Electricity Regulatory Commission,

AND

1.1.98.2 In case of any other jurisdiction and the Central Government of the Republic of India, the government of that jurisdiction or the Central Government, any ministry department, sub-division instrumentality or agency or any company corporation government undertaking, commission, or any other entity under the direct or indirect control of such government or Central Government, or a regulatory entity established under law;

1.1.99 **“System Operations”** means the Successful Bidder/EPC Contractor’s operation, maintenance and repair of the System performed in accordance the requirements herein;

1.1.100**“Taxes”** means any Indian taxes including customs duties, GST, local taxes, cess, any other taxes and any impost or surcharge of like nature (whether Central, State or local) on the goods, materials, equipment and services incorporated in and forming part of the Project charged, levied or imposed by any Government Instrumentality, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income;

1.1.101**“Tests”** means the tests to be conducted by the Successful Bidder pursuant to the Testing Procedures before the project commissioned.

1.1.102**“Unit”** means each power generation installation consisting of solar PV panels and auxiliary equipment and facilities forming part of the Facility to be installed on each Relevant Premises and separately connected with the Distribution Grid of Torrent and all the Units comprising the Facility aggregate to the installed capacity of 5 MW indicative capacity (15 nos. of Metro Stations).

1.2 Interpretations

1.2.1 Language: Unless otherwise agreed by the parties in writing, the parties shall use the English language and the Contract and the other Bid documents, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be written in English, and the Contract shall be construed and interpreted in accordance with that language. If any of the Contract Documents, correspondence or communications are prepared in any

language other than English, the English translation of such documents, correspondence or communications shall prevail in matters of interpretation.

- 1.2.2 Singular and Plural: The singular shall include the plural and the plural the singular, except where the context otherwise requires.
- 1.2.3 Headings: The headings and marginal notes in the General Conditions of Contract are included for ease of reference, and shall neither constitute a part of the Contract nor affect its interpretation.
- 1.2.4 Persons: Words importing persons or parties shall include firms, corporations and government entities.
- 1.2.5 Men: The word 'Men' in this RFP shall mean all genders i.e. male, female and others.
- 1.2.6 Entire Agreement: The Contract constitutes the entire agreement between the Company and Contractor with respect to the subject matter of Contract and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract. The various documents forming the Contract are to be taken as mutually explanatory. Should there be any discrepancy, inconsistency, error or omission in the Contract documents, the matter may be referred to the Adjudicator and the Contractor shall carry out work in accordance with the decision of the Adjudicator.
- 1.2.7 Amendment: No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party hereto.
- 1.2.8 Independent Contractor: Subject to the provisions of the Contract, the Contractor shall be solely responsible for the manner in which the Contract is performed.
- i. All employees, representatives or Subcontractors engaged by the Contractor in connection with the performance of the Contract shall be under the complete control of the Contractor and shall not be deemed to be employees of the Company and nothing contained in the Contract or in any subcontract awarded by the Contractor shall be construed to create any contractual relationship between any

such employees, representatives or Subcontractors and the Company.

- ii. Not in any case the sub-contractor shall claim or shall put any binding to the Company and the sub-contractor must be handled by the Contractor and the Company shall not be responsible for any claims at anytime by the Contractor in relation to the sub-contractor.

1.2.9 Non-Waiver

- i. Subject to Clause 1.2.9(ii) below, no relaxation, forbearance, delay or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect or restrict the rights of that party under the Contract, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- ii. Any waiver of a party's rights, powers or remedies under the Contract must be in writing, must be dated and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

1.2.10 Severability: If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

1.2.11 Country of Origin: "Origin" means the place where the materials, equipment and other supplies for the Facilities are mined, grown, produced or manufactured, as the case may be, and from which the services are provided. This shall be according to MNRE guidelines.

1.2.12 The words "**include**" and "**including**" are to be construed without limitation and shall be deemed to be followed by "**without limitation**" or "**but not limited to**" whether or not they are followed by such phrases;

1.2.13 References to "**construction**" or "**building**" include, unless the context otherwise requires, investigation, design, developing, engineering, procurement, delivery, transportation, installation, processing, fabrication, testing, commissioning and

other activities incidental to the construction, and **“construct”** or **“build”** shall be construed accordingly;

1.2.14 References to **“development”** include, unless the context otherwise requires, construction, renovation, refurbishing, augmentation, up-gradation and other activities incidental thereto, and **“develop”** shall be construed accordingly;

1.2.15 Any reference to any period of time shall mean a reference to that according to Indian Standard Time;

1.2.16 any reference to **“hour”** shall mean a period of 60 (sixty) minutes commencing either on the hour or on the half hour of the clock, which by way of illustration means 5.00 (five), 6.00 (six), 7.00 (seven) and so on being hours on the hour of the clock and 5.30 (five thirty), 6.30 (six thirty), 7.30 (seven thirty) and so on being hours on the half hour of the clock;

1.2.17 any reference to day shall mean a reference to a calendar day;

1.2.18 references to the **“winding-up”**, **“dissolution”**, **“insolvency”** or **“reorganisation”** of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganisation, dissolution, arrangement, protection or relief of debtors;

1.2.19 Unless expressly provided otherwise in this RFP, any Documentation required to be provided or furnished by the Successful EPC Contractor to GMRC shall be provided free of cost and in three copies, and if GMRC is required to return any such Documentation with their comments and/or approval, they shall be entitled to retain two copies thereof.

---End of Section---

2 Introduction

2.1 About the Company

2.1.1 About GMRC

Gujarat Metro Rail Corporation Ltd., abbreviated GMRC, or Ahmedabad Metro is an under construction mass-transit rail system for the cities of Ahmedabad and Gandhinagar in Gujarat, India. The special purpose vehicle company was established on 4th February 2010 and the Phase-1 of the project was approved in October 2014. Ahmedabad – Gandhinagar Metro rail project is being promoted with the objective of providing safe, fast and eco-friendly transportation services to the public at affordable rates while simultaneously reducing the congestion on the roads. The metro rail project will promote integration with AMTS, BRTS, Railways and other modes of public transit system.

GMRC is committed to deliver World Class state-of-art technology most cost efficient metro within the shortest time span possible in the country. The project has many positive environmental impacts like reduction in traffic congestion, saving in travel time, reduction in air and noise pollution, lesser fuel consumption, lesser road accidents etc. The proposed metro will have majorly elevated structure, ballast-less tracks, air-conditioned coaches, GPS based rail tracking system, train destination indicators & stations with support infrastructure like automated fare collection, parking facilities, etc.

The metro will yield multiple environmental benefits for Ahmedabad. Broadly, they are:

Reduced Vehicular Pollution :

- As people shift from private modes to the metro and also other modes like BRTS and AMTS (because the metro will integrate with BRTS and AMTS networks), proportion of private vehicles in the overall transport system will decrease. Therefore, emissions from private vehicles will also be reduced.
- Congestion will also be reduced on roads as people shift to metro. This will result in less waiting time, less exhaust emissions and less vehicular air pollution.

Carbon Credits: GMRC has applied for registration of the Ahmedabad Metro Project in the CDM (Clean Development Mechanism) Program to the UNFCCC. DMRC, with an

expertise in carbon accreditation have been hired as consultants for registration of Ahmedabad metro Rail Phase I as a CDM project.

Solar Energy: Solar panels are proposed to be installed on the roofs of structures in the stations to generate power.

2.2 About the Project

2.2.1 The Gujarat Metro Rail Corporation (GMRC) Limited with objective of sustainable energy management and to promote enhanced energy efficiency in Metro Rail Projects, it is proposed to install Rooftop solar system on 15 nos. of Metro Stations of Ahmedabad Metro Rail project, Phase II. The solar energy generated from proposed project shall be used to meet some of energy demand of Metro stations that will result in reduction of air pollution & carbon footprints and will helps to address climate change. The Company has now decided to undertake a competitive Bidding process for selection of the EPC Contractor to implement the Project (the “Contractor”)

2.2.2 Refer Annexure A1 for site details.

2.2.3 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.

--- End of Section---

3 Instruction to Bidders

3.1 General Instructions

3.1.1 The current document is the request for proposal, which is issued to all the potential Bidders, requesting a proposal for implementation of the Project on a fixed price basis. A Contractor would be selected through competitive bidding process for execution of the Project.

3.1.2 The Company expects Bidders to confirm compliance to RFP terms, conditions and specifications at the time of submission of Bids, failing which the Bids are liable to be rejected. Hence, the Bidders in their own interest are advised to submit their Bids complete in all respects conforming to all terms and conditions of this RFP.

3.1.3 Before submitting the Tender, the instructions may be read carefully regarding submission of Tender. If any bidder finds discrepancies or omissions in the Tender documents or is in doubt as to the true meaning of any part, he shall clarify same from the Tender issuing office in writing before the due date of submission of the queries.

3.1.4 SITE VISIT AND VERIFICATION OF INFORMATION

3.1.4.1 The Site data of the Project is being provided only as a preliminary reference document by way of assistance to the Bidders who are expected to carry out their own surveys, investigations and other detailed examination of the Project before submitting their Bids. Nothing contained in the site data Report shall be binding on the GMRC nor confer any right on the Bidders, and the GMRC shall have no liability whatsoever in relation to or arising out of any or all contents of the site data.

3.1.4.2 Bidders are encouraged to submit their respective Bid after visiting the Project site and ascertaining for themselves the site conditions, traffic, location, surroundings, climate, availability of power, water and other utilities for construction, access to site, handling and storage of materials, weather data, applicable laws and regulations, and any other matter considered relevant by them.

3.1.5 Bids shall be evaluated based on the information/documents available in the Bid. Hence, Bidders are advised to ensure that they submit appropriate and relevant supporting documentation along with their proposal in the first instance itself. Bids

not complying with the requirements of this RFP are liable to be rejected without any further opportunity.

- 3.1.6 Bidders need to ensure that in the event the Project is awarded to it, and during execution of the Project, it shall not seek to alter any agreed contractual terms, conditions and specifications.
- 3.1.7 All Bids must be accompanied by a Tender fee and EMD of value as specified in the NIT in the form and manner as specified in the RFP document and must be delivered along with Bids.
- 3.1.8 The specification provided with this RFP outlines the functional requirement. The Bidder must submit a Proposal based upon their own design, meeting the functional requirements.
- 3.1.9 Bidders shall deploy the latest state-of-the-art technology and must ensure that the goods supplied are new, unused and of most recent or current models and incorporate all recent improvements in design and materials for the implementation of the Project.
- 3.1.10 This 'Instructions to Bidders', in original, issued along with RFP document, shall be submitted by the Bidder along with Bid duly signed by the Bidder as the token of acceptance. Bid sent without having the prescribed RFP document and without complying with the terms and conditions of RFP shall be ignored.
- 3.1.11 Issuance of this RFP does not construe that the Bidder has been short-listed or qualified.
- 3.1.12 (A) The Company reserves the right, to accept or reject any Bid and to annul the bidding process and reject all Bids at any time prior to award of the Agreement, without assigning any reason thereof and without thereby incurring any liability to the affected Bidder(s). (B) As the Bid for the said work is invited for execution of grid connected rooftop solar PV power project for GMRC, the LOA will be placed to the successful bidder on receipt of GMRC Board Approval.
- 3.1.13 The Company reserves the right to reject any Bid submitted with deviations beyond the one that is specified and mentioned in the RFP and no time shall be given in any

circumstance after opening of Financial Proposal for submission of documents which are missing with Bid.

3.1.14 Any condition or qualification or any other stipulation contained in the Bid shall render the Bid liable to rejection as a non-responsive Bid.

3.1.15 In case of change in ownership of the Project, all the Agreements and Contracts signed with the Company will stand true and valid with the new Owner of the Project.

3.1.16 Tender Issuing Authority reserves the right to cancel the NIT or to change qualifying requirement or to reject any or all the tenders so received without assigning any reason.

3.1.17 The Site for the work is either available or it shall be made available in the parts in a manner so as not to hamper the progress of work. However, GMRC shall provide access to the roof along with the LOA.

3.1.18 Canvassing in connection with Tender is strictly prohibited and the Tender submitted by the Bidders who resort to canvassing will be liable to rejection straight way.

3.1.19 The Bid and all communications in relation to or concerning the Bidding Documents and the Bid shall be in English language.

3.1.20 All rates shall be quoted on the proper form i.e. price bid supplied as part of the Tender documents on e-tender portal by the Department.

3.1.21 The Gujarat Metro Rail Corporation (GMRC) Limited does not bind itself to accept the lowest Bid and reserves to itself the right to accept the whole or any part of the Tender and the Bidder shall be bound to perform the same at the rate quoted in this Tender.

3.2 Pre-Qualifying Requirements (PQRs)/ Eligibility Conditions

3.2.1 GENERAL

(a) The Bidder shall be Any Person i.e. Company, LLP, Partnership Firm, Proprietor, Public or any Private Organization etc. A copy of certificate of incorporation/Registration shall be furnished along with the bid in support of above.

(b) Tenderers shall not have a conflict of interest. All Tenderers found to have a conflict of interest shall be disqualified. Tenderers shall be considered to have a conflict of interest with one or more parties in this bidding process, if:

- (i) a tenderer has been engaged by the Employer to provide consulting services for the preparation related to procurement for on implementation of the project;
- (ii) a tenderer is any associates/affiliates (inclusive of parent firms) mentioned in subparagraph (i) above; or
- (iii) a tenderer lends, or temporarily seconds its personnel to firms or organisations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.
- (iv) A Bidder shall submit only one tender in the same tendering process, either individually as a sole Bidder or as a JV/Consortium. A Bidder who submits more than one bid will treated as a conflict of interest and shall be disqualified.
- (v) No Bidder can be a subcontractor while submitting a tender individually or as a partner of a JV in the same tendering process. A Bidder, if acting in the capacity of subcontractor in any tender, may participate in more than one bids, but only in that capacity of subcontractor.

(c) Any Central/State government department/public sector undertaking/other government entity or local administrative body must not have banned/debarred/blacklisted the Bidder (any member in case of JV/consortium) and such ban/debarment/blacklisting should not be in effect as on the date of tender submission. Also no contract of the Bidder should have been rescinded/terminated after award by GMRCCL during last 5 years, due to non-performance of the Bidder or any of JV/Consortium members. The Bidder should submit undertaking.

(d) Bidder (any member in case of JV/consortium) must not have suffered bankruptcy/insolvency during the last 5 years. The Bidder should submit undertaking

3.2.2 TECHNICAL

i. The Bidders shall have an experience of design, supply, erection, commissioning and operation of rooftop solar Photovoltaic based grid tied power plant(s) capacity during last seven years ending last day of the month previous to the month of tender submission in India of;

- a. One similar work of 4 MW or above or
- b. Two similar works of 2 MW or above or
- c. Three similar works of 1 MW or above.

In support of above, Bidder shall submit experience certificate from employer / client along with the Commissioning Certificate.

“Similar Works” shall comprise of Any type of Solar PV plant (provided the concerned Solar PV Plant is Grid Connected)” which has been successfully commissioned in any type of the following Building / Establishment / Premise.

Metro Stations , Metro parking, Depot, Residential, Hotels / Restaurants, Commercial / Malls, Offices, Hospitals, School / College ,University / Institutions / Research Centres, Industrial, Railway Stations, Maintenance Depots / Workshops / Sheds, Warehouses, Airport, Highways / Roads, Seaports, Waterways / Floating, Electrical Sub-stations, Parking, Ground Mounted, Solar Parks, roofs of any buildings.

ii. If the Bidder is a JV / Consortium, he should have following experience of installation & commissioning-

- (a) All JV/Consortium members should have collectively completed, Grid connected Solar PV Projects of minimum 4 MWp (Cumulative Capacity) in one or multiple contracts, during last 7 years.

And

- (b) The above shall include at least One Grid tied Rooftop Solar PV Project of minimum 1 Mwp at one single location commissioned by any one member in the last 7 years

Note

1. Bidder shall submit, in support to the above, the list of projects commissioned along with their work order/ LOA and the commissioning certificates/ charging certificate from DisCom/ certificate from Third Party Inspector (TPI) of the Work Order issuing entity or any document confirming the commissioning of the plant. In case the Bidder wants to meet the eligibility criterion through its own power plant, then a certificate from Chartered Accountant to that effect will be required to be submitted. Simultaneously, the summary of experience shall be provided.
2. Projects commissioned after 31/05/2024 shall not be considered towards evaluation of eligibility.
3. Work experience certificates issued by Central/State/Semi-Govt./Govt. PSU/Urban Local Bodies/ Listed Companies in BSE/NSE only, shall be considered.
4. In case of JV/Consortium, the Experience claimed by a Non-substantial partner shall not be considered for evaluation.
5. If the successful bidder is JV/Consortium, each member of the JV/Consortium is jointly & severally liable for execution of the Contract.
6. In Case of JV / Consortium;
 - a. Lead partner must have a minimum of 26% participation in the JV/Consortium. Lead Partner must be Substantial Partner in the JV / Consortium
 - b. Maximum 3 nos of members shall be permitted in a JV/Consortium.
 - c. Each Non-Substantial Partner should have a minimum 20% participation in the JV/Consortium. Partners having less than 26% participation will be termed as non-substantial partner and will not be considered for evaluation which means that their financial soundness and work experience shall not be considered for evaluation of JV/Consortium.
 - d. In case of JV/Consortium, change in constitution or percentage participation shall not be permitted at any stage after their submission of application otherwise the applicant shall be treated as non-responsive.
 - e. The Bidder, in case of JV/Consortium, shall clearly and unambiguously define the role and responsibilities for each substantial / non-substantial partner in the JV/Consortium Agreement, providing clearly that any abrogation / subsequent re-assignment of any responsibility by any substantive / non-substantive partner of JV/Consortium in favour of other JV / Consortium partner (without written approval of Employer) or any change in constitution of partners of JV/Consortium from the one given in JV/Consortium Agreement at tender stage, will be treated, as 'breach of contract condition' and/or 'misrepresentation of facts' (as the case may be). The Employer in such cases, may in its sole discretion rescind the contract and/or take appropriate action against any member(s) for failure in tender obligation to declare a contractor ineligible for award of any tender in GMRC or take action to terminate the contract in part or whole as the situation may demand

and recover the cost/damages as provided in contract besides forfeiting the performance and other guaranties.

3.2.3 FINANCIAL

- i. Average Annual Turnover of the Bidder for last five (5) financial years shall be at least **INR 18.00 Cr.** (Rupee Eighteen Crore only).

The average annual turnover of JV will be based on percentage participation of each member.

Example: Let Member-1 has percentage participation = M and Member - 2 has =N. Let the average annual turnover of Member-1 is 'A' and that of Member-2 is 'B', then the average annual turnover of JV will be

$$= \frac{AM+BN}{100}$$

- ii. The Net Worth of the Bidder shall be Positive any two out of last Five years, wherein the Net Worth shall be calculated as follows:

Net Worth = (Equity + Reserves) – (Revaluation reserves+ intangible assets + miscellaneous expenses to the extent not written off + carried forward losses).

The Bidder shall provide a copy each of audited annual report to ascertain their turnover & net-worth. CA certificate is mandatory and it shall be submitted as per Appendix-13.

- iii. **Liquidity:** It is necessary that the firm can withstand cash flow that the contract will require until payments received from the Employer. Liquidity therefore becomes an important consideration.

This shall be seen from the last audited balance sheets and/or from the banking reference. Net current assets and/or documents including banking reference, should show that the applicant has access to or has available liquid assets, lines of credit and other financial means to meet cash flow of **INR 6.00 crores** for this contract, net of applicant's commitments for other Contracts. Banking reference should contain in clear terms the amount that bank will be in a position to lend for this work to the applicant/member of the Joint Venture/Consortium. In case the Net Current Assets (as seen from the Balance Sheets) are negative, only the Banking references will be considered. Otherwise the aggregate of the Net Current Assets and submitted Banking references will be considered for working out the Liquidity.

The banking reference should be from a Scheduled Bank in India or (in case of foreign parties) from an international bank of repute acceptable to GMRC as per standard proforma provided in as per Appendix 21 and it should not be more than 3 months old as on date of submission of bids.

In Case of JV- Requirement of liquidity is to be distributed between members as per their percentage participation and every member should satisfy the minimum requirement.

Example: Let member-1 has percentage participation=M and member-2 has percentage participation=N. If minimum liquidity required is 'W' then liquidity of member-1 $\geq \frac{W \cdot M}{100}$

And liquidity of member-2 $\geq \frac{W \cdot N}{100}$.

- iv. The Bidder shall submit audited annual report of 2018-19, 2019-20, 2020-21, 2021-22 and 2022-23. In case audited balance sheet of the last financial year is not made available by the agency, then the agency/firm to submit an affidavit certifying that 'the balance sheet has actually not been audited so far'. In such a case the financial data of previous '4' audited financial years will be taken into consideration for evaluation.
- v. The Joint Venture (JV) or support from parent company is acceptable for meeting financial criteria only. Joint Venture/support from parent company is considered provided (i) the JV agreement should be made before the Bid submission. (ii) The financial capacity of Technical Partner (the partner of the JV who fulfills the Technical Criteria of this Tender) must be at least 50%. (iii) The JV agreement shall be notarized. (iv) The validity of JV must be till completion of O&M Period. (v) For discontinuance of financial partnership/ JV, the approval or permission of GMRC is must. (vi) The Technical Partner must take responsibility for O&M period and all guarantees of that period including necessary Bank Guarantees.

3.2.4 OTHER

- 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 valid Proof of Permanent EPF account no., ESI registration no. and GST no.
- ii. The agency should have valid license under contract labour regulation and abolition of the Gujarat state or should give an undertaking that he will get himself registered within one month if work is allotted to him.

- iii. A self-attested Undertaking from the Bidder to the effect that the Bidder is not blacklisted from any Public Sector undertakings of Central Govt. / State Govt. /SEBs / Corporations/ GMRC /GERMI/ GEDA/ GUVNL/DISCOMs/ Torrent etc.
- iv. 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.
- v. The Bidder shall ensure that all the information, facts & figures, data provided in the bid are accurate and correct. GMRC reserves the right to confirm / verify any data or information through their own sources. GMRC 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 ascertain capabilities of the applicant, if so desire at their own cost. Bidder may have to facilitate GMRC for any such visit.
- vi. 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.
- vii. 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.

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 GMRC 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.

Further, notwithstanding the above, GMRC 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. GMRC shall not in no way responsible or liable for any loss, damage or inconvenience caused to the rejected Applicants whatsoever. GMRC shall be under no obligation to inform the affected Applicants of the rejection and / or ground for rejection.

3.3 Local Conditions

- 3.3.1 The Bidder is advised to visit and examine the site conditions, traffic, location, surroundings, climate, availability of power, water and other utilities for construction, access to site, handling and storage of materials, weather data, applicable laws and regulations, and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into the Contract Agreement. The costs of visiting the Site shall be at Bidder's own expense.
- 3.3.2 The Bidder and any of its personnel or agents shall be granted permission by the Company to enter upon its premises and lands for the purpose of such inspection, but only upon the express condition that the Bidder, its personnel or agents, shall release and indemnify the Company and its personnel and agents from and against all liability in respect thereof and shall be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused, which, but for the exercise of such permission would not have arisen.
- 3.3.3 Failure to visit the Site or failure to study the RFP document shall in no way relieve the successful Bidder from furnishing any material or performing any work in accordance with the RFP document.
- 3.3.4 In no case the date of Time for Completion of the project shall be extended, due to the failure of the Bidder to visit the site and it shall be in line with the timeline of Gujarat Metro Rail Corporation (GMRC) Limited as provided in clause 6.9.2 of this document.
- 3.3.5 It shall be deemed that by submitting a Bid, the Bidder has:
- a) made a complete and careful examination of the RFP document;
 - b) received all relevant information requested from the Company;
 - c) Acknowledged and accepted the risk of inadequacy, error or mistake in the

information provided in the RFP documents or furnished by or on behalf of the Company relating to any of the matters referred to in NIT.

- d) satisfied itself about all matters, things and information including matters referred to in the Bid Info at a glance, necessary and required for submitting an informed Bid, execution of the Project in accordance with the RFP document and performance of all of its obligations there under;
- e) acknowledged and agreed that inadequacy, lack of completeness or incorrectness of information provided in the RFP document or ignorance of any of the matters referred to in the RFP herein shall not be a basis for any claim for compensation, damages, extension of time for performance of its obligations, loss of profits etc. from the Company, or a ground for termination of the Contract Agreement; and
- f) agreed to be bound by the undertakings provided by it under and in terms hereof.

3.3.6 The GMRC shall not be liable for any omission, mistake or error on the part of the Bidder in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to the RFP document or the Bidding Process, including any error or mistake therein or in any information or data given by the Company.

3.4 Local Regulatory Frame Work

3.4.1 It shall be imperative for each Bidder to fully inform itself of all local conditions, laws and factors which may have any effect on the execution of the Contract as described in the Bidding Documents. The Company shall not entertain any request for clarification from the Bidder, regarding such local conditions.

3.4.2 It is the responsibility of the Bidder that such factors have properly been investigated and considered while submitting the Bid proposals and that no claim whatsoever including those for financial adjustment to the Contract awarded under the RFP document shall be entertained by the Company and that neither any change in the time schedule of the Contract nor any financial adjustments arising thereof shall be permitted by the Company.

3.5 Clarifications to Tender Document

3.5.1 A Bidder requiring any clarification of the Tender documents may notify GMRC in writing or by facsimile or by e-mail to GMRC's contact as mentioned in Table A of NIT:

The GM (Contract)

Gujarat Metro Rail Corporation (GMRC) Limited.

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Email: anupam.gupta@gujaratmetrorail.com, snehal.shah@gujaratmetrorail.com

Website: www.gujaratmetrorail.com

3.6 Amendments to Tender Document

3.6.1 GMRC may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective Bidder, modify the Tender Documents.

3.6.2 The amendments will be notified on website as mentioned in Notice Inviting e-Tender of this Tender.

3.6.3 In order to allow the prospective Bidder(s), reasonable time in which to take the amendment into account in preparing their Bids, GMRC at its discretion, may extend the deadline for the submission of Bids.

3.7 Acceptance of Bids

3.7.1 GMRC neither bind itself to accept the lowest nor to assign any reason for the rejection of any Bid. It is also not binding on GMRC to disclose any analysis report.

3.8 Withdrawal of Invitation to Bid

3.8.1 While GMRC has floated this Tender and has requested Bidders to submit their proposals, GMRC shall always be at the liberty to withdraw this invitation to bid at any time before the acceptance of bid offer.

3.9 Representative/ Agent of Bidder

3.9.1 All the Bidders are requested to mention the name of their authorized representative/ agent, if any, with full address in the Bid. In case the representative is changed during the bidding process such changes shall be notified by the Bidder, failing which, GMRC shall not accept any responsibility.

3.10 Financial Proposal and Currencies

3.10.1 The Bidders shall quote the prices inclusive of all the taxes, while also providing the breakup of taxes as mentioned in Appendix-15 and shall be submitted in separate

seal envelope. The Bidder shall indicate the price in Financial Proposal in Indian National Rupee only.

3.11 Bank Guarantees & EMD

3.11.1 EMD shall be in the form of Bank Guarantee/ Demand Draft /Banker's cheque drawn on a Scheduled Commercial Bank based in India and should be in favour of "Gujarat Metro Rail Corporation (GMRC) Limited" payable at Gandhinagar/Ahmedabad.

3.11.2 The validity of EMD shall be as mentioned in NIT.

3.11.3 The EMD shall specifically bind the Bidder to keep its Bid valid for acceptance and to abide by all the conditions of the Tender Documents in the event of GMRC desiring to award the work to the said Bidder. GMRC shall have an unqualified discretion to forfeit the EMD in the event: (i) Bidder fails to keep the Bid valid up to the date specified/ required; or (ii) refuses to unconditionally accept Letter of Award and carry out the work in accordance with the Bid in the event such Bidder is chosen as the Successful Bidder.

3.11.4 The Company shall, however, arrange to release the EMD in respect of unsuccessful Bidders, without any interest, after the acceptance of LOA along with the submission of Security Deposit by successful Bidder.

- The EMD shall be released to bidders in the following manner. The EMD of the Successful Bidder shall be returned after submission of Security Deposit cum Performance Bank Guarantee.
- EMD of the unsuccessful bidders shall be released after releasing the EMD of the Successful Bidder.

3.11.5 The EMD shall be forfeited and appropriated by GMRC as per the discretion of GMRC as genuine, pre-estimated compensation and damages payable to GMRC for, inter alia, time, cost and effort of GMRC without prejudice to any other right or remedy that may be available to GMRC hereunder or otherwise, under the following conditions:

- a. If a Bidder engages in a corrupt practice, fraudulent practice, coercive practice, or restrictive practice;

- b. In the case of Successful Bidder, if it fails to furnish the Security Deposit cum Performance Bank Guarantee within the period prescribed.
- c. In case the Successful Bidder, commits any breach prior to furnishing the Security Deposit cum Performance Bank Guarantee.

3.11.6 The Successful Bidder shall furnish the following Bank Guarantees:

- i) **Security Deposit cum Performance Bank Guarantee (SD/PBG)** as per the format given in Appendix 18 (b): Format of Bank Guarantee for Security Deposit/ Performance Bank Guarantee, shall be furnished in favour of “Gujarat Metro Rail Corporation (GMRC) Ltd.” The Successful Bidder shall submit Security Deposit cum Performance Bank Guarantee of 10% of the EPC Contract Price, within seven (7) days along with the acceptance of LOA, initially valid for a period of **180 days + 60 days** from the date of issue of LoA, thereafter, it will be renewed yearly basis till completion of O&M Period. The period for Performance Ratio Test shall starts from the receipt of commissioning for each site. 50% of SD/PBG shall be returned only after successful Performance Ratio Test at 15 nos. of Metro Stations. Moreover, performance bank guarantee submitted by bidder shall be forfeited by GMRC in the case of default as mentioned in clause 6.14. The remaining 50% of PBG will be released after completion of O&M Period.
- ii) Deleted

3.11.7 Due to an extended nature of the Bank Guarantee, the Contractor is allowed to provide Bank Guarantees of not less than one (1) year and renew the same each year. However, the Contractor shall renew the Bank Guarantee at least one month before the expiry of the validity failing which GMRC will be at liberty to encash the same. In case the Bank Guarantee is encashed due to any penalty then the Contractor has to replenish within 20 days the Bank Guarantee for the remaining period.

3.11.8 Any lapse in the timely renewal of the Bank Guarantee shall entitle GMRC to encash it without assigning any further reason thereof.

3.11.9 The Bank Guarantee should be valid up to 60 days beyond the due date of completion of O&M year. For subsequent O&M years, the Bank Guarantee should be extended/renewed in such a manner that the same remains valid up to 45 days beyond

the date of completion of each subsequent O&M year.

3.11.10 Contractor shall be responsible for any water leakage or seepage on the roof during the installation of rooftop solar (RTS) plants and also during the O&M period as specified in the NIT of this Tender. In case of leakage during the above mentioned period, necessary repair by specialized agency approved by GMRC/ Engineer must be carried out by the Contractor immediately without any cost implications to GMRC, failing which, the actual amount will be deducted from the O&M BG submitted by the Contractor subject to the maximum amount of O&M BG.

3.12 Third Party Engineering Services Agency

3.12.1 If required, GMRC may appoint a Third Party Engineering Services (TPE) agency, at its sole discretion, to conduct any kind of inspection regarding procurement, fabrication, installation, hook-up, quality, execution, commissioning, operation and maintenance during the span of the Project. The Contractor shall provide necessary access and coordination to conduct such inspections. The Contractor shall provide all necessary access and cooperation for inspection by National or State agency.

3.13 Right to Accept or Reject any or all Bids

3.13.1 Notwithstanding anything contained in this Tender, GMRC reserves the right to accept or reject any Bid and to annul the bidding process and reject all Bids at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.

3.13.2 GMRC reserves the right to reject any Bid and appropriate the EMD if:

- a. after reviewing the Bid there is doubt that the offered works, materials or equipment are not state of the art and/ or not suitable for the site operating conditions;
- b. at any time, a material misrepresentation is made or uncovered, or
- c. the Bidder does not provide, within the time specified by the GMRC, the supplemental information sought by GMRC for evaluation of the Bid.

3.13.3 Such misrepresentation/ improper response shall lead to the disqualification of the Bidder. If such disqualification / rejection occur after the Bids have been opened and the Successful Bidder gets disqualified / rejected, then GMRC reserves the right

to:

- a. select the next Bidder with the Lowest Evaluated Bid Value as the Successful Bidder; <or>
- b. take any such measure as may be deemed fit in the sole discretion of GMRC, including annulment of the bidding process.

3.13.4 In case it is found during the evaluation or at any time before signing of the Contract or after its execution and during the period of subsistence thereof, that one or more of the pre-qualification conditions have not been met by the Bidder or the Bidder has made material misrepresentation or has given any materially incorrect or false information, the Bidder shall be disqualified forthwith, if not yet appointed as the Contractor either by issue of the LoA or entering into of the Contract Agreement, and if the Successful Bidder has already been issued the LoA or has entered into the Contract Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this Tender, be liable to be terminated, by a communication in writing by GMRC to the Contractor, without GMRC being liable in any manner whatsoever to the Bidder or Contractor, as the case may be. In such an event, GMRC shall forfeit and appropriate the bank guarantees without prejudice to any other right or remedy that may be available to GMRC.

3.13.5 GMRC reserves the right to verify all statements, information and documents submitted by the Bidder in response to the Tender Documents. Failure of GMRC to undertake such verification shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of GMRC there under.

3.13.6 The GMRC shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to RFP, the Bidding Documents or the Bidding Process, including any error or mistake therein or in any information or data given by the GMRC.

3.14 Net Electrical Energy Generation Guarantee (NEEGG)

3.14.1 The Bidder shall be required to quote the Net Electrical Energy Generation Guarantee (NEEGG) for five (5) years period at the solar metering point. Solar meter shall be placed near to interconnection panel at customer LT Panel. The

Bidder shall give NEEGG per annum after considering proposed configuration and all local conditions, solar insolation, wind speed and direction, air temperature & relative humidity, barometric pressure, rainfall, sunshine duration, grid availability and grid related all other factors and losses due to near shading, incidence angle modifier, irradiance level, temperature loss, array loss, module quality loss, module array mismatch loss, soiling loss and various inverter losses etc. To assess/ verify feasibility of quoted NEEGG, Bidders are required to provide computation documents along with considered factors based on which NEEGG has been computed.

3.14.2 Bidders are expected to undertake their own study of solar profile and other related parameters of the area and make sound commercial judgment about power output i.e. Net Electrical Energy Guaranteed Generation. The Site information and solar data provided in this Tender except the reference radiation for the twelve months is only for preliminary information purpose. No claim or compensation shall be entertained on account of this information. It shall be the responsibility of the Bidder to access the corresponding solar insolation values and related factors of solar plant along with expected grid availability. The Bidder should access all related factors about the selected Site for the Project and then quote the NEEGG for the proposed Project.

3.14.3 The Contractor shall be responsible for achieving NEEGG. For any shortfall in NEEGG corresponding to the offer, the compensation shall be recovered from the Contractor as per Clause no. 6.12.2. The Contractor shall maintain the Plant equipment including its repair, replacement, overhauling, etc., so as to ensure guaranteed NEEGG per year, for which GMRC shall pay the agreed O&M Contract Price and the applicable taxes. guaranteed shall not be construed as limiting value of generation. The Contractor shall maintain such that maximum generation is achieved.

3.14.4.1 The capacity utilization factor (CUF) of the solar power plants of all 15 nos of Metro stations shall not be less than 18% with acceptable degradation values as mentioned in tender doc., failing to which penalty shall be levied for lower performance.

3.14.4.2 The Performance Ratio of Grid tied Systems shall be more than 75%, and necessary efforts shall be made to achieve it by the bidder/ project developer.

3.14.5 The deration in NEEGG quoted after first year shall not be more than **1% of the quoted for the previous year**. If the Bidder anticipates any degradation of the modules during the first year, it shall be taken care of to provide additional capacity of solar PV modules to meet guaranteed generation at the end of first year to avoid liquidated damages/compensation on account of Performance Guaranteed Generation. The NEEGG of consecutive year should not be more than the previous year's NEEGG. Bids not following these conditions shall be summarily rejected.

3.14.6 In case the actual installed capacity is more or less than 5 MW Capacity then NEEGG quoted by the Successful Bidder shall also change on prorata basis.

3.14.7 This NEEGG shall be used for the evaluation of the Bids as Appendix 6: Bid Evaluation Criteria (BEC).

--- End of Section ---

4 Submission of Bid

General Terms

4.1 General Terms

- 4.1.1 A Bidder is eligible to submit only one Bid for the Project. A Bidder shall not be entitled to submit another Bid either individually or in a Consortium, as the case may be.
- 4.1.2 Notwithstanding anything to the contrary contained in this RFP, the detailed terms specified in the draft Contract Agreement shall have overriding effect; provided, however, that any conditions or obligations imposed on the Bidder hereunder shall continue to have effect in addition to its obligations under the Contract Agreement.
- 4.1.3 The Bid should be furnished in the formats mentioned in the RFP document which shall be duly signed by the Bidder's authorized signatory, provided that the Technical Proposal will required to submit online as well as in hard copy at GMRC's office as mentioned in NIT. The Financial Proposal will only be submitted on N Procurement Site / Portal only.
- 4.1.4 The Bidder shall submit a power of attorney as per the format at "Appendix 12: Format of Power of Attorney as Authorized Signatory" authorizing the signatory of the Bidder to commit to the Bid or as per their Company's format.
- 4.1.5 Any condition or qualification or any other stipulation contained in the Bid shall render the Bid liable to rejection as a non-responsive Bid. The complete Bid shall be without alterations, interlineations or erasures, except those to accord with instructions issued by the Company, or as necessary to correct errors made by the Bidder, in which case such corrections shall be initialled by the person or persons signing the Bid.
- 4.1.6 The RFP documents and all attached documents are and shall remain the property of the Company and are transmitted to the Bidders solely for the purpose of preparation and the submission of a Bid in accordance herewith. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than

for preparation and submission of their Bid. The Company will not return any Bid or any information provided along therewith.

4.1.7 The Bidder shall submit PF code number allotted by Regional PF Commissioner. Failure to do so is likely to result in the offer being rejected.

4.1.8 Bidder shall note that the Price Bid of only those Bidders shall be opened who are found technically qualified and responsive to GMRC's Tender terms and conditions including but not limited to Scope of Works.

4.2 Format and Signing of Bid

4.2.1 The Bidder shall provide all the information sought under this RFP. The Company will evaluate only those Bids that are received in the required formats and complete in all respects.

4.2.2 The Bid shall be typed or written in indelible ink and signed by the authorized signatory of the Bidder who shall also initial each page, in blue ink. All the alterations, omissions, additions or any other amendments made to the Bid shall be initialled by the person(s) signing the Bid.

4.3 Sealing and Marking Of Bid

4.3.1 The Bid of the Bidder shall be contained in one (1) single "Main" Envelope.

4.3.2 The Main Envelope shall contain two (2) Envelopes as follows:

1. "Original" Envelope
2. "Copy" Envelope

4.3.3 The "Original" Envelopes shall contain the following Envelopes:

- a. Cover-I: EMD and Tender Fee
- b. Cover-II: Enclosures of the Technical Bid (PQR document, Appendices, etc) + scanned copy of Technical Bid in CD/Pen drive
- c. Cover-III: Signed Copy of the Tender Document(s) along with Addendum, Clarifications (If any)

The cover – I and II are also required submit online on <https://tender.nprocure.com/> portal. Cover – III, the digitally signed copy of tender document along with addendum and

clarifications can be submitted online.

4.3.4 The “Copy” envelope shall contain the enclosures of the Technical Bid (PQR document, Appendices, etc) + scanned copy of Technical Bid in CD/Pendrive

4.3.5 All original attested Tender Documents, Bid Enclosures (Techno-commercial Bid), EMD and Tender Fee, shall be contained in the “Original” Envelope.

4.3.6 All soft/ scanned copies of the original attested Tender Documents, Bid Enclosures, / Technical Submissions, EMD and Tender Fee shall be submitted online on <https://tender.nprocure.com/> portal.

4.3.7 IMPORTANT: THE COPY OF THE FINANCIAL BID SHALL NOT BE INCLUDED IN THE CDS/PENDRIVE.

4.3.8 Envelopes shall be clearly marked as “Original,” and “CD/PENDRIVE”.

4.4 Enclosures of the Bid

4.4.1 Cover-I shall be duly marked as “EMD and Tender Fee” and shall contain the original document of Tender Fee and EMD.

4.4.2 The documents accompanying the Bid other than the attested Tender Document(s), and Tender Fee and EMD shall be placed in Cover-II and marked as “Enclosures of the Bid”. These documents shall include:

- a. The Covering Letter as per the format prescribed in Appendix 1: Format for Covering Letter.
- b. Details of the Bidder as per format prescribed in Appendix 2: Details of Bidder. Attested copy of GST Registration Certificate of Bidder.
- c. Attested copy of PAN Card for Bidder.
- d. Attested Certificate of Commencement of Business issued by the Registrar of Companies for the Bidder.

- e. Attested copy of Provident Fund Code of Bidder.
- f. Details of similar technical experience of the Bidder as per format prescribed in Appendix 3: Format of Details of Similar Technical Experience.
- g. List of proposed PV technologies as per format prescribed in Annexure 4: Format of Disclosure of PV Technology
- h. Project execution plan as mentioned in Appendix 5: Format for Project Execution Plan.
- i. Declaration of Compliance as per format prescribed in Appendix 9.
- j. Declaration of Bidder's relation to Directors of GMRC as per format prescribed in Appendix 7.
- k. Details of qualified technical staff as per format prescribed in Appendix 8: Details of qualified technical staff.
- l. No Deviation Certificate as per format prescribed in Appendix 10: No Deviation Certificate.
- m. Format of Summary of audited financial statements as per format prescribed in Appendix 12: Format of Power of Attorney as Authorized Signatory.
- n. Format of CA certificate for declaration of turnover, net worth and availability of fund based credit facilities as per Appendix -13
- o. Declaration of Non black listing from any Govt./ Pvt companies
- p. Project Operation & Maintenance (O&M) Schedule with resource planning in the form of Gantt/ Pert Charts
- q. Technical specifications and standard warranty document of PV modules.

4.4.3 Cover-III shall be duly marked as "Signed copy of the Tender Document(s) along with Addendum, Clarifications (if any)" and shall include the duly signed and sealed Tender Document including its annexure, appendices, attachments, amendments and any other documents as added or modified by GMRC as per the provisions in this Tender

- 4.4.4 Tenderer may note that **Appendix 15: Format of Financial Proposal** to be filled on N Procurement Site / Portal only. The format to fill the financial proposal on N Procurement site will be similar to Appendix 15.
- 4.4.5 All Bid documents shall be placed in hard binding and the pages shall be numbered Serially with index page. Each page thereof shall be initialled in blue ink by the authorized signatory.
- 4.4.6 All envelopes in the Bid Documents shall be sealed. The outer envelope shall clearly bear the following identification:

Outer Envelope Containing Cover –I, II & III

“Tender Bid Document’ for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Cirlee, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd. on EPC basis”.

Cover-I shall bear the following identification:

“Cover-I: EMD and Tender fees of the Bid for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Cirlee, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd. on EPC basis”.

Cover -II shall bear the following identification:

“Cover-II: Enclosures of the Bid for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project

on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd. on EPC basis”.

Cover -III shall bear the following identification:

“Cover-III: Signed RFP Document for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd on EPC basis”.

4.4.7 Each of the envelopes shall clearly indicate the name and address of the Bidder. In addition, the Bid Due Date should be indicated on the right hand top corner of each envelope.

4.4.8 Each of the envelopes shall be addressed to:

ATTN:

The GM (Contract);

Gujarat Metro Rail Corporation (GMRC) Limited.

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Tel. No.: +91 79 2324 8572, Fax No.: +91 79 2324 8573

Email: anupam.gupta@gujaratmetrorail.com, snehal.shah@gujaratmetrorail.com

Website: www.gujaratmetrorail.com

4.4.9 If the envelopes are not sealed and marked as instructed above, the Company assumes no responsibility for the misplacement or premature opening of the contents of the Bid submitted.

4.4.10 Bids submitted by fax, telex, telegram, courier or e-mail shall not be entertained and

shall be rejected.

4.5 Bid Due Date

4.5.1 Bids should be submitted before the Deadline for Submission of Bid as specified in NIT.

4.5.2 GMRC may, in its sole discretion, extend the Bid due date by issuing an Amendment/ Addendum in accordance with Clause No. 3.6 uniformly for all Bidders.

4.6 Late Bids

4.6.1 Bids received by the Company after the specified time on the bid due date shall not be eligible for consideration and shall be summarily rejected. In case of the unscheduled holiday being declared on the prescribed closing/opening day of the Bid, the next working day shall be treated as the scheduled prescribed day of closing/opening of the Bid.

4.7 Confidentiality

4.7.1 Information relating to the examination, clarification, evaluation and recommendation for the Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising the Company in relation to or matters arising out of, or concerning the bidding process. The Company will treat all information, submitted as part of the Bid, in confidence and will require all those who have access to such material to treat the same in confidence. The Company may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or the Company.

4.8 Correspondence with the Bidder

4.8.1 The Company shall not entertain any correspondence with any Bidder in relation to acceptance or rejection of any Bid.

4.9 Bid Opening and Evaluation

4.9.1 The Company shall open, examine and evaluate the Bids in accordance with the provisions set out in this RFP document.

4.9.2 To facilitate evaluation of Bids, the Company may, at its sole discretion, seek clarifications in writing from any Bidder regarding its Bid.

4.9.3 After the receipt of Bids the Company may at its discretion send a team of engineers if necessary to inspect the engineering facilities, to ensure suitability and satisfactory working conditions at the Bidder's works/yards(s) and equipment listed to be used by the Bidder for the work. The Bidder shall ensure that the aforesaid team shall at all the times have access to visit and inspect works, equipment etc.

4.10 Tests of Responsiveness

4.10.1 Prior to evaluation of Bids, the Company shall determine whether each Bid is responsive to the requirements of the RFP. A Bid shall be considered responsive only if:

- i. The minimum Capacity Utilisation Factor (CUF) & Performance Ratio (PR) of the Rooftop Solar Power Plant for one year is provided by the Bidder.
- ii. it is received in the manner prescribed in this RFP
- iii. it is accompanied by the requisite Tender Fee and EMD;
- iv. it is received with all the Enclosures of the Bid as prescribed in the Clause 4.4
- v. its Enclosures are received as per the formats specified in Appendices as well as the Tender;
- vi. it contains all the information (complete in all respects) as requested in this Tender (in the same formats as specified);
- vii. it complies with all the terms, conditions and provisions specified in this Tender; and
- viii. it does not contain any conditions or deviations

4.10.2 The Company reserves the right to reject any Bid which is non-responsive and no request for alteration, modification, substitution or withdrawal shall be entertained by the Company in respect of such Bid.

4.11 Modification and Withdrawal of Bids

4.11.1 In case any clarifications are sought by the Company after opening of Bids then the replies of the Bidder should be restricted to the clarifications sought. Any Bidder who modifies its Bid (including a modification which has the effect of altering the

value of its Financial Proposal) after opening of Bid without specific reference by the Company, shall render the Bid liable to be rejected without notice and without further reference to the Bidder and its EMD shall be forfeited.

4.11.2 No Bid may be withdrawn in the interval between the bid due date and the expiration of the validity period of the Bid. Withdrawal or unsolicited modification of a Bid during this interval shall result in the Bidder's forfeiture of its Bid Security.

4.12 Evaluation of Bid and selection of Bidder

4.12.1 GMRC will examine the Bid to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bid is generally in order.

4.12.2 Prior to the detailed evaluation, GMRC will determine the substantial responsiveness of each Bid. A substantially responsive Bid is one which conforms to all the terms and conditions of the Tender Documents without material deviations. Deviations from or objections or reservations to critical provisions such as those concerning EMD, Applicable Law and Taxes and Duties will be deemed to be a material deviation. GMRC's determination of a Bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.

4.12.3 If the Bid is not substantially responsive, it will be rejected by GMRC and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

4.12.4 GMRC will evaluate and compare Bids which have been determined to be substantially responsive.

4.12.5 A Bidder shall have to quote for entire 5 MW indicative capacity at 15 nos. of Metro Stations Grid-connected Rooftop Solar PV power project.

4.12.6 Following factors shall be required for evaluation of Bid:

a. The Evaluated Bid Value (EBV) shall be calculated using the following parameters:

i. Engineering Procurement Commissioning (EPC) Contract Price (Supply +

Work);

- ii. Net Present Value (NPV) of O&M Price of five (5) years;
- iii. Net Electrical Energy Generation Guarantee; and
- iv. Constant parameters as indicated in the Tender.

b. The Bid with the Lowest Evaluated Bid Value (EBV) shall be considered as L-1 (Rs. /KWh) and the Successful Bidder. The Bid with next lowest value shall be considered as L-2 and so on for more understanding please refer Appendix 6. An example has also been done for Bidder's comprehension.

4.12.7 In no case, a Bidder shall have the right to claim to be the Successful Bidder for its Bid.

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

4.12.9 Price Bids of only techno-commercial acceptable bids shall be considered for further evaluation.

4.13 Contacts during Bid Evaluation

4.13.1 Bids shall be deemed to be under consideration immediately after they are opened and until such time the Company makes official intimation of award/ rejection to the Bidders. While the Bids are under consideration, Bidders and/ or their representatives or other interested parties are advised to refrain from contacting by any means, the Company and/ or their employees/ representatives on matters related to the Bids under consideration.

4.14 Employment of Officials/ Ex-Official of the Company

4.14.1 Bidders are advised not to employ employees serving the Company. It is also advised not to employ ex-personnel of the Company within the initial two years period after their retirement/ resignation/severance from the service without specific permission of the Company. The Company may decide not to deal with such firm(s) who fails to comply with the above advice.

4.15 Declaration on Bidder's Relation to Directors

4.15.1 The Bidders are required to certify in prescribed format Appendix 9: Declaration of Compliance, whether he/they is/are related to any of the Directors/Senior Personnel

of the Company in any of the ways mentioned in the Certificate. It is clarified that any such affirmative certificate shall not, by itself, prejudice consideration of the Bid. This certificate must accompany the Bid.

4.16 Letter of Award (“LOA”) and Notification to Proceed

4.16.1 After selection of the Successful Bidder, a Letter of Award (the “LoA”) shall be issued, in duplicate, to the Successful Bidder. The Successful Bidder shall not be entitled to seek any deviation from the Contract, as may have been amended by GMRC prior to the bid submission date.

4.16.2 On issue of the LoA by the Company, Authorised representative of the Successful Bidder shall sign the Contract Agreement with in a period of 30 days of submission of Performance Security or 60 days from the date of issue of the Letter of Acceptance whichever is later.

4.17 Performance Guarantee

4.17.1 Security Deposit cum Performance Bank Guarantee (SD/PBG) as per the format given in Appendix 18 (b): Format of Bank Guarantee for Security Deposit/ Performance Bank Guarantee shall be furnished in favour of “Gujarat Metro Rail Corporation (GMRC) Limited” payable at Gandhinagar/Ahmedabad. The Successful Bidder shall submit Security Deposit cum Performance Bank Guarantee of 10% of the EPC Contract Price, within seven (7) days along with the acceptance of LOA, initially valid for a period of 190 days from the date of issue of LoA; if required, the PBG shall have to extended for further 1 month beyond the due date for completion of PR test. SD/PBG shall be returned only after successful Performance Ratio Test at 15 nos. of Metro Stations.

4.17.2 The bank guarantee by the Contractor will be given from bank specified in Appendix 17: List of Banks (for Bank Guarantee) only. Bank Guarantee of any other Bank will not be treated as valid Bank Guarantee.

4.18 Fraudulent Practices

4.18.1 The Bidders may please note that the Company 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 Company’s office

for making such inquiries.

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

--- End of Section ---

5 Scope of Work

5.1 GENERAL SCOPE OF WORK

The Tender is invited for Feasibility study, Design, Engineering, Supply, civil works, Procurement, Erection of suitable structure, installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Cirlce, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd, Gandhinagar in the state of Gujarat.

Description of Solar PV power project

Sr No	Corridor Ahmedabad Metro Rail Project, Phase II (Motera to Mahatma Mandir)	Nos of elevated station	Tentative capacity at each station (kWp)	Approx total capacity (kWp)
1	Koteswar Road to Koba Gam	7	300	2100
2	GNLU to Gift city	3	300	900
3	Raysan to Sector 1	5	400	2000
Total aggregate capacity of solar plants (Station box+entry/exit+FOB)				5000
NOTE : Approx area available for installation per each stations is 3258 sq.meter (Station box+entry/exit+FOB)				
✓ Roof conventional = 2960 m ² , Tin roof, 1: 5 slope ✓ Roof inclined = 300 m ² , Tin roof (Tin roof : Galvalume + polycarbonate sheets)- Sheet roofing				
✓ Solar Load (KN/m ²) : 0.30 considered in design.				

Above is indicative capacity, Bidders have to maximize as per site availability. The variation of +/- 25% shall be applicable to the area as well as capacity indicated.

The proposed project shall be commissioned as per the technical specifications of MNRE & GEDA given in this doc. Any contradiction/conflict in the specifications given below and MNRE guidelines/specification issued from time to time, the bidder shall bring to notice of GMRC before its use in the project. The project execution shall be during construction & operation phase of Ahmedabad Metro Rail Project, Phase II, and may need to undertake during specific time of the day as per schedule provided by GMRC in view of safety.

Scope of work

I. Project feasibility study

Site survey with detailed assessment of factors, such as roof orientation, roof materials, shading analysis, metrological metrics, MNRE guidelines & overall physical & technical verification of all 15 nos of metro stations to understand feasibility of solar project on Metro stations in line with Gujarat renewable energy policy 2023. Estimation of Rooftop Solar Photovoltaic generation potential and solar plant capacity estimation of #15 Metro stations.

II. Project Development:

A) Design, develop, procure, construct and commission, operate and maintain various roof mounted SPV power packs totalling to capacity of 5 MW indicative capacity, which includes, but is not limited to the following:

- i. Solar PV modules.
- ii. Components and parts used in solar PV systems should conform to the BIS or IEC or other international specifications, wherever such specifications are available and applicable.
- iii. Mounting frames, structures, array foundation (grouting on terrace), earthing grid design, and module inter-connection.
- iv. All System Junction boxes.
- v. Power Conditioning Units (PCU) with monitoring.
- vi. MPPT – Max power point tracking built in the PCU
- vii. Appropriate AC power evacuation panels or inverters, according to Project Site requirements, with bus bars (in-built or otherwise) and circuit breakers.
- viii. The nominal steady electrical characteristic of the system are as follows:
 - a. Single/ Three phase AC at 50 Hertz plus or minus 0.5 Hertz
 - b. Nominal voltage of 230 V/415V/11KV with +10% to -12.5% variation.
- ix. Protection/isolation systems.
- x. Power and Control Cables.
- xi. Earthing system for PV Array, DC power system, lightning protection system.
- xii. Data monitoring system with remote monitoring facilities (Completely in scope of bidder).
- xiii. Transportation, unloading, and loading of all equipment at Project Site.
- xiv. Project Management including adherence to all requisite safety practices.
- xv. The Project shall be designed and capable of being synchronized and within a frequency range of 47.5 to 52 Hz and voltage of 230V/415V/11kV
- xvi. Short circuit rating: As a part of the detailed design process, the Solar Company shall calculate the short circuit rating (minimum and maximum), and supply this information to the Procurer
- xvii. Fire fighting (fire extinguisher and sand bucket with stand)
- xviii. Making arrangements for module cleaning in the plant area with cleaning mechanism;
- xix. Control room/ panel (which ever may be found appropriate) for the plant built in suitable material, with proper ventilation for temperature control of the equipment and serviceability within the building. Alternatively, the existing meter room can be utilized after proper designing and approvals of the building owner (GMRC).

B) Installation and Commissioning of various roof mounted SPV power packs totaling to capacity

- i) Confirm feasibility of mentioned Solar PV System capacity along with site visit report, design and construction of foundations/grouting for holding module mounting structures without puncturing the roof; maintaining proper drainage of rain water over terrace through the installation area; cable routings through PVC pipes not obstructing the movement on the terrace as per site requirement.
 - ii) Before commencement of work, the Bidder has to obtain all approvals for related drawings, related vendors to be obtained from the concerned authorities including GEDA, CEI, DISCOM, GMRC etc..
 - iii) All drawings shall conform to relevant IS/IEC standards.
 - iv) Special care to be taken while designing all structures for modules to cater to heavy rainfall, strong winds and earthquake that may be prevalent in the area.
 - v) Serial Number (identification mark) must be permanently marked on all major components of the SPV systems and shall be fixed with strong adhesive on each equipment, as approved by GMRC/ Engineer.
 - vi) Undertake Pre-commissioning and Commissioning of all supplied equipment.
 - vii) Test running of the grid-connected solar Facility including load trials at Project Site, prior to handover and commencing energy export for metering.
 - viii) Grid commissioning; the plant needs to be grid interactive. Interconnection points to be checked and certified by GMRC/ Engineer for accuracy and safety.
 - ix) Installation of Main Meter and Back up Meter shall be done by the EPC Contractor and the EPC Contractor shall submit drawings for grid interface for each individual power pack and get approved prior to commencement of work on Project Site. Necessary approvals and testings of all energy meters shall be as per standards of CEIG/ DISCOM
 - x) Commissioning certificate from GEDA relevant authorities for the Facility.
- C) General Instructions:
- i) Construction water and construction power shall be the responsibility of the EPC Contractor.
 - ii) Security, safety, watch, and ward of all materials at sites shall be the responsibility of the Contractor.
 - iii) The Contractor to obtain comprehensive insurance cover for the Project.
 - iv) Liaison with statutory authorities as applicable for all the Project approvals. Any cost of same is deemed to be included in bidder's quote.
 - v) Expenses for any other works, supply of material, and providing services required for the successful commissioning and operation of the Facility, but not specifically mentioned in this document.

vi) Contractor Safety Management to be strictly complied with by the Contractor throughout Project activity as per safety rules of GMRC.`

vii) First-aid medical facilities at the Project Site during construction to be provided by the Contractor.

viii) All local labour, employment, and other issues shall be handled independently by the Contractor.

ix) The entire responsibility and risk relating towards the workforce working at the Project Site, and compliance of different statutory regulations like Workman Compensation Act, ESIC, Factory Act 1948, Contract Labour Regulation, and Abolition Act 1970, Shop and Establishment Act 1948, and other Statutory regulatory bodies shall solely lie with the EPC Contractor. The EPC Contractor shall also be solely responsible for payment of Wages, PF, Bonus, Retrenchment Compensation Leave etc. applicable as per various statutory regulations to their entire workforce, and keep indemnified in this regard against any Claim.

C) General Instructions:

i) Construction water and construction power shall be the responsibility of the EPC Contractor.

ii) Security, safety, watch, and ward of all materials at sites shall be the responsibility of the Contractor.

iii) The Contractor to obtain comprehensive insurance cover for the Project.

iv) Liaison with statutory authorities as applicable for all the Project approvals.

v) Expenses for any other works, supply of material, and providing services required for the successful commissioning and operation of the Facility, but not specifically mentioned in this document.

vi) Contractor Safety Management to be strictly complied with by the Contractor throughout Project activity as per safety rules of GMRC.

vii) First-aid medical facilities at the Project Site during construction to be provided by the Contractor.

viii) All local labour, employment, and other issues shall be handled independently by the Contractor.

ix) Deleted

D) Statutory Clearances:

The following Statutory Clearances to be obtained by the EPC Contractor from CEIG/DISCOM/GEDA as directed by GMRC/ Engineer:

i) Nodel Agency Approval (GEDA Registration)

ii) Building and Architectural Drawings approvals from relevant authorities, wherever required

iii) Factory inspector approval for drawings, wherever required iv) Electrical system approval (Electrical Inspector)

v) Fire System approval, wherever required

vi) DISCOM Approval (Connectivity & Metering)

vii) All equipment, accessories, materials, civil construction & erection works should comply with statutory requirements and IS standards.

viii) All statutory requirements for working at the project site like labour registration, workman compensation policy, ESIC etc. to be complied with by the Contractor before deployment of resources at the Project Site.

E) Undertaking:

The EPC Contractor shall give undertaking that for the period of 5 (Five) years all the power packs covered under this project will be operated, maintained and repaired whenever necessary so that all Units are operative and export maximum possible energy to the grid This shall be ensured through undertaking services that include, but are not limited to, the following:-

i) Daily monitoring of plant performance.

ii) Supply of all technical, production/operation data and information through a monthly report.

iii) Planned visits on a monthly, quarterly, and annual basis for preventative and corrective maintenance which include, but are not limited to the following:

a. Clean solar panels on weekly basis or as appropriate to get maximum output from the panels.

b. Check inverter cabinets (ventilation openings, lighting, leakages in inverter cabinets and cleaning of filters) and inverter maintenance. EPC Contractor will keep the necessary spares at the Project Site.

c. Check security and fire protection system.

d. Check parts for corrosion.

e. Check the state of tightness of connections, fuses, main junction boxes, etc.

iv) Adequate spares to ensure uninterrupted operation and minimum downtime during the entire period.

v) Comprehensive operation and maintenance of the Facility up to the energy meter shall be the responsibility of the EPC Contractor .

vi) Comprehensive Operation and Maintenance during entire life of the systems shall include supply of spares, consumables, machine breakdown insurance, transpiration, and general comprehensive insurance covering fire, earthquake and provision of security personnel with the insurance policy which shall be taken in the GMRC as the primary beneficiary. Copies of the Insurance Policies are to be given to the concerned department, as and when taken/renewed. All risks associated with lapses or delays in insurance coverage, during the construction period, shall be at the EPC Contractor's cost.

vii) The Contractor shall ensure efficient operation of the Project and the associated facilities to achieve the maximum power generation from the Project. For this purpose the CONTRACTOR shall engage the services of adequate number of Engineers and Technicians. The CONTRACTOR shall also attend to all failures, rectifications, breakdown, comprehensive Operation and Maintenance checks. Daily Management Information System (MIS) reports with generation and down time analysis data shall be made available to GMRC by E-mail.

viii) The CONTRACTOR should not misuse the area and/or assign responsibility for the safety of machinery within the premises.

III. Key Components

The Key components of solar rooftop system are as follows:-

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

- Roof top Solar PV system shall consist of following equipments/components.
- Solar PV modules consisting of required number of poly-crystalline PV modules
- Grid interactive Power Conditioning Unit with Remote Monitoring System
- Module Mounting structures
- cabling & associated equipments.
- Array Junction Boxes.
- DC Distribution Board (DCDB)
- AC Distribution Board (ACDB)
- Earthing and, lightening and Surge protections
- IR/UV protected FRLS/FRLSOH (for underground) Cables, pipes and accessories
- Manual/Automatic disconnect switch

The proposed solar PV based rooftop projects shall be developed across a number of distributed rooftops. Each rooftop shall have an individual solar PV based power plant (also called power pack) and each power plant shall be connected to the grid at an appropriate voltage based on the size of the plant and the availability of the grid. Supply, installation, erection and acceptance of module mounting structure (MMS) with all necessary accessories, auxiliaries and spare part shall be in the scope of the work. Moreover, GMRC reserves the right to finalize the type of Module Mounting Structure as per the feasibility and actual site condition i.e. profile of roof sheeting, etc.

IV. General system guidelines

Each individual solar PV rooftop based power plant shall be developed based on the actual availability of space on the rooftop and convenience of the rooftop stations. The broad general guidelines for the development of individual plants shall follow the following key points:

Each individual solar plant of Metro station capacity may vary based on rooftop & system with

other suitability factors. Individual Metro solar plant capacity may vary as per the technical feasibility of the location as per the Solar Policy. Tentative Metro station size wise potential for all #15 rooftop solar power installation is as follows;

Sr No.	Name of Metro station Ahmedabad Metro Rail, PhaseII	Location	Details
1	Sector-1	Gandhinagar	<ul style="list-style-type: none"> Capacity : approx.. 300 kwh per stations ✓ Roof conventional = 2960 m2/station ✓ Roof inclined = 300 m2, ✓ Solar Load (KN/m2) : 0.30 considered in design. ✓ Approx 300 Kwp per Metro station ✓ Roof : Galvalume, polycarbonate, Tin roof, 1: 5 slope
2	Infocity	Gandhinagar	
3	Dholakuva	Gandhinagar	
4	Randesan	Gandhinagar	
5	Raysan	Gandhinagar	
6	GMLU	Gandhinagar	
7	PDEU	Gandhinagar	
8	Gift City	Gandhinagar	
9	Koba gam	Gandhinagar	
10	Juna Koba	Gandhinagar	
11	Koba circle	Gandhinagar	
12	Narmada canal	Ahmedabad	
13	Vishwakarma	Ahmedabad	
14	Koteshwar	Ahmedabad	
15	Tapocan Circle	Ahmedabad	
The total roof area of each Metro station including station box, entry-exit, FOB is 3260 sq.meter approximately. The variation of +/-25% shall be applicable to the area as well as capacity indicated.			

- The above feeding points to grid may vary as per actual site/technical requirements.
- Each plant shall consist of a solar PV array, a fixed solar PV array support structure, junction box, DC cabling, DC distribution box, inverter and power control unit, AC cabling, AC distribution box, main distribution panel and meters.
- The individual Solar PV arrays shall be installed on existing rooftops of metro station using fixed solar PV array support structures.

- The individual junction boxes and DC cabling shall be installed on the existing terraces/rooftops of buildings.
- The individual inverter and the power control units (PCU's) shall be installed either in a control room/closed but air ventilated space provided in the respective buildings or next to the panel arrays in case of large buildings based on considerations like safety, efficiency and loss reduction.
- Individual DC and AC distribution boxes, DC and AC cabling, energy meters and main distribution panel shall be installed either in the control room or in an appropriate open space provided in the respective building.
- A weather monitoring system (WMS) shall be installed by the Contractor for measurements of plane and global irradiance, ambient and module temperature, wind etc. these data shall be used for calculating the adjusted NEEGG and performance calculation of solar plant. The weather monitoring system has to be installed on Metro stations, location shall be decided by GMRC/Engineer. Calibration certificate for WMS from reputed Indian laboratory (like NABL) or foreign laboratory to be furnished.

5.4 TECHNICAL SPECIFICATIONS AND STANDARDS

The proposed projects shall be commissioned as per the technical specifications given below. Any short comings will lead to cancelation of order in full or part as decided by GMRC. The specifications, in the GERC Regulation on Net Metering shall also be applicable.

1. DEFINITION

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

Solar PV system shall consist of following equipment/components.

- x Solar PV modules consisting of required number of **Crystalline** PV modules.
- x Grid interactive Power Conditioning Unit with Remote Monitoring System.
- x Mounting structures.
- x Junction Boxes.
- x Earthing and lightening protections.
- x IR/UV protected PVC Cables, pipes and accessories.
- x Solar Meter and Bi-directional Energy Meter

2. SOLAR PHOTOVOLTAIC MODULES:

2.1 Poly Crystalline/ Mono Crystalline make solar module not less than 300 Wp and having valid IEC certificate. (Certificate to be submitted on shortlisting of successful Tenders). The PV Cell and the modules shall be of INDIAN MAKE. Necessary documents in this regards must be provided to GMRC.

2.2 The bidder shall be required to submit the Self declaration, regarding the Modules and Solar cells used under this supply are “Made in India”, from the concerned manufacturer of Solar Modules, before commissioning of the System.

2.3 The ALMM list is published by the MNRE vide Notification No. 283/54/2018-Grid Solar-Part(1) Dated 30-12-2021 and thereafter time to time amendment and update list by MNRE . The Model and Manufactures of the Module and Cell shall be from the ALMM only used in the SPV System in this project.

2.4 The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC61730 Part-2- requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.

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

ii) The total solar PV array capacity shall not be less than allocated capacity (kWp) and shall comprise of solar crystalline modules of minimum 300 Wp and above wattage with module efficiency not less than 19.5%. Module capacity less than minimum 300 watts shall not be accepted.

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

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

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

vi) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid.

vii) Other general requirement for the PV modules and sub systems shall be the following: I. The rated output power of any supplied module can have tolerance of +/-3%.

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

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

2.3 The following information must be mentioned in the RFID used on each modules (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions).

- a) Name of the manufacturer of the PV module
- b) Name of the manufacturer of Solar Cells.
- c) Month & year of the manufacture (separate for solar cells and modules)
- d) Country of origin (separately for solar cells and module)
- e) I-V curve for the module Wattage, I_m , V_m and FF for the module
- f) Unique Serial No and Model No of the module
- g) Date and year of obtaining IEC PV module qualification certificate.
- h) Name of the test lab issuing IEC certificate.

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

2.4 Warranties:

a) Material Warranty:

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

ii. Defects and/or failures due to manufacturing

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

iv. Non conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at the Owners sole option

b) Performance Warranty:

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

3. ARRAY STRUCTURE

- a) The mounting structure shall be hot dip galvanized with minimum 80 microns or shall be pre-galvanized with minimum 60 microns as per relevant BIS standard, or Aluminum and or Hot Dip Galvanized (with 650 gm/sq. m. zinc mass coating) Mild Steel (MS)., Each structure shall have angle of inclination as per the site conditions to take maximum insolation. However, to accommodate more capacity the angle inclination may be reduced until the plant meets the specified capacity utilization factor requirement. New Technology Materials having better properties like PosMAC etc may also be used for mounting structures.
- b) When mounting solar PV to metal roofing, essential criteria such as the method/engineering of attachment should be considered to provide durability right way of doing, the integrity of both the roof and solar PV system should be preserved, and code compliance is maintained to achieve the lowest maintenance; longest life; lowest overall costs; greatest (ROI) on the solar PV system. When mounting PV on metal roofs, it is important to ensure that continued roof durability and warranties are not jeopardized, design integrity should be carefully preserved.
- c) Rail mounted or Rail less mounted solar module should be selected after careful consideration of site specific conditions and discussion with GMRC. High quality grade metal Roof Solar Mounting system including accessories like bolts, clips, brackets, SS hooks, frames, plates, should be used in the system.
- d) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed in Gujarat (150 km/hr). It may be ensured that the design has been certified by a recognized Lab/ Institution in this regard. Suitable fastening arrangement such as grouting and calming shall be provided to secure the installation against the specific wind speed. **Bidder has to submit the rooftop MMS Structural stability certificate from the valid License holder structure Engineer as format attached. (Appendix I and II).** The Bidder / SPD shall be fully responsible for any damages to SPV System caused due to high wind velocity within guarantee period as per technical specification.
- e) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS4759, the mounting structure shall be

hot dip galvanized with minimum 80 microns or shall be pre -galvanized with minimum 60 microns as per relevant BIS standard.

- f) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminum structures of proper strength can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.
- g) All bolts, nuts, fasteners used shall be made up of **stainless steel** of grade SS 304 or hot dip galvanized, panel mounting clamps shall be of aluminum and must sustain the adverse climatic conditions. Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts.
- h) The module mounting structures should have angle of inclination as per the site conditions to take maximum insolation and complete shadow-free operation during generation hours. However, to accommodate more capacity the angle of inclination may be reduced until the plant meets the specified performance ratio requirements.
- i) The structures shall be designed to allow easy replacement, repairing and cleaning of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels . Installation of solar structure should not damage the roof in any way. If any concrete or foundation or fabrication is required, it should be pre-cast type. Otherwise, Non-penetrating solution may be used by Solar Project Developer. Dark Grey colour two-component acrylic-based adhesive that creates a highly flexible adhesive system for bonding metals can be used by solar project developer. Adhesive having 2:1 mixing ratio with temperature resistance from -20 C to +100 C. Adhesive should be very fast cure of working time 8 min and handling strength in 15 min. Adhesive tensile strength should be min. 841 PSI and 190% elongation. Adhesive also having non-sagging property and having Resin viscosity - 40,000 to 1,30,000 and Accelerator viscosity - 2,00,000 to 3,00,000. Adhesive should have 3rd party certification from reputed lab / institute, for 25 years of life reliability and sustain wind speed of 200km/hr. Adhesive shall have min. 5 years of field experience in solar plant installations to ensure product performance.
- j) Regarding civil structures and tin roof, the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof to avoid damage to the slab of the building.
- k) The Structures should be suitably loaded with reinforced concrete blocks of appropriate weight made out of M25 concrete mixture, in case of ballast structure
- l) Necessary testing provision for MMS to be made available at site.
- m) Adequate spacing shall be provided between two panel frames and rows of panels to facilitate personnel protection, ease of installation, replacement, cleaning of panels and electrical maintenance
- n) The minimum clearance of the bottom most edge of solar panel from roof level shall be 300 mm to 1200 mm as per site requirement.
- o) For tin roof structure :-The structure design should be as per the slope of the tin shed. b. The minimum clearance of the lowest point from the tin shade should be more then 100mm. c. All structure member should be of minimum 2 mm thickness.
 Rooftop Structure –Foundation – Foundation should be as per the roof condition; two types of the foundation can be done- either penetrating the roof or without penetrating the roof.
 a. If penetration on the roof is allowed (based on the client requirement) then minimum 12MM diameter anchor fasteners with minimum length 100MM can be use with proper chipping. The minimum RCC size should be 400x400x300 cubic mm. Material grade of foundation should

be minimum M20.b. If penetration on roof is not allowed then foundation can be done with the help of 'J Bolt' (refer IS 5624 for foundation hardware). Proper Neto bond solution should be used to adhere the Foundation block with the RCC roof. Foundation J - bolt length should be minimum 12MM diameter and length should be minimum 300MM.

- p) The module mounting structure shall be made of GI medium class pipe (as per IS 1239 and Zinc coating as per IS 4736)/ GI Channel/GI square pipe/ GI Circular Pipe. The grouting of the structure shall be done by PCC 1:2:3, which shall withstand the wind speed of 150 km/hr. The Rectangular / square /circular hollow pipe section used for the structure should have a minimum thickness of 2.0 mm. other than above, the material thickness
- q) Design of foundation for mounting the structure should be as per defined standards which clearly states the Load Bearing Capacity & other relevant parameters for foundation design (As per applicable IS 6403 / 456 / 4091 / 875).
- r) Grade of raw material to be used for mounting the structures so that it complies the defined wind loading conditions (As per IS 875 - III) should be referred as follows (IS 2062 – for angles and channels, IS 1079 – for sheet, IS 1161 & 1239 for round pipes, IS 4923 for rectangular and square hollow section)
- s) Test reports for the raw material should be as per applicable IS 1852 / 808 / 2062 / 1079 / 811. should be minimum 2.5 mm.
- t) In process inspection report as per approved drawing & tolerance should be as per IS 7215.
- u) For ascertaining proper welding of structure part following should be referred: ▪ D.P. Test (Pin Hole / Crack) (IS 822)
- v) Weld wire grade should be of grade (ER 70 S - 6) For ascertaining hot dip galvanizing of fabricated structure following should be referred: - a)Min coating required should be as per IS 4759 & EN 1461. b) Testing of galvanized material • Pierce Test (IS 2633) • Mass of Zinc (IS 6745) • Adhesion Test (IS 2629) • CuSO₄ Test (IS 2633) • Superior High-Grade Zinc Ingot should be of 99.999% purity (IS 209) (Preferably Hindustan Zinc Limited or Equivalent).
- w) Foundation Hardware – If using foundation bolt in foundation then it should be as per IS 5624.
- x) The Contractor i.e. SPD shall also ensure that securing mechanism of PV modules with MMS and also of MMS with Rooftop is to be checked and tightened during preventive maintenance for preventing any untoward incident of flying off of PV Module due to storms etc.
- y) The fasteners or any other means used for securing of PV Modules shall be of reputed make and proven quality and performance. The maintenance activity w.r.t. above shall be appropriately incorporated in the maintenance check sheet of the concerned maintenance schedule. The contractor shall submit the duly filled in maintenance record to O&M as a documentary evidence for having undertaken the prescribed / committed maintenance.
- z) Incase if require, Foundation should be as per the roof condition, 12 mm diameter anchor-fasteners with minimum length 100 mm shall be used with proper chipping, water proofing solution and bonding of RCC block with the roof. The RCC block to be constructed so as to withstand system against wind pressure of 150 km/hr.
 - a. Column –The minimum section(thickness) should be 60MM*40MM
 - b. Rafter - The minimum section(thickness) should be 60MM*40MM
 - c. Purlin - The minimum section(thickness) should be 40MM * 40MM.

4. JUNCTION BOXES (JBs)

- a) The junction boxes are to be provided in the PV array for termination of connecting cables. The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated aluminum /cast aluminum alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single /double compression cable glands. Provision of earthing. It shall be placed at **5 feet** height or above for ease of accessibility.
- c) Polyamide glands and MC4 Connectors may also be provided. The rating of the junction box shall be suitable with adequate safety factor to interconnect the Solar PV array.
- d) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification.
- e) Junction boxes shall be mounted on the MMS such that they are easily accessible and are protected from direct sunlight and harsh weather.
- f) Each Junction Box shall have High quality Suitable Capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- g) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification

5. DC DISTRIBUTION BOARD

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

6. AC DISTRIBUTION PANEL BOARD

- a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/inverter, and shall have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- b) All switches and the circuit breakers, connectors shall conform to IEC60947, part I, II and III/ IS60947 part I, II and III.
- c) The changeover switches, cabling work shall be undertaken by the bidder as part of the project.
- d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air -insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz
- e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80 percent humidity and dusty weather.
- f) All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- g) Shall conform to Indian Electricity Act and rules (till last amendment).
- h) All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions

Variation in supply voltage : +/- 10 %

Variation in supply frequency : +/- 3 Hz

MC-4 CONNECTORS

The contractor shall ensure the proper sealing of different part of MC-4 connector with appropriate tools to avoid any mismatch /Gap formation/accidental disconnection. It shall also be ensured by the Contractor i.e. SPD during the execution that different sub components of MC-4 Connectors being used at site should be of same make and be compatible with each other i.e. ‘Male’ and ‘Female’ parts of MC-4 connectors should make proper connection without any gap formation inside the connector. The MC-4 connectors used shall be of reputed make and proven quality and performance.

The contractor shall ensure minimum joints through MC-4 connector in the DC cable as far as possible and preferably avoid using MC-4 joint in the DC cables routed from the roof area to the ground for its connection to inverter. MC-4 connector should conform to IP67 or better rating.

7. PCU/ARRAY SIZE RATIO

- a) The PCU/ inverter shall have overloading capacity of maximum 20%

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

In addition to MPPT at inverter level, power optimizer at module level shall be used to increase the power generation. The combined wattage of all inverters shall not be less than rated capacity of power plant under STC.

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

8. PCU/ Inverter

1. As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the “Power Conditioning Unit (PCU)”. In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit. Inverter output shall be compatible with the grid frequency.
2. Inverters/PCU should comply with applicable IEC/equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683, IS 16221 (Part 2), IS 16169 and IEC 60068-2(1,2,14,30)/Equivalent BIS Std.
3. Maximum Power Point Tracker (MPPT) shall be integrated in the inverter/PCU to maximize energy drawn from the array. Charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS standard. The junction boxes/enclosures should be IP 65 or better and as per IEC 60529 Specifications.
4. All inverters/PCUs shall be IEC 61000 compliant for electromagnetic compatibility, harmonics, Surge, etc.
5. The PCU/ inverter shall have overloading capacity of maximum 20%.
6. Typical technical features of the inverter shall be as follows:

- Switching devices: IGBT/MOSFET
 - Control: Microprocessor /DSP
 - Nominal AC output voltage and frequency: 415V, 3 Phase, 50 Hz(In case single phase inverters are offered, suitable arrangement for balancing the phases must be made.) or Single phase as per consumer requirements.
 - Output frequency: 50 Hz
 - Grid Frequency Synchronization range: + 3 Hz or more
 - Ambient temperature considered: -20° C to 50° C
 - Humidity: 95 % Non-condensing
 - Protection of Enclosure: IP-20(Minimum) for indoor. IP-65(Minimum) for outdoor.
 - Grid Frequency Tolerance range : + 3 or more
 - Grid Voltage tolerance : - 20% & + 15 % o No-load losses : Less than 1% of rated power
 - Inverter efficiency(minimum): >95% o THD: < 3% o PF : > 0.9
 - Inverter efficiency (minimum): > 90% (In case of less than 10 kW)
 - THD: < 3%
 - PF: > 0.9 (lag or lead)
 - Should not inject DC power more than 0.5% of full rated output at the interconnection point and comply to IEEE 519.
- a) Single Phase / Three Phase inverter shall be used with each power plant system.
 - b) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
 - c) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter shall have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
 - d) Built-in meter and data logger to monitor plant performance through external computer shall be provided.
 - e) The power conditioning units / inverters shall comply with applicable IEC/equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std.
 - f) The charge controller (if any) / MPPT units environmental testing shall qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/enclosures shall be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529specifications.
 - g) The PCU/ inverters shall be tested from the MNRE approved test centers /NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these shall be approved by international test houses.
 - h) Marking shall be located adjacent to each fuse or fuse holder, or on the fuse holder, or in another location provided that it is obvious to which fuse the marking applies, giving the fuse current rating and voltage rating for fuses that may be changed at the installed site.
 - i) In case the consumer is having a 3- ϕ connection, 1- ϕ /3- ϕ inverter shall be provided by the vendor as per the consumer's requirement and regulations of the State.
 - j) Inverter/PCU shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
 - k) Built-in meter and data logger to monitor plant performance through external laptop shall be provided.
 - l) The PCU/ inverters should be tested from the MNRE approved test centers/ NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

9. 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 comes into service PV system shall again be synchronized with grid supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid power connection need to be provided, as per regulation.

In the event of a power failure on the electric grid, or low or high voltage, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as —islands. Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided, if not available in inverter.

MCB/MCCB or a manual 4 pole isolation switch, besides automatic disconnection to grid, would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel.

10. DATA ACQUISITION SYSTEM / PLANT MONITORING

- i. Data Acquisition System shall be provided for each of the solar PV plant. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable laptop. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- ii. Remote Monitoring and data acquisition through Remote Monitoring System software at the site with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the bidder. Bidder may decide the modalities for remote monitoring of the System. Provision for interfacing these data on GEDA server in future shall be kept.
- iii. Solar Irradiance: An integrating Pyranometer (Class II or better, along with calibration certificate) provided, with the sensor mounted in the plane of the array readout integrated with data logging system. Three sensors at three locations shall be installed by the developer. Solar Cell based irradiation sensor for roof top projects
- iv. Temperature: Temperature probes for recording the Solar panel temperature and ambient temperature to be provided complete with readouts integrated with the data logging system
- v. Wind: Wind sensors for recording wind speed to be provided at three of the sites for all proposed corridors / lines.

All the above sensors shall be installed at locations as specified / decided by GMRC.

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

- a. AC Voltage.
- b. AC Output current.
- c. Output Power
- d. Power factor.

- e. DC Input Voltage.
- f. DC Input Current.
- g. Time Active.
- h. Time disabled.
- i. Time Idle.
- j. Power produced
- k. Protective function limits (viz. AC Over voltage, AC Under voltage, over frequency, under frequency, ground fault, PV starting voltage, PV stopping voltage, over current, short circuit etc.

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

viii. PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. The Energy meter should be of atleast 0.5s accuracy class or better with CT/PT matching the same accuracy class.

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

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

xi. The time interval between two sets of data shall not be more than 15 minutes.

(A min. of 4 samples of data shall be recorded per hour)

Data Acquisition System shall have real time clock, internal reliable battery backup (2 hours) and data storage capacity to record data round the clock for a period of min. 1 year.

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

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

xv. All instantaneous data shall be shown on the laptopscreen. Two laptops with latest configuration for this purpose shall be provided by the developer to GMRC.

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

xvi. Provision for Internet monitoring and download of data shall be also incorporated.

xvii. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and environment monitoring system in the central location.

B. Solar Radiation and Environment Monitoring System

i. Computerized solar radiation and environment monitoring system shall be installed on one of the buildings along with the solar PV power plant.

ii. The system shall consist of various sensors, signal conditioning, data acquisition, LCD display and remote monitoring.

iii. Global and diffuse beam solar radiation in the plane of array (POA) shall be monitored on continuous basis. Global Horizontal Irradiation at the collector panel is required to be measured.

iv. Solar PV module back surface temperature shall be also monitored on continuous basis.

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

vi. Solar radiation and environment monitoring system shall have real time clock, internal reliable battery backup and data storage capacity to record data round the clock for a period of min. 1 year.

- vii. The data shall be recorded in a common work sheet chronologically date wise. The data file should be MS Excel compatible. The data shall be represented in both tabular and graphical form.
- viii. All instantaneous data shall be shown on the computer screen.
- ix. Historical data shall be available for USB download and analysis.
- x. Provision for Internet monitoring and download of data shall be incorporated.
- xi. Remote Monitoring and data acquisition through Remote Monitoring System software at the GMRC site with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the supplier. Provision for interfacing these data on GMRC control server and portal in future.

11. METERING

A Roof Top Solar (RTS) Photo Voltaic (PV) system shall consist of following energy meters:

- i. Net meter: To record import and export units
- ii. Generation meter: To keep record for total generation of the plant.

The installation of meters including CTs & PTs, wherever applicable, shall be carried out by the respective DISCOMs as per the terms, conditions and procedures laid down by the concerned SERCs/DISCOMs. Metering panel shall be installed as near as possible, to the point of evacuation of power to grid. The bidirectional electronic energy meter (of atleast 0.5S class or better) shall be installed for the measurement of import/Export of energy.

An additional bidirectional electronic multifunctional meter (of atleast 0.5S class or better), displaying parameter details like energy, power, voltage, current and power factor etc. shall be installed in solar ACDB having a spare RS485 port for GMRC use. Multifunctional meter specifications / model shall be prescribed by GMRC as per site requirement.

- a) The solar meter, Check meter & bi-directional energy meter (Accuracy class as per DISCOM Norms/GERC Regulations) & associated electrical component shall be installed for the measurement of import/Export of energy as per guidance of DISCOM.
- c) The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to GEDA before commissioning of SPV plant.
- d) Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement. Second line of protection such as no volt relay shall be provided with the system as per GERC regulations.

12. POWER CONSUMPTION

Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid at APPC.

13. PROTECTIONS

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

13.1. LIGHTNING PROTECTION

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

Lightning protection shall be provided as per IEC62305 standard. 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.

Lightning arrestor shall be provided for each of the Solar Rooftop installations. Each 50Kw system shall be provided separate Lightning arrester.

Lighting arrestor shall not be installed on the mounting structure.

ii. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305 standards.

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

iv. The current carrying cable from lightning arrestor to the earth pit should have sufficient current carrying capacity according to IEC 62305.

According to standard, the minimum requirement for a lightning protection system designed for class of LPS III is a 6 mm² copper/ 16 mm² aluminum or GI strip bearing size 25*3 mm thick).

13.2. SURGE PROTECTION

Internal surge protection, wherever required, shall be provided.

ii. It shall consist of three MOV type surge-arrestors connected from +ve and –ve terminals to earth (via Y arrangement). Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and –ve terminals to earth (via Y arrangement)

13.3. EARTHING PROTECTION

The earthing shall be done in accordance with latest Standards.

i. Each array structure of the PV yard shall be grounded/ earthed properly as per IS:30431987. In addition, the lightning arrester/masts shall also be earthed inside the array field. ii. Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

ii. Each array structure of the PV yard, Low Tension (LT) power system, earthing grid for switchyard, all electrical equipment, inverter, all junction boxes, etc. should be grounded/ earthed properly as per IS: 3043-2018. All metal casing/ shielding of the plant shall be thoroughly grounded in accordance with CEA Safety Regulation 2010. In addition the lightning arrester/masts should also be earthed inside the array field.

iii. Earth Resistance shall be tested annually or as per applicable CEA regulation 2010, in presence of the representative of GMRC as and when required after earthing by calibrated earth tester. PCU and ACDB should also be earthed properly.

iv. Earth resistance shall be as low as possible and shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

v. For 10 kW and above systems, separate dual earth pits shall be provided for individual three earthings viz.: DC side earthing, AC side earthing and lightning arrestor earthing.

vi. DC PROTECTION

An inline fuse shall be provided at the end of positive terminal of the first module of each string, to ensure protection from High DC voltage in case of fault.

vii. PCU/ARRAY SIZE RATIO

- The PCU/ inverter shall have overloading capacity of maximum 20%
- Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.
- In addition to MPPT at inverter level, power optimizer at module level shall be used to increase the power generation.

13.4. GRID ISLANDING:

- i. 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 immediately. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as “islands.” Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The Rooftop PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.
- ii. A manual disconnect 4 pole isolation switch (RCCB) beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance.

14. CABLES

All equipment's, components, materials and entire work shall be carried out in conformity with applicable and relevant IS / BS / IEC Standards and Codes of Practice. In addition, relevant clause of Indian electricity act 2003 and CEA Regulation 2010 amended up to date shall apply. It is to be noted that updated and current standards shall be applicable irrespective of dates mentioned along with IS in the tender documents. All Codes and standard mean the latest. Where not specified otherwise the installation shall generally follow the Indian standards / British Codes of Practice / IEC standard.

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

- i. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards
- ii. Temp. Range: -10°C to +80°C.

DC cables shall meet TUV 2pfg 1169/08.2007, BS EN 50618, IS17293-2020, standards Cables of appropriate size to be used in the system.

- iii. Temp. Range:-10oC to +90oC.

iv. DC Cable Voltage rating: 1500V dc.

iii. Voltage rating 660/1000V

iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation v. Flexible vi. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall

- be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) shall be insulated with a special grade PVC compound formulated for outdoor use. FRLSZH cables shall be used in all underground areas.
- v. cables shall be insulated, UV-stabilized, anti-rodent, single core multi-stranded flexible copper cables. Multi-core cables shall not be used. The colour scheme of outer sheath shall as per IS-17293.
 - vi. viii. DC cables manufactured with EBXL & having anti-rodent properties shall be used.
 - vii. ix. The DC cables from the SPV module array shall run through GI conduits / GI raceways / GI cable tray of suitable size or UV stabilized fire retardant HDPE pipe (having adequate diameter with a minimum wall thickness of 1.5 mm). Cables should not be laid below the PV module in any case.
 - viii. The routing of Positive and Negative DC cables should be through separate GI cable tray /GI Conduits/ GI Raceway to avoid any possibility of short circuiting between cables. The Contractor i.e. SPD shall also ensure during execution that GI conduits / GI Cable trays / GI Raceway should be sealed properly to prevent any kind of water ingress/water accumulation. The Contractor i.e. SPD shall also ensure the proper dressing up of connectors & cables.
 - ix. The GI conduits / raceways / cable tray shall be hot dip galvanized (with 650 gm/m² zinc mass coating). All cables and connectors for use for installation of solar field must be of solar grade which can withstand harsh environment conditions including High temperatures, UV radiation, rain, humidity, dirt, salt, burial and attack by moss and microbes for 25 years and voltages as per latest IEC/IS standards.
 - x. x. The Medium Voltage cables are to be used for Solar applications for power supply and control of various equipment. This specification takes care of the design, manufacturing, testing and installation requirements of the AC Cables for power supply.
 - xi. xi. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified.
 - xii. All possible care shall be taken during unreeling and laying to avoid damage due to twist, kink or sharp bends. The Contractor i.e. SPD shall submit the copy of methodology/procedure to be adopted for cable laying in order to avoid above defects.
 - xiii. xii. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years. In three phase systems, the size of the neutral wire size shall be equal to the size of the phase wires.
 - xiv. All cables and conduit pipes shall be clamped to the rooftop, walls and ceilings with suitable GI clamps at appropriate intervals. All openings in the floor/roof/wall /cable tunnel/cable trenches made for conduit installation shall be sealed and made water proof by the Contractor i.e. SPD.
 - xv. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant provided by the bidder. Any change in cabling sizes if desired by the bidder/approved after citing appropriate reasons. All cable schedules/layout drawings approved prior to installation.
 - xvi. Cable Routing/ Marking: All cable/wires of required size and length are to be routed in a RPVC pipe/ GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified
 - xvii. The Cable shall be so selected that it shall be compatible up to the life of the solar PV panels i.e. 25 years.
 - xviii. The ratings given are approximate. All the cables required for the plant are to be provided by the bidder. Any change in cabling sizes if desired by the bidder/approved after citing appropriate reasons.

xix. Multi Strand, annealed high conductivity copper conductor PVC type 'A' pressure extruded insulation or XLPE insulation. Overall PVC/XLPE insulation for UV protection Armored cable for underground laying. All cable trays including covers to be provided. All cables conform to latest edition of IEC/equivalent BIS Standards as specified below: BoS item / component Standard Description Standard Number Cables General Test and Measuring Methods, PVC/XLPE insulated cables for working Voltage up to and including 1100 V, UV resistant for outdoor installation IS /IEC 69947.

xx. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%.

vii. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %.

viii. Separate cable trays to be laid for AC cables, DC Positive cables and DC Negative cables.

ix. xviii. Laying of cables directly in floor/roof shall be avoided and GI pipes/conduits of adequate size shall be used wherever necessary. Sharp edges at ends shall be smoothened to prevent injury to cable insulation or sheathing. HDPE/DWC/PVC conduits shall not be used for cable laying. However, Fire Retardant UV resistant HDPE pipe shall be used for cable laying.

x. During the O&M period of 25 years, the damaged/rusted/worn-out parts (Cable tray/raceway/pipes/conduit/Structure etc.) related to solar plant shall be replaced on priority basis by the Contactor i.e. SPD.

xi. xix. The Contractor i.e. SPD shall also ensure during execution at site that all the pathway of GI Conduits /GI Cable trays/GI Raceway should be sealed properly to prevent any kind of water ingress/ water accumulation. The Contractor i.e. SPD shall also ensure the proper dressing up of connectors & cables.

xii. Every year during rainy season, the Contractor i.e. SPD shall carryout joint inspection of the site with E&M(O&M) wing of GMRC to identify the water seepage/leakage and other issues, if any and restore the same.

xiii. The AC cables shall be 1100 Volt grade XLPE insulated with PVC inner sheath, steel armouring and with an outer protective sheath of flame retardant low smoke and Halogen (FRLSH) compound, conforming to IS: 7098 (Part-I). Cables shall have high conductivity stranded aluminium or copper conductors and cores colour coded to the Indian Standards. The colour of the outer sheath shall be black or as approved by the Engineer-In charge.

xiv. Where there are number of cables, necessary perforated hot dipped galvanized GI cable trays shall be provided. Suitable water tight sealant shall be applied as per requirement to prevent any ingress of water.

xv. Cables shall be secured in position and dressed properly by means of suitable clamps, hooks, saddles etc. Clamping of cables shall be at appropriate minimum intervals of 300mm.

xvi. . All cable terminations should be nut-bolt type; irrespective of the cable size and shall have tinned copper / Aluminium / bi-metallic compression lugs as required.

xvii. Soldered jointing / termination shall be totally avoided. Solder-less terminations by using crimping tools, suitable lugs and double compression brass glands shall be used.

xviii. A common covering (bedding) shall be applied over the laid up cores by an extruded sheath of unvulcanised compound. Armouring shall be applied over this extruded sheath. The outer sheath shall be embossed the manufacturer's name, contact name, GMRC monogram along with —GMRC| and trade mark at every one meter length.

xix. All cables used for fire and life safety systems shall have a 3-hour fire survival capability. These cables may be Special Fire Cables as per BS 7629. Mineral insulated or EPR insulated with Glass Mica Taping or CWZ cables with special grade FRLSZH Inner and Outer sheath and overall Steel Braiding. The Minimum withstanding Temperature of Glass Mica Tape during fire should not

be less than 950°C and shall be double layered.(Manufacturer has to provide declaration on the usage of special mica tape of 950°C). Cables shall be tested for fire survival duty and should pass all the fire tests as per BS: 6387-1994 and other relevant test certificates shall be furnished with each lot of supply.

15. CONNECTIVITY

The maximum capacity for interconnection with the grid at a specific voltage level shall be as specified in the GERC regulation for Grid connectivity and norms of DISCOM and amended from time to time. However, in this project following will be followed for selection of voltage level in the distribution system for ready reference of the solar suppliers.

Plant Capacity	Connecting voltage
Up to 10 kW	240 V-Single Phase or 415 V-Three Phase at the option of the consumer
Above 10 kW & up to 100 kW	415 V-Three Phase
Above 100 kW	415 V-Three Phase

For large PV system (Above 100 kWp) for commercial installation having large load, the solar power can be generated at low voltage levels and may be connected to selected 415 V LT/33 kV HT panel of GMRC. The transformers and associated switchgear would be provided by the SPV bidders. Connection on LT/HT panel of GMRC is in scope of Developer.

c) Similarly, for Solar PV systems the power has to be transmitted by the SPV bidders to the nearest LT Panel available with sufficient rating for complete evacuation or new panel of required rating to be provided as above.

d) For carrying current more than 800 A Bus duct shall be used and it shall be Sandwich Type (IEC 61439 or the latest). Air insulated bus duct will not be accepted.

e) In case the capacity of Solar Plant is more than 1 MWp and existing power distribution at 415 V is not adequate to evacuate the energy generated, solar Developer will step up the system to 33 kV voltage and connect at the 33 kV system. For this purpose, transformer, switchgear cable and all other associated equipment duly coordinated with the existing/planned system of GMRC, shall be provided by Solar Developer as part of this project itself. The HT panel/switchgear to be provided by the developer, shall comply to same specs as being followed by GMRC at the evacuation point of solar power at HT.

f) In case of evacuation of power at HT i.e 33kV etc, the integration of solar power system in GMRC SCADA (Supervisory Control and Data Acquisition System) shall be in the scope of Solar developer(or) the cost involved in such integration activity by GMRC shall be borne by Solar developer.

g) The bidder must take sanction/approval/NOC from the GMRC and Discoms for the connectivity of the plants to grid on net metering or other applicable metering basis on the name of GMRC.

16. DRAWINGS & MANUALS

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

- iii. The manual shall include complete system details such as array lay out, schematic of the system, inverter details, working principle etc. The Manual should also include all the Do's & Don'ts of Power Plant along with Graphical Representation with indication of proper methodology for cleaning, Operation and Maintenance etc. Step by step maintenance and troubleshooting procedures shall also be given in the manuals.
- iv. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.
- v. For complete electro-mechanical works, bidders shall supply complete design, details and drawings for approval to GMRC before progressing with the installation work.

Misc. arrangements

- a. Miscellaneous arrangements, such as water connection at the nearest point available etc. shall be in the scope of the power purchaser.
- b. Roof access ladder arrangement is provided at most of the stations, however if any access ladder is to be installed it will be in scope of the bidder.

PLANNING AND DESIGNING

- a) Developer will engage proof consultant for checking of all Structural, Electrical and all other drawings and designs relating to this solar power project
- b) The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labor. The bidder should submit the array layout drawings along with Shadow Analysis Report to GMRC/Owner for approval.
- c) GMRC reserves the right to modify the landscaping design, Layout and specification of sub-systems and components at any stage as per local site conditions/requirements. c) Prior to submission of drawings to GMRC, Developer will engage third party agency (Proof consultant / Chartered engineer) for checking of all Structural, Electrical and all other drawings and designs relating to this solar power project. d) The same third party agency will have to verify the installation after completion, whether it is safe and is as per the approved design. e) The third party agency employed by the developer should have earlier experience of such works.
- d) The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder shall submit three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.

DRAWINGS TO BE FURNISHED BY BIDDER AFTER AWARD OF CONTRACT

The Contractor shall furnish the following drawings after Award/Intent and obtain approval:-

- a) General arrangement and dimensioned layout.
- b) Schematic drawing showing the requirement of SPV panel, Power conditioning. Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, meters etc.
- c) Structural drawing along with foundation details for the structure.
- d) Itemized bill of material for complete SPV plant covering all the components and associated accessories.
- e) Layout of solar Power Array.
- f) Shadow analysis of the area.

- g) Guaranteed Technical Particular (GTP) of Solar PV modules, inverters, Remote monitoring system, DC cables, AC cables, Junction Box.

SOLAR PV SYSTEM ON THE ROOFTOP FOR MEETING THE ANNUAL ENERGY REQUIREMENT The Solar PV system on the rooftop of the selected metro station will be installed for meeting the maximum energy requirements depending upon the area of rooftop available, the remaining energy requirement of the metro stations will be met by drawing power from grid.

17. CAPACITY OF SOLAR PV SYSTEM ON THE ROOFTOP

The Solar PV system on the rooftop of the Metro stations (as per SoW) will be installed for PV capacity permissible by Discom as per regulation issued by GERC.

18. 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.

Safety at site

(a) One safety engineer to be deployed in this project and penalty for not following safety is as follows: -

☐ Solar developer shall engage one qualified safety engineer for every 1 MWp capacity and along with Safety Supervisor for each site or for every 3 km whichever is less, to ensure safe work environment during the execution stage of work.

☐ If found, that Safety Engineer is not available at site suitable penalty of Rs. 10,000/- (Rupees Ten Thousand Only) shall be imposed per violation/instance on solar developer after issuing of first warning.

(b) Walkway Design specs

☐ Solar developer has to install walkway on the rooftop to ensure safety during solar work. The minimum width of walkway to be installed shall be 400 mm with a railing height of minimum 750 mm.

☐ Walkway shall be installed on the rooftop before the start of actual solar installation work, so that the safety of worker can be ensured and also damage to roof sheet can be avoided.

(c) Hot Works permit format and Compulsory submission of Certificate of Welder

☐ Solar developer shall mandatorily submit Certificate of welder engaged before start of work for safe and proper operation.

(d) Safety Document Format

☐ Solar developer shall mandatorily conduct an overall safety analysis of all the execution sites and submit safety report to mitigate the probable hazards during the execution of work and shall

ensure their compliance at site.

☐ The safety report thus prepared shall be submitted to GMRC for the approval of GMRC safety wing.

(e) Uniform of workers & I-card

☐ Solar developer shall mandatorily issue I-cards to all the workers engaged for work, the details of the same shall be submitted to GMRC to ensure controlled access.

the workers shall be provided with uniforms, if found not complied suitable penalty of Rs. 1,000/- (Rupees One Thousand Only) shall be imposed after issuing of first warning for each instance for each worker.

(f) Life-line runners

☐ The solar developer shall provide atleast 02 lifeline runners (or as per the recommendations of OEM) during the installation of lifeline. If found not compliant suitable penalty shall be imposed.

(g) Fall arrester design

☐ As per site requirement, at times solar developer may have to install Fall arrester and safety net to ensure safe working, the design of Fall arrester and specifications of safety net to be installed shall be submitted to GMRC for review & approval prior to start of work to ensure uniformity of design and safety of worker during execution.

(h) Indemnity bond format

☐ The solar developer shall duly submit the indemnity bond before start of work at site. This shall be submitted in the format attached separately for each site.

(i) Crane/Hydra certificate

☐ To ensure safe material handling and movement in GMRC premises, the solar developer shall mandatorily submit max loading certificate of Hydra and its instructor license before start of material handling work.

☐ Solar developer shall prepare site specific method statement which shall include the placement of hydra/crane, calculations establishing the safe operation of hydra for this particular site based on loading curve of the boom of hydra etc.

RE-POWERING

During the term of agreement, the power producer with the consent of purchaser can change the solar power producing equipments by replacing with higher efficient and higher capacity equipments in the same area as provided for solar PV power plant. This shall be without any change of conditions and tariff of this agreement and without any liability to the purchaser. Cost of shifting of any facilities in the premises or any other cost arising due to above change accrued by purchaser shall be compensated by the power producer.

DISPLAY BOARD: A display board shall be installed with each system of minimum size of 12” X 6” made from GI sheet of minimum **20 SWG**. The display board should be fixed one near to solar meter and one at inverter place. The Text shall include Manufacturer’s name and address, Phone, fax and mobile number for immediate contact in case of any failure of systems.

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

FIRE EXTINGUISHERS

- a) The firefighting system for the proposed power plant for fire protection shall be consisting of
- i. Portable fire extinguishers in the control room for fire caused by electrical short circuits.
 - ii. Sand buckets in the control room
- b) The installation of Fire Extinguishers should confirm to TAC regulations and BIS standards. The fire extinguishers shall be provided in the control room housing PCUs as well as on the Roof or site where the PV arrays have been installed.

DOCUMENTATION

Two sets of installation manual / user manual shall be supplied along with each power plant. The manual shall include complete system details such as array lay out, schematic of the system, inverter details, working principle etc. Step by step maintenance and troubleshooting procedures shall be given in the manuals. **Module layout drawing, has to be submitted to the GEDA for each site. 4 nos. set of single line diagram and licensed electrical contractors’ certificate has to be submitted for each site.**

TOOLS & TACKLES AND SPARES

- a) After completion of installation & commissioning of the power plant, necessary tools & tackles shall be maintained by the bidder for maintenance purpose.
- b) A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver cards etc. Junction Boxes. Fuses, MOVs / arrestors, MCCBs etc. along with spare set of PV modules be indicated, which shall be maintained. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished.

BILL OF MATERIAL

The Bidder shall provide the bill of material for grid connect SPV power plant mentioning the quantity of each of the item consisting in the system, along with the offer.

SHADOW ANALYSIS

The shadow analysis of each site has to be carried out by Bidder and shall be submitted to GEDA, after placement of work order.

PERFORMANCE RATIO:

The Performance Ratio (PR) is a measure of the quality of a PV plant that is independent of location

and insolation (power in solar radiation) and therefore often described as a quality factor. The PR is stated as percent and describes the relationship between the actual and theoretical energy outputs of the PV plant. It thus shows the proportion of the energy that is actually available for export to the grid after deduction of energy loss. The procedure for performance monitoring is based on the standard IEC 61724 – PV system performance monitoring: Guidelines for measurement, data exchange and analysis.

Calibrated pyrometer, temperature sensors, anemometer and wind vanes shall be installed by the bidder at the location of the PV power plant for measurement of PR at the time of Commissioning of system. The PR at the time of commissioning of the plant shall be measured in the form of POWER PR as the performance will be measured at the instant of commissioning.

1	Instantaneous AC Power in Watt at Inverter	:	
2.	Instantaneous Irradiance (Watt/m ²)	:	
3.	Module Area (m ²)	:	
4.	Total number of modules	:	
5.	Module Efficiency in %	:	
6.	Performance Ratio of the System (If PR is less than 70% than technical reason should be given)	:	

Calculation of Performance Ratio: *Formula {Sr. 1/(Sr. 2x Sr. 3x Sr. 4)x Sr.No.5/100} x 100*

General Conditions: applicable to all the systems.

- x PV modules used in solar power plants/systems must be warranted for their output peak watt capacity, which shall not be less than 90% at the end of 12 years and 80% at the end of the 25 years.
- x The BoS items/components of the SPV power plants/systems deployed must confirm to the latest edition of IEC/equivalent BIS standards as specified below:

BoS item/component	Applicable IEC/equivalent BIS Standard	
	Standard Description	Standard Number
Conditioners/Inverters*	Efficiency Measurements Environmental Testing	IEC 61683 IEC 60068 2 (6,21,27,30,75,78)

	General Test and Measuring Methods PVC insulated cables for working Voltages up to and including 1100 VDo-, UV resistant for outdoor installation	IEC 60227/IS 694 IEC 60502/ IS 1554(part I
Switches/ Circuit Breakers/Connectors	Requirements Connectors -safety	IS/IEC 60947 part I,II,III EN 50521
Junction Boxes/Enclosures for inverter/ charge controller/ luminaries	Requirements	Enclosures IP 54 (for outdoor)/IP 21 (for indoor) per IEC 529

*** Must additionally conform to the relevant national/international Electrical Safety Standards. All wiring for rooftop and grid connected systems shall be in UV-resistant certified for solar application, concealed in galvanized/ UPVC cable trays with minimum 3 cm clearance from the terrace/ rooftop floor.**

DOCUMENTATION ON GEDA ONLINE PORTAL

The bidder shall be required to apply, process and submit necessary documents as per required by GEDA / DISCOM/ CEI on GEDA portal and installation and commission shall also be documented by the bidder. All charges generated on Portal will be paid by Bidder.

IEC STANDARDS

IEC standards It is to be mandatorily adhered are as given below:

Quality Certification, Standards and Testing for Grid-connected Rooftop Solar PV Systems/Power 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 latest and updated version of relevant standards and certifications given below:

Solar PV Modules/Panels	
As per the Solar Photovoltaics, Systems, Devices and Components Goods Requirements for Compulsory Registration) Order, 2018 or latest, PV Modules and Inverters used in the grid connected solar power Projects shall conform to the Standards Specified as per below and bear the Standard Mark as notified by the Bureau of Indian Standards:	
IEC 61215/ IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61646/ IS 16077	Design Qualification and Type Approval for Thin-Film Terrestrial Photovoltaic (PV) Modules
IEC 62108	Design Qualification and Type Approval for Concentrator Photovoltaic (CPV) Modules and Assemblies
IEC 61701- As applicable	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules

IEC 61853-Part 1/ IS	Photovoltaic (PV) module performance testing and energy rating –: Irradiance and temperature performance measurements, and power
IEC 62716	Photovoltaic (PV) Modules – Ammonia (NH3) Corrosion Testing (Advisory - As per the site condition like dairies, toilets)
IEC 61730-1,2	Photovoltaic (PV) Module Safety Qualification – Part 1: Requirements for Construction, Part 2: Requirements for Testing
IEC 62804 (Draft	Photovoltaic (PV) modules - Test methods for the detection of potential-induced degradation (PID). IEC TS 62804-1: Part 1:
IEC 62759-1	Photovoltaic (PV) modules – Transportation testing, Part 1: Transportation and shipping of module package units
Solar PV Inverters	
IEC 62109-1, IEC 62109-2	Safety of power converters for use in photovoltaic power systems Safety compliance (Protection degree IP 65 for outdoor mounting, IP 54 for indoor mounting)
IEC/IS 61683 (For stand Alone System)	Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
BS EN 50530 (Will become IEC 62891) (For Grid Interactive system)	Overall efficiency of grid-connected photovoltaic inverters: This European Standard provides a procedure for the measurement of the accuracy of the maximum power point tracking (MPPT) of inverters, which are used in grid-connected photovoltaic systems. In that case the inverter energizes a low voltage grid of stable AC voltage and constant frequency. Both the static and dynamic MPPT efficiency is considered.
IEC 62116/ UL 1741/ IEEE 1547	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 (1, 2, 14, 27, 30 & 64)	Environmental Testing of PV System – Power Conditioners and Inverters
IEC 61000- 2,3,5	Electromagnetic Interference (EMI), and Electromagnetic Compatibility (EMC) testing of PV Inverters (as applicable)
Fuses	
IS/IEC 60947 (Part 1, 2 & 3), EN 50521	General safety requirements for connectors, switches, circuit breakers (AC/DC)
IEC 60269-6	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of
	solar photovoltaic energy systems
Surge Arrestors	
IEC 61643-11:2011 / IS 15086-5 (SPD)	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)	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(Part 1,2 & &) (Chemical earthing)	<p>IEC 62561-1 Lightning protection system components (LPSC) - Part 1: Requirements for connection components</p> <p>IEC 62561-2 Lightning protection system components (LPSC) - Part 2: Requirements for conductors and earth electrodes</p> <p>IEC 62561-7 Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds</p>
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	A.C. Static direct connected watt-hour Smart Meter Class 1 and 2 — Specification (with Import & Export/Net energy measurements)
Solar PV Roof Mounting Structure	
IS 2062/IS 4759	Material for the structure mounting

INTERCONNECTION SCHEME

- i) The project aims to develop a replicable model of decentralized power generation using photovoltaic plants that feed energy to the grid. The scope would include design, manufacture, supply, install and commission and operate for 25 years these SPV power packs.
- ii) All work must be carried out as per the following:
 - a. Indian Electricity Act and rules therein
 - b. Indian Electricity Grid Code
 - c. Regulations of Chief Electrical Inspector

Besides the above measures, certain precautions prescribed by the CEA shall also be incorporated into the solar PV system design:

- a. PV systems shall be provided with adequate rating fuses, fuses on inverter input side (DC) as well as output side (AC) side for overload and short circuit protection as well as disconnecting switches to isolate the DC and AC system for maintenances.
- b. Fuses of adequate rating shall also be provided in each solar array module to protect them against short circuit.

iii) Phase Imbalance

- a. Phase imbalance can occur due to varied power injected into different phases of the grid. Whenever solar power plants (SPPs) of lower capacities with single phase inverters are used to feed power into the grid using a single phase injection point, they tend to induce imbalance. This imbalance can be resolved simply by connecting / injecting power to different phases in the same grid.
- b. The developer shall have to follow the phase imbalance limits imposed by the Off Taker and shall also have to follow the guidelines before connecting such limits to the grid.
- c. The injection phase for each system to be injected into a single phase shall be approved by the Off Taker.

--- End of Section---

6 General Terms and Conditions

6.1 Use of Contract Documents & Information

- 6.1.1 The Contractor shall not, without GMRC'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 performance only.
- 6.1.2 The Contractor shall not, without GMRC's prior written consent, make use of any document or information except for purpose of performing the Contract.
- 6.1.3 Any document other than the Contract itself shall remain the property of GMRC.

6.2 Patent Rights

- 6.2.1 The Contractor shall indemnify GMRC against third party claims of infringement of patent, trademark or industrial design rights arising from use of goods/design or any part thereof.

6.3 Materials and Workmanship

- 6.3.1 All materials shall be of the best quality and workmanship capable of satisfactory operation under the operating and climatic conditions as may be specified. Unless otherwise specified, they shall conform in all respect to the latest edition of the relevant Bureau of Indian Standard (BIS) specification wherever Indian specifications apply or British Standard (BS) or International Electro-technical Commission (IEC) or internationally accepted standard.
- 6.3.2 The Contractor shall supply and deliver all equipment and materials for installation at site. The Contractor shall arrange for transportation, loading and unloading and safe storage of materials at project site at his own cost and risk.
- 6.3.3 If the Contractor offers equipment manufactured in accordance with other international well recognized standards, he shall, in that case, supply a copy in English of the Standard Specification adopted and shall clearly mention in what respect such standard specification differs from Indian Standard Specifications. The

plant, equipment, and materials offered by the Contractor should comply with one consistent set of Standards only as far as possible.

6.3.4 No deviation in foreign exchange rate shall be admissible at any point of time after submission of the Bid.

6.4 Inter-changeability

6.4.1 All the parts shall be made accurately to standard gauges and specifications so as to facilitate replacement and repairs. All corresponding parts of similar apparatus shall be inter-changeable.

6.5 Packing and Marking

6.5.1 The Contractor shall be responsible for securely protecting and packing the plant and equipment as per prescribed standards in force to withstand the journey and ensuring safety of materials and also arrival of materials at destination in original condition and good for contemplated use. Packing case size and weight shall take into consideration the remoteness of the goods' final destination and absence of heavy material handling facilities at all points in transit.

6.5.2 Packing lists of materials shall be provided in each package to facilitate checking up of the contents at the destination.

6.5.3 In order to import any items, associated with the Project, from abroad or from any other state in India, the Contractor shall have to arrange any clearance, permission, if required at his own risk, from any Government (Government of State and Government of India) or any Government (Government of State and Government of India) controlled organization for transportation of materials from manufacturing shop to delivery at any site. Necessary certificates if so required shall be issued by GMRC within reasonable time after getting written request from the Bidder along with the necessary documents substantiating necessity of such approvals. All packing material is the property of GMRC and shall be immediately deposited by the Contractor to GMRC's Store at Project Site.

6.6 Negligence

6.6.1 If the Contractor neglects to manufacture or supply the plant and equipment with due diligence and with expeditiousness or refuses or neglects to comply with any

reasonable order given to it in writing by GMRC/ Engineer or contravenes any provisions of the Contract, GMRC/ Engineer may give seven (7) seven days notice in writing to the Contractor, to make good the failure, neglect or contravention complained of. If the Contractor fails to comply with the notice within reasonable time from the date of serving thereof, in the event of failure, neglect or contravention capable of being made good within that time, then in such case, if GMRC/ Engineer thinks fit, it shall be lawful for it to take the manufacture or supply of plant wholly or in part, out of the Contractor's hand and give it to another person on Contract at a reasonable price and GMRC/ Engineer shall be entitled to retain any balance which may be otherwise due on the Contract by it to the Contractor or such part thereof as may be necessary, to the payment of the cost of manufacture or supply of such plant as aforesaid.

6.6.2 If the cost of executing the work as aforesaid shall exceed the balance due to the Contractor and the Contractor fails to make good such deficiency, GMRC/ Engineer shall take action in the manner it may consider deem fit in terms of the Contract.

6.7 Statutory Responsibility

6.7.1 The Contractor shall comply with all applicable laws, by laws, rules, and regulations and shall procure and maintain their validity all necessary Municipal, Panchayat and Government permits & licenses etc. at its own cost.

6.8 Insolvency and Breach of Contract

6.8.1 GMRC may at anytime by notice in writing summarily terminate the Contract without compensation to the Contractor in any of the following events:

- a. If the Contractor at any time, is adjudged insolvent or have a receiving order or order from administration of its state made against it or shall take any proceeding for compensation under any Insolvency Act for the time being in force or make any conveyance or assignment with its creditors or suspend payment. If the Contractor being a company is wound up voluntarily or by the order of a court or a Receiver, Liquidator or manager on behalf of the Debenture holder is appointed or circumstances have arisen which entitle the Court or debenture holder to appoint a Receiver, Liquidator or Manager.

6.9 Timeline

6.9.1 The Contractor shall provide full programme of the supply in detail and delivery schedule along with work schedule thereto. Strict adherence and guaranteed delivery schedule mentioned in terms and conditions shall be the essence of the Contract and delivery schedule must be maintained.

6.9.2 The work must be completed as per the Timeline below from the date of handing over of site.

Sr.	Stage	Reference from Zero Date (“D”)
1.	Issue of Letter of Award	D
2	Detailed site Assessment such as roof orientation, roof materials, shading analysis, metrological metrics , overall suitability to understand feasibility of solar project on Metro stations in line with Gujarat renewable energy policy 2023 Estimation of Rooftop Solar Photovoltaic generation potential and solar plant capacity estimation of #15 Metro stations	D+15
3.	Carryout Design and submit drawings & installation methodology and mentioning supporting arrangement and procedures, interconnection plans to GMRC for all #15 Metro stations	D+30
4.	Contractor to apply for net metering related work on the behalf of GMRC/ Engineer with the concerned DISCOM for #15 Metro stations	D + 45
5.	Approval by GMRC for designs/Drawings and Interconnections plans of all #15 Metro stations (In case any observations, GMRC to provide written objections within this period.) No objection by GEC/GMRC Civil department for construction for both sites	D + 50
6.	Contractor to identify & finalise all required steps as per the concerned DISCOM for all #15 Metro stations	D+65
7.	Contractor to ensure and avail all requisite approvals towards signing of Net Metering Agreement with the DISCOM for both sites (Note: All activities in this reference are to be carried out by the Contractor. GMRC/ Engineer will facilitate signing of the necessary documents/Agreements.)	D + 70
8.	Completion of supply of PV modules for all #15 Metro stations	D +75
9.	Completion of supply of major balance of system for all #15 Metro stations	D + 80
10.	Installation and interconnection of all major equipment at all #15 Metro stations	D + 120
11.	Interconnection and testing of entire plant	D + 155
	i) Intimation by the Contractor to GMRC/ Engineer for system readiness for Testing	7 days prior to the completion of installation and construction

	ii) Testing of the Project by GMRC/ Engineer and award of approval	Within 7 days of completion of installation and construction
12.	Contractor in consultation with GMRC/ Engineer to ensure and discuss the likely date of system inspection by Electrical Inspector	D+160
13.	Contractor to apply in GEDA (SNA) for inspection of the plant and issuance of Commissioning certificate by GEDA	D + 165
	Completion of PR test	D + 180

On non-achievement of above said work (SN 6 to 13), the penalty of 0.25% of Contract Value for per week will be levied.

6.9.3 The Contractor shall also provide a Bar/ PERT Chart indicating completion schedule for various items involved in the work within the stipulated completion period and the Contractor should strictly adhere to that schedule.

6.9.4 The issue of LoA shall be considered as the Zero Date

6.9.5 The Bar/ PERT Chart provided by the Contractor shall submitted to GMRC/ Engineer for approval prior to commencement of the execution of the Project. All comments and modifications provided by GMRC/ Engineer shall be incorporated and adhered to by the Contractor in the Timeline, Bar/ PERT Chart, detailed execution plan, etc. for execution of the Project.

6.9.6 This schedule shall be prepared so as to ensure the commissioning of complete plant within 180 days from issue of LoA.

6.9.7 Partial commissioning of the solar PV plant shall not be considered.

6.10 Delay in Execution or Failure to Supply

6.10.1 Any delay in completion of the work shall attract liquidated damage/ penalty for late completion as per Liquidated Damage (Clause 6.11) of this Tender.

6.10.2 If the Contractor fails to deliver the plant or fails to start the work within specified time frame after issue of LoA or leaves the work site after partial execution of the work, GMRC/ Engineer shall have the right to get the work done through any other agency at the risk and cost of the Contractor. Further to this, GMRC/ Engineer shall, without prejudice to the right of the Contractor to recover damages for breach of

trust of the Contract, may impose penalties.

- 6.10.3 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 without fail.

If, at any time, the CONTRACTOR's actual progress falls behind or is likely to fall behind the agreed schedule of the break-up/detailed Project activities, the CONTRACTOR shall submit to the OWNER, a revised programme with catch up schedule, taking into account the prevailing circumstances and delay in the respective activities / milestones. The CONTRACTOR shall, at the same time/forthwith notify promptly to GMRC/ Engineer of the steps being taken to expedite progress of the Project activities, so as to achieve completion of such activities within the agreed Time schedule for Completion. The Contractor shall in order to overcome the situation, forthwith mobilise required additional resources like manpower, materials, machineries etc. to achieve the prescribed timeline/schedule at his risk and cost.

In case further 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, GMRC/ Engineer 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. Further, GMRC/ Engineer 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 GMRC/Engineer as per the recourse available under this tender document or any other law for the time being in force.

6.11 Liquidated Damages for Delay and Underperformance

A. Delay in Commissioning

- 6.11.1 In case the Contractor fails to achieve successful Commissioning of plant by the due date indicated in Timeline Clause 6.9.2, then GMRC/ Engineer shall levy the Liquidated Damages on the Contractor.

6.11.2 In case the EPC Works of solar PV project (Completion of PR test) is not completed within the stipulated time period (i.e. 180 days from zero date) and the delay is not due to Force Majeure or due to GMRC/ Engineer's default then the Contractor shall pay to the GMRC compensation for delay subject to following:

Delay: The penalty of 0.25% of Contract Value for per week will be levied.

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

6.11.3 The said right of the GMRC/ Engineer 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.

6.11.4 The Contractor shall indicate duration of all the activities in activity chart in conformity with the overall schedule of the completion of project. The Contractor shall submit the activity chart in form of Bar Chart which shall be discussed and finalized and shall be a part of Contract.

6.11.5 Any strike / lockouts at works or site of the Contractor or his sub-supplier/sub-contractor shall not be considered as force majeure condition.

6.11.6 For calculation of penalty, date of LoA shall be the reference date.

B. Underperformance during Performance Ratio Test

6.11.7 At the time of the Performance Ratio Test, any shortfall in the Performance Ratio (PR) as determined through the Test Procedure in the Appendix 16A: Procedure for Performance Testing will attract imposition of Liquidated Damages after one (1) unsuccessful chance. For any shortfall in PR (**Temperature corrected**) below 83% by the Bidder for the second (2) time, a penalty of 1% of the EPC cost of installed capacity of particular plant (including taxes & duties) shall be levied. In case the first the Test is unsuccessful then penalty shall not be charged but the Contractor has to make the necessary corrections to conduct the test again within the stipulated maximum 10 (Ten) days. In the second (2nd) time, a penalty at the rate specified above shall be levied on the Contractor. The penalty shall be deducted from the

pending payment and Performance Bank Guarantee and O&M period shall start irrespective of result of performance ratio test.

6.12 Penalty for Loss of Generation during O&M

6.12.1 For each Contract Year, the Contractor shall demonstrate “Actual Delivered Energy” at all 15 nos. of stations as compared to the ‘Base NEEGG’ for the particular year (calculated as per the methodology given in Appendix 16 Part B).

6.12.2 If for any Contract Year, it is found that the “Actual Delivered Energy” for each station is less than ‘Base NEEGG’ for the particular year, the Contractor shall pay the compensation to GMRC equivalent to **Rs. (DISCOM Tariff x 1.50) per kWh** of under-generation. The same shall be recovered from payments yet to be made by GMRC to the Contractor and/ or from the Bank Guarantees available with GMRC.

6.12.3 In case of any defect in the system after Commissioning for each station, the Contractor shall initiate action for repair it within forty eight (48) hours. After 48 hours, penalty shall be charged and the same shall be deducted from the Bank Guarantee submitted to GMRC. A penalty at the rate of **Rs. (DISCOM Tariff x 1.50) per kWh** shall be charged by the company for the loss of generation due to that effect post 48 hours for each station. The loss of generation shall be calculated with respect to the NEEGG of that particular year based on the actual radiation.

6.12.4 However, in case the Contractor fulfils the NEEGG at the end of the year then the amount deducted as a penalty for loss of generation as per this Clause shall be adjusted in the Contractor’s bill or reimbursed. In case the Contractor fails to meet the NEEGG at the end of the year then above-mentioned penalty shall be adjusted from the penalty calculated at the end of the year for the shortfall in the generation so that there is no duplication of penalty for the same loss of generation. The first 48 hours shall not be considered for the penalty in case of any defect.

6.12.5 In case the Project fails to generate any power continuously for 6 months any time during the O&M period, it shall be considered as an “Event of Default”.

6.12.6 Upon occurrence of any Event of Default mentioned in Clause 6.12.4 herein above, GMRC shall have the right to encash the entire amount of Bank Guarantee submitted by the Contractor and withheld any other pending payment.

6.12.7 The Company reserves the right to perform random audits of weather monitoring system (Installed at the proposed location by GMRC/ Engineer) anytime during the

entire O&M period. If any discrepancy is found between the measured parameters, the difference between the measured parameters GMRC/ Engineer from secondary sources and the weather monitoring system installed by the Contractor at the site will be factored in calculating the adjusted NEEGG during the entire year. However, GMRC/ Engineer will have the final authority to decide on this matter.

6.13 Defect Liability

6.13.1 The Contractor must warrant that the facilities or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Plant and Equipment supplied and of the work executed.

6.13.2 If it shall appear to the authorized representative of the Company that any supplies have 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 Contract are unsound or otherwise not in accordance with the Contract, the Contractor shall on demand in writing inform the authorized representative of the Company specifying the item, materials or articles complained of, notwithstanding that the same may have been inadvertently or otherwise passed, certified and paid for. The Contractor shall forthwith rectify or remove and replace that item so specified and provide other proper and suitable materials or articles at its own charge and cost, and in the event of failure to do so within a period to be specified by the authorized representative of the Company in its demand aforesaid, the Project Manager may on expiry of notice period rectify or remove and re- execute the time or remove and replace with others, the materials or articles complained of as the case may be at the risk and cost in all respects of the Contractor. The decisions of the authorized representative of the Company as to any question arising under this Clause shall be final and conclusive.

6.13.3 The Contractor shall be liable for the operation and maintenance of the Facility and consequently shall be required to rectify any defects that emerge during the operation of the Facilities for the entire term of this Contract. **The Defect Liability Period shall be eighteen (18) months** from the date of start of O&M Period (“Defects Liability Period”).

6.13.4 If during the Defect Liability Period any defect found in the design, engineering, materials and workmanship of the Plant and Equipment supplied or of the work

executed by the Contractor, the Contractor shall promptly, in consultation and agreement with GMRC regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good (as the Contractor shall, at its discretion, determine) such defect as well as any damage to the Facilities caused by such defect.

6.13.5 Furthermore, without prejudice to the generality of the foregoing, it is clarified that the Contractor shall also be responsible for the repair, replacement or making good of any defect or of any damage to the Facilities arising out of or resulting from any of the following causes:

- a. Improper operation or maintenance of the Facilities by the Contractor during operation and maintenance of the Facility; or
- b. Operation of the Facilities violating specifications of the Facilities.

6.13.6 GMRC shall give the Contractor a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. GMRC shall afford all reasonable opportunity for the Contractor to inspect any such defect.

6.13.7 GMRC shall provide the Contractor all necessary access to the Facilities and the Site to enable the Contractor to perform its obligations.

6.13.8 The Contractor may, with the consent of the Company, remove from the Site any Plant and Equipment or any part of the Facilities that are defective, if the nature of the defect and/ or any damage to the Facilities caused by the defect is such that repairs cannot be expeditiously carried out at the Site.

6.13.9 If the repair, replacement or making good is of such a nature that it may affect the efficiency of the Facilities or any part thereof, the Company may give to the Contractor a notice requiring that tests of the defective part of the Facilities shall be made by the Contractor immediately upon completion of such remedial work, whereupon the Contractor shall carry out such tests.

6.13.10 If such part fails the tests, the Contractor shall carry out further repair, replacement or making good (as the case may be) until that part of the Facilities passes such tests. The tests, in character, shall in any case be not inferior to what has already been agreed upon by GMRC/ Engineer and the Contractor for the original

equipment/part of the Facilities.

6.13.11 If the Contractor fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than seven (7) days), the Company may, following notice to the Contractor, proceed to do such work, and the reasonable costs incurred by GMRC in connection therewith shall be paid to GMRC by the Contractor or may be deducted by the Company from any monies due to the Contractor or claimed under the Performance Guarantee, without prejudice to other rights, which GMRC may have against the Contractor in respect of such defects.

6.13.12 If the Facilities or any part thereof cannot be used by reason of such defect and/ or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the Company because of any of the aforesaid reasons. Upon correction of the defects in the Facilities or any part thereof by repair/ replacement, such repair/ replacement shall have the defect liability period of eighteen (18) months from such replacement.

6.13.13 In addition, the Contractor shall also provide an extended warranty for any such component of the Facilities and for the period of time. Such obligation shall be in addition to the Defect Liability Period specified under Clause 6.13.

6.14 Termination for Default

6.14.1 The Company may, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Contractor, terminate the Contract in whole or in part if the Contractor fails to deliver or execute any or all of the goods within the time period(s) under the Contract or any extension thereof granted by GMRC/ Engineer pursuant to the clause for Delay in Execution or Failure to Supply or, If the Contractor fails to perform any other obligations(s) under the Contract by giving notice of Fourteen (14) days

6.14.2 In the event the Company terminates the Contract in whole or in part, pursuant to above, the Company may procure, upon such terms and in such manner as it deems appropriate, goods similar to those undelivered, the Contractor shall be liable to the Company for any excess costs for such similar goods. However, the Contractor shall

continue the performance of the Contract to the extent not terminated.

6.14.3 In case the Contractor is not able to demonstrate the “Actual Delivered Energy” as per the “Base NEEGG” based on the procedure mentioned in Appendix 16A during the Performance Guarantee Test and after the penalties levied as mentioned in Clause 6.12.; GMRC reserves the right to terminate the Contract at its discretion if there are no efforts are made from the Contractor to correct the issues regarding plant performance.

6.14.4 In case termination of the Contract due to default, the Contractor may be blacklisted by GEDA, GMRC, DISCOM, GUVNL, GERMI and its associate companies, etc. for future work.

6.15 Conditions Precedent to Commissioning

6.15.1 EPC Contractor and GMRC/ Engineer have to satisfy the conditions precedents to commissioning of the project as per the timeline, Clause No. 6.9. The Conditions Precedent required to be satisfied by GMRC/ Engineer shall be deemed to have been fulfilled when GMRC/ Engineer shall have:

- i) Given to the EPC Contractor the Right of Way to the Site.
- ii) Provided approval for the general arrangement Drawings submitted by the EPC Contractor along with the notice, to enable the EPC Contractor to install the rooftop solar project in accordance with the Specifications and Standards and subject to the terms and conditions specified in such approval;
- iii) Ensure timely clearances and requisite approvals as required from the GMRC/ Engineer(Administrative, Regulatory, and Policy etc.) adhering to the stipulated timeline, Clause No. 6.9.
- iv) A Monthly Monitoring Group (MMG) will be formed and MMG shall remain in existence during the construction of the project to monitor monthly progress of the Project. In case of any issue with regards to the infrastructure requirements for accessing the site, Right of Way, Finalisation of Drawing & Interconnection Plan, and any other issues related to project implementation, MMG shall work towards rectifying and finalizing the project within the time frame as highlighted in Timeline (Clause No.6.9). The MMG will monitor the project plan and its implementation and also highlight key issues (both at the GMRC/ Engineer and EPC Contractor level which might cause a delay in the commissioning of the project).

These delays / perspective delays shall be captured in the minutes of the meeting alongwith the responsibilities and timeline for curing these. The MMG and its minutes will also be used to arrive at the party responsible for the delay in commissioning.

- v) Authorization for Net Metering to the EPC Contractor and also provide legal, administrative and technical signatory approvals required by the EPC Contractor during the course of entire application process until net metering provisions are not met.

6.15.2 The Conditions Precedent required to be satisfied by the EPC Contractor prior to the Commissioning shall be deemed to have been fulfilled when the EPC Contractor shall have:

- i) provided Performance Security to GMRC;
- ii) provided a notice to GMRC/ Engineer on meeting their conditions precedent along with a set of drawings, interconnection plan and project completion schedule to be approved by GMRC/ Engineer. The project completion schedule shall be strictly adhering to the timeline.
- iii) ensure timely clearances and requisite approvals as required for project implementation (Administrative, Regulatory, and Policy etc.) adhering to the stipulated timeline (Clause No.6.9)
- iv) to apply for and obtain net energy meter (ABT Meter) for the Project and bear all the costs for the same by EPC Contractor;
- v) ensure standard testing conducted before COD as per procedures laid down in Timeline and cross checked with DISCOMs for grant of net metering.
- vi) to notify the GMRC/ Engineer about the date of testing of the system prior to the Commissioning of the Project;
- vii) to notify the GMRC/ Engineer, in writing, about any delay with regards to right of way to the allotted rooftop; and
- viii) submit the monthly progress report to the Monthly Monitoring Group

Provided that upon request in writing by the EPC Contractor, GMRC/ Engineer may, in its discretion, waive any of the Conditions Precedent set forth in this Clause 6.15.1. For the avoidance of doubt, GMRC/ Engineer may, in its sole discretion, grant any waiver hereunder with such conditions as it may deem fit.

6.16 Obligations of the EPC Contractor

- 6.16.1 Make its own arrangement for and take reasonable measures and shall be solely responsible for security of the Facility Installations, including commercially reasonable monitoring of the Site's alarms, if any
- 6.16.2 Comply with the directions of the GMRC in case of emergency to shut down the plant. GMRC will only issues directions to the same in case of the occurrence of a state of Emergency (a state of emergency may be defined as a situation where the safe working of the internal grid of GMRC/ grid sanctity of the distribution grid is or is likely to be compromised due to conditions beyond the control of the GMRC). In such a condition, the GMRC reserves the right, in order to ensure safe operation of the Internal Grid in accordance with the applicable Distribution Code, Applicable Law and directions/regulations, to shut down the line and not accept any Electricity from such part of the Facility that is affected by the Emergency. GMRC will exercise such right either through a written notice to the EPC Contractor or in case the written request cannot be made at the time, through a verbal request from the competent authority with the GMRC responsible for network management (and back it up with a written request later), providing as much lead time as would be practicable Upon GMRC exercising such right, the EPC Contractor will suitably back down its generation from the Facility. GMRC will, however, make reasonable endeavours to remedy such Emergency, and bring back normalcy at the earliest. GMRC will have no liability to the EPC Contractor in such circumstances.
- 6.16.3 Procure that all facilities and amenities within the solar rooftop power system are operated and maintained in accordance with Good Industry Practice.
- 6.16.4 Support, cooperate with and facilitate GMRC/ Engineer in the implementation and operation of the Project in accordance with the provisions of this RFP; and
- 6.16.5 GMRC to provide water connection point to the EPC Contractor for the cleaning of the solar modules and other O&M functions at each station. Contractor has to make necessary arrangement for cleaning of the solar panels. In case of water scarcity, the EPC Contractor has to be informed in advance of the same and will have to arrange water, as per its requirements. The Raw Water connection point may be provided by GMRC at site as available EPC Contractor obtains water by providing and laying pipes and relevant accessories etc, from nearest water connection point made available. GMRC to Provide Auxiliary Power to the EPC Contractor for the

projects development, operation and maintenance purposes.

6.16.6 EPC Contractor shall enter into net metering agreement with concerned Distribution licensee.

6.17 Obligations during Construction, Commissioning and Operation

6.17.1 The EPC Contractor will be responsible for the design, implementation, operation and maintenance of the project. The EPC Contractor will Design, Engineer, Procure, Undertake Civil and Electrical work including Erection, Testing & Commissioning of the solar PV project and subsequently carry out the Operation and Comprehensive Maintenance (O&M) of the project for a period of 5 years in accordance with the provisions of the Request for Proposal.

6.17.2 The EPC Contractor will, within the time specified in the Timelines, submit to GMRC/ Engineer, detailed drawings and interconnection plan of the systems to be developed under the Project for approval to GMRC/ Engineer. If GMRC/ Engineer has any objection/ recommendation in the Drawings, GMRC/ Engineer will communicate the same to EPC Contractor as per the timelines in the Timelines. In case of objection/clarification, if any, the EPC Contractor shall submit its response to the objection/clarification as per Timelines.

6.17.3 The EPC Contractor shall procure the solar module in line with the MNRE requirements on **domestic content**.

6.17.4 The EPC Contractor will be required to submit a daily progress report to GMRC/ Engineer beginning with signing of Contract Agreement till the COD in such form and latest by the seventh (7th) day of the month to GMRC/ Engineer. This shall be subsequently followed by a meeting to discuss the progress of the project on such date as intimated by the GMRC/ Engineer. A Monthly Monitoring Group (MMG) with representation of at least one (1) member of the EPC Contractor and DGM of the GMRC/ Engineer shall be formed for all the projects within seven (7) days of from the Zero (Effective) Date. The group shall monitor the progress of the Projects on daily basis.

- 6.17.5 The EPC Contractor will notify GMRC/ Engineer as per the Timelines for commissioning of the system. GMRC/ Engineer will nominate one or two representative to participate in the process of confirming the Commissioning Tests of the Unit / Facility.
- 6.17.6 The EPC Contractor will bear all costs pertaining to the installation and Commissioning of the systems and these costs will not be recoverable in any form from GMRC.
- 6.17.7 EPC Contractor will be responsible for achieving the Commercial Operation of the Facility latest by the Scheduled COD.
- 6.17.8 The EPC Contractor will furnish to GMRC/ Engineer, by way of a written notice, a proposed interconnection plan, if applicable, together with details of the Relevant Premises pertaining to each phase, and estimated time lines for the Commissioning of the phases as per timelines.
- 6.17.9 Testing Procedures: The EPC Contractor and GMRC/ Engineer or its representative(s) shall implement the testing procedures mentioned in the RFP, within the timeline given in RFP.
- 6.17.10 Performance Ratio (PR) as per the GHI levels of the location, PR (temperature corrected should be shown minimum of **83%** at the time of inspection for initial commissioning for clearing the System Acceptance Test” Definition of Performance Ratio to be included in RFP which is to be read as “Performance Ratio (PR) means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured.
- 6.17.11 The Performance Ratio (PR) of the SPV System shall be calculated as follows (according to IEC 61724-2nd Edition)

$$PR_{tc} \text{ (Temperature corrected)} = (P_{out} / P_{in}) / (1 + \gamma (T_{mod} - T_{ref}))$$

Where,

- i) PR Temperature Corrected Performance Ratio
- ii) P_{out} Cumulative AC power measured at the plant end ABT meter
- iii) P_{in} = Plant capacity (in kWp) x Instantaneous irradiance (kW/m²)

- iv) Tmod : PV Module temperature measured at the commencement of time (°C)
- v) Tref :PV Module temperature at which Po is determined, i.e. 25°C Po Installed
nominal peak power of PV modules, i.e. Nameplate rating at STC (kWp)
- vi) γ Temperature coefficient of power with negative sign (°C-1)

6.17.12 The EPC Contractor will discuss with GMRC/ Engineer and use the information regarding Electricity generated during testing, commissioning, synchronization, testing and start-up and in getting the Net Metering agreements executed.

6.17.13 The EPC Contractor will comply with the provisions of Law including regarding operation and maintenance of the Project and all matters incidental thereto.

6.17.14 The EPC Contractor will submit regular forecasts for availability of the Facility and expected generation from the Facility to GMRC as per applicable regulations of the Commission.

6.17.15 The EPC Contractor will provide and lay down the dedicated electrical cables for transmission of Solar Power from the Project up to the Delivery Point. The Delivery Point will be where the Main Metering System is located. GMRC will be entitled to liquidated damages for delay in achieving the COD by Scheduled Commercial Operation Date if the EPC Contractor fails to Commission the Project on or before the Scheduled Commercial Operation Date. These damages will be met through the Performance Bank Guarantee equivalent to the amounts due to it as above.

6.18 Obligations Relating to Medical Aid

6.18.1 For providing emergency medical aid to Users, the EPC Contractor shall, at each Station, set up and operate a medical aid post equipped to render first aid and to assist in accessing emergency medical aid from hospitals in the vicinity.

6.19 Obligations Relating to Aesthetic Quality of the Rooftop Solar Project

6.19.1 The EPC Contractor shall maintain a high standard in the appearance and aesthetic quality of the rooftop solar project and achieve integration of the Solar Rooftop Power System with the character of the surrounding landscape through both appropriate design and sensitive management of all visible elements. The EPC Contractor shall engage professional architects and town planners of repute for

ensuring that the design of the rooftop solar project meets the aforesaid aesthetic standards.

6.20 Obligations Relating to Noise Control

6.20.1 The EPC Contractor shall take all such measures as may be necessary in accordance with Applicable Laws and Good Industry Practice to control and mitigate the noise arising from the rooftop solar project and its impact on Users and the neighbourhood.

6.21 Branding of Rooftop Solar Project

6.21.1 The rooftop solar project or any part thereof shall not be branded in any manner to advertise, display or reflect the name or identity of the EPC Contractor or its shareholders.

6.22 Obligations relating to Inter-Connection

6.22.1 In consideration of this RFP and the applicable charges, the covenants and warranties on the part of the EPC Contractor herein contained, GMRC, in accordance with the terms and conditions set forth herein, hereby grants to the EPC Contractor, leave and rights in respect of the land/ rooftops owned by GMRC for the purpose of connecting the rooftop solar project to [nearest existing evacuation point] (“rooftop”), and for no other purpose whatsoever, within the Timelines given in RFP.

6.23 Special/temporary right of way

6.23.1 The EPC Contractor shall bear all costs and charges for any special or temporary right of way required by it in connection with access to the Site. The EPC Contractor shall obtain at its own cost such facilities on or outside the Site as may be required by it for the purposes of Project and the performance of its obligations under this RFP.

6.24 Access to GMRC and the GMRC’s Electrical Engineer

6.24.1 The right of way and right to the Site granted to the EPC Contractor hereunder shall always be subject to the right of access of e GMRC’s Electrical Engineer and their employees/ agents for regular activities taken up by the GMRC for inspection, viewing and exercise of their rights and performance of their obligations under this RFP.

6.25 Maintenance obligations

6.25.1 During the Development Period, GMRC shall maintain the roads, pathways and rooftops along or near the Project, at its own cost and expense, so that its safety are at no time materially inferior as compared to its condition 7 (seven) days prior to the last date for submission of the Bid, and in the event of any material deterioration or damage other than normal wear and tear, undertake repair thereof, or pay to the EPC Contractor the cost and expense, as determined by the Engineer, for undertaking such repair after the Effective Date. For the avoidance of doubt, GMRC shall undertake only routine maintenance during the Construction Period, and it shall undertake special repairs only for ensuring safe operation of the roads, pathways and rooftops along the rooftop solar project, or in the event of excessive deterioration or damage caused due to unforeseen events such as floods or torrential rain.

6.26 Protection of Site from encroachments

6.26.1 During the term of the RFP, the EPC Contractor shall protect the Site from any and all occupations, encroachments or Encumbrances, and shall not place or create nor permit any Contractor or other person claiming through or under the EPC Contractor to place or create any Encumbrance or security interest over all or any part of the Site or the Project Assets, or on any rights of the EPC Contractor therein or under this RFP, save and except as otherwise expressly set forth in this RFP.

6.27 Access to Premises

6.27.1 The EPC Contractor will give the GMRC a schedule and reasonable written notice before any entry onto the Relevant Premises by the EPC Contractor's employees, agents or contractors. GMRC will make available to the EPC Contractor access to the Facility Installation and the Relevant Premises for the purposes set below. Notwithstanding anything to the contrary in this RFP, the EPC Contractor shall be permitted to access the Relevant Premises twenty-four (24) hours a day, seven (7) days a week for emergency purposes, as reasonably determined by the EPC Contractor. Within twenty-four (24) hours of such emergency access, the EPC Contractor shall provide the GMRC with a written explanation of the nature of the emergency.

6.28 Installation, Operation and Ownership of the Facility

6.28.1 GMRC will also authorize the EPC Contractor to use the Relevant Premises and the Site only for the purposes of installation, operation and maintenance of the solar power generation facility installation. The EPC Contractor undertakes not to use the Site for any purpose other than as aforesaid.

6.28.2 The EPC Contractor shall be solely responsible for operation and maintenance of the Facility Installations (subject, however, to the obligations and responsibilities of the GMRC herein), including without limitation the obligation to promptly make or pay (as determined by the GMRC/ Engineer) for any repairs to any part or all of the Site to the extent directly caused by the EPC Contractor, its employees, agents, contractors or subcontractors, and shall, at all times during the Term, maintain the Facility Installations in good operating condition. The EPC Contractor shall also be responsible for maintaining the structural integrity of the rooftops and ensure that any activity which may result in water seepage occurs.

6.28.3 The EPC Contractor will also undertake cleaning of the solar systems at regular intervals.

6.28.4 The EPC Contractor shall bear all risk of loss with respect to the Facility Installations and shall have full responsibility for its operation and maintenance in compliance with all the Laws and Approvals. The EPC Contractor shall coordinate in advance all such repair and maintenance work with the manager of the relevant buildings comprising the Site or his/her designee so as not to restrict parking access or interfere with scheduled activities on the relevant building comprising the Site. Upon such request for repair and maintenance work, GMRC/ Engineer shall respond to such request within five (5) Business Days. If GMRC/ Engineer does not respond to such request within such five (5) Business Days period, such request shall be deemed approved by GMRC/ Engineer. All such work shall be diligently prosecuted to completion to the end that such work shall not remain in a partly finished condition any long than is necessary for its completion.

6.29 Security

6.29.1 The EPC Contractor shall make its own arrangement for and take reasonable measures and shall be solely responsible for security of the Facility Installations, including commercially reasonable monitoring of the Site's alarms, if any.

- 6.29.2 The EPC Contractor shall check security and fire protection systems on a monthly basis.
- 6.29.3 Comprehensive Operation and Maintenance during entire life of the systems shall include provision of adequate security provisions
- 6.29.4 GMRC acknowledges and agrees that unless otherwise specified in this RFP it shall, at its own cost and expense, provide or cause to be provided security within the limits of the Solar Rooftop Power System for the prevention of terrorism, hijacking, sabotage and/or similar acts or occurrences; provided that GMRC and the EPC Contractor may at any time mutually enter into an agreement to jointly provide security services to the rooftop solar project.
- 6.29.5 The EPC Contractor shall provide and maintain perimeter fencing or other suitable protection around the rooftop solar project and shall be responsible for the security arrangements, which also includes providing & maintaining necessary equipment at the entry, exit and within the rooftop solar project in order to maintain orderly conduct of its business and the security thereof.
- 6.29.6 The EPC Contractor shall abide by and implement any instructions of GMRC for enhancing the security within and around the rooftop solar project. The EPC Contractor shall not be entitled to any compensation for disruption of its operations or loss or damage resulting from GMRC's' actions or the actions of any organization authorized by GMRC other than those resulting from wilful or grossly negligent acts or omissions of such organisation. GMRC agrees that it shall cause the relevant organisations to take such actions as reasonably deemed necessary by them, without unduly or unreasonably disrupting the operations of the rooftop solar project or interfering with the exercise of rights or fulfilment of obligations by the EPC Contractor under this RFP. The EPC Contractor agrees that it shall extend its full support and cooperation to GMRC and to the other organizations authorised by GMRC in the discharge of their obligations there under.
- 6.29.7 Subject to the rights of the EPC Contractor under this Clause 6.29, GMRC or any agency duly authorised by it shall be entitled to inspect and search any person or vehicle entering the Site or departing there from, without unduly or unreasonably disrupting the operations of the GMRC System.

6.30 Existing utilities and roads

6.30.1 Notwithstanding anything to the contrary contained herein, the EPC Contractor shall ensure that the respective entities owning the existing rooftops, right of way or utilities on, under or above the Site are enabled by it to keep such utilities in continuous satisfactory use, if necessary, by providing suitable measures.

6.30.2 The EPC Contractor shall, subject to Applicable Laws and with assistance of GMRC/ Engineer, undertake shifting of any utility including electric lines, water pipes and telephone cables, to an appropriate location or alignment within or outside the Site if and only if such utility causes or shall cause a material adverse effect on the construction, operation or maintenance of the Project. The cost of such shifting shall be borne by EPC Contractor.

6.31 Breach and Cancellation of the Contract

6.31.1 In case of non-performance in any form or change of the covenant and conditions of the Contract by the Contractor, the Company shall have the power to annul, rescind, cancel or terminate the order and upon its notifying in writing to the Contractor that it has so done, this Contract shall absolutely determine. The decision of the Company in this regard shall be final and binding.

6.31.2 The Company may cancel the order or a portion thereof, and if so purchase or authorize purchase of the plant/equipment not so delivered or order Plant/ Equipment of similar description (opinion of the Company shall be final) at the risk and cost of the Contractor.

6.32 Force Majeure

6.32.1 In the event of either party being rendered unable by Force Majeure to perform any obligation required to be performed by them under this Contract, relative obligation of the party affected by such Force Majeure shall be treated as suspended during which the Force Majeure Clause lasts.

6.32.2 The term “Force Majeure” shall have herein mean riots (other than among the Contractor’s employee), Civil commotion, War (whether declared or not), invasion, act of foreign enemies 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 the Contractors negligence and other causes which the Contractor has no control and accepted as such by GMRC/ Engineer whose decision shall be final and binding. Normal rainy season and monsoons are not Force Majeure.

6.32.3 Upon occurrence of such causes and upon its termination, the party alleging that it has been rendered unable as aforesaid, thereby, shall notify the other party in writing by registered notice within 24 (twenty four) hours of the alleged beginning and ending thereof giving full particulars and satisfactory evidence in support of its claim.

6.32.4 Time for performance of the relative obligation suspended by the Force Majeure shall stand extended by the period for which such clause lasts.

6.32.5 If works are suspended by Force Majeure conditions lasting for more than twenty (20) days, GMRC/ Engineer shall have the option of cancelling this Contract in whole or part thereof, at its discretion.

6.32.6 The Contractor shall not claim any compensation for Force Majeure conditions and shall take appropriate steps to insure men and materials utilized by it under the Contract well in advance.

6.33 Insurance

6.33.1 During the construction period, i.e. before the Commissioning of the Project, all insurance related expenses shall be borne by the Contractor. The goods supplied under the Contract shall be fully insured against the loss or damage incidental to manufacture or acquisition, transportation, storage, delivery, theft, natural or other disaster, etc. in such a manner that the Company shall not incur any financial loss, as long as the construction of the Project continues to remain under the custody of the Contractor.

The insurance coverage for materials shall remain valid until the issuance of the Certificate of Taking Over, ensuring adequate risk coverage throughout the project duration.

6.33.2 In case of any loss or damage or pilferage or theft or fire accident or combination of

the said incidents etc. under the coverage of insurance, the Contractor shall lodge the claim as per rules of insurance. Any FIR required to be lodged to local Police Station shall be the responsibility of the Contractor.

6.33.3 The Contractor shall arrange to supply/ rectify/ recover the materials even if the claim is unsettled for timely completion of the Project. The final financial settlement with the insurance company shall be rested upon the Contractor.

6.33.4 In case of any delay of the Project attributable to the Contractor, the Contractor himself in consultation with the Company should take the extension of insurance. Any financial implications shall, however, be borne by the Contractor.

6.33.5 The Contractor shall arrange for providing insurance coverage to its workmen under Workmen's Compensation Act or similar Rules and Acts as applicable during execution of work for covering risk against any mishap to its workmen. The Contractor shall also undertake a Third Party Insurance. The Company shall not be responsible for any such loss or mishap.

6.33.6 Comprehensive insurance is to be arranged by the Contractor during the O&M period of the Contract.

6.33.7 At the end of the term of insurance undertaken by the Contractor, the Contractor shall provide all the necessary documents to the satisfaction of the Company in order to enable the Company to take up the insurance of the Plant.

6.33.8 The Contractor shall, during the Operation Period, procure and maintain Insurance Cover including but not limited to the following:

6.33.8.1 Loss, damage or destruction of the Project Assets, including assets handed over by GMRC/ Engineer to the EPC Contractor, at replacement value;

6.33.8.2 Comprehensive third party liability insurance including injury to or death of personnel of GMRC/ Engineer;

6.33.8.3 The EPC Contractor's general liability arising out of the Agreement;

6.33.8.4 Liability to third parties for goods or property damage;

6.33.8.5 Workmen's compensation insurance; and

6.33.8.6 Any other insurance that may be necessary to protect the EPC Contractor and its employees, including all Force Majeure Events that are insurable at commercially

reasonable premiums and not otherwise covered in Clause (6.33.8.1) to (6.33.8.6) above.

6.33.8.7 The EPC Contractor is advised to take insurance policy with reinstatement clause built-in so any proceeds from insurance claims can cover the cost of a new plant.

6.34 Statutory Acts, Rules and Standards

6.34.1 The work shall be executed in conformity with the relevant standard of Bureau of Indian Specification (or equivalent International Standard), Electricity Rules, 2010 (as amended up to date), Indian Electricity Act, BARC/DAE rules, Explosive Act 1948, Petroleum Act 1934, National Building Code and relevant Rules in vogue at the time of execution including operation and maintenance period.

6.35 Stoppage of Work

6.35.1 The Company shall not be responsible and not liable to pay any compensation due to stoppage of work as a reaction from local public due to any undue action on the part of the Contractor causing annoyance to local people.

6.36 Hindrance Register

6.36.1 The Contractor may also maintain a Hindrance Register where reasons for delay may be recorded from time to time and at the time of occurrence of the hindrance and get it duly certified by the Project Manager or his authorized representative.

6.37 Responsibility of the Contractor

6.37.1 The Contractor shall provide guarantee and be entirely responsible for the execution of the Contract in accordance with this Tender including but not limited to its specification, schedules, and annexure. The Contractor shall further provide guarantee and be responsible for the quality and workmanship of all materials and completed works, correct designs and drawings, correct delivery of material, erection, testing and commissioning including operation and maintenance.

6.38 Governing Language

6.38.1 The Contract shall be written in English Language. All correspondence and documents pertaining to the Contract, which are exchanged by the Company and Contractor, shall be written in English.

6.39 Order Amendments

6.39.1 No variation in or modification of the terms of the contract shall be made except by written amendments issued by the Company.

6.40 Assignments or Subletting of Contract

6.40.1 The Contractor shall not, without the prior consent in writing of the Company, assign or sublet or transfer its Contract in whole or in part, its obligations to perform under the Contract or a substantial part thereof, other than raw materials, or for any part of the work of which makers are named in the Contract, provided that any such consent shall not relieve the Contractor from any obligation, duty or responsibility under the Contract.

6.41 Subcontracts

6.41.1 The Contractor shall notify the Company in writing of all subcontracts awarded under the Contract if not already specified in his Bid. Such notification in its original Bid or later shall not relieve the Contractor from any liability or obligation under the Contract. The contractor shall take the prior approval from the company before appointment of any subcontractor.

6.41.2 Subcontracting a work shall not, under any circumstances, relieve the Contractor from its obligations towards the Project and the Company.

6.41.3 In case, the Contractor engages any Subcontractor to carry out a part of the work, the Subcontractor should have requisite Government License for carrying out such part of the work.

6.42 Authorized Test Centres

6.42.1 The PV modules, inverters, transformers, panels, wires, etc. deployed in the power plants shall have valid test certificates for their qualification as per above specified IEC/ BIS Standards by one of the reputed labs of the respective equipment (preferably NABL Accredited Test Centres) in India. In case of equipment for which such Test facilities may not exist in India, test certificates from reputed ILAC Member Labs abroad will be acceptable.

6.43 Delivery of Equipment

6.43.1 The Contractor shall deliver the equipment of the plant and machineries in accordance with the terms of the Contract at the time(s) to the place(s) and in the manner specified in the Contract. The Contractor shall comply with instructions that

may be given by the Company from time to time regarding the transit of the plant and material.

6.43.2 Notification of delivery or dispatch in regard to each and every consignment shall be made to the Company immediately after dispatch or delivery from the manufacturing works. The Contractor shall supply to the consignee Invoice in triplicate and packing account of all stores delivered or dispatched by him.

6.43.3 In case of any occurrence of loss or damage in transit, it shall be the liability of the Contractor to initiate or pursue the claim with the Insurance company. It should take immediate steps to repair the damaged apparatus or replacement there to.

6.44 Liabilities during Transit

6.44.1 The Contractor shall be responsible for loss, damages, or depreciation to goods or of plant, equipment, and machineries up to delivery at the Site.

6.45 Deduction from Contract Price

6.45.1 All costs, claims, damages or expenses, which the Company may have paid for which the Contractor is liable, will be deducted by the Company from deposited bank guarantees or from any money due or which become due to him under this Contract or any contract are being executed elsewhere with the Company.

6.45.2 Any sum of money due and payable to the Contractor, as per the Contract Agreement, may be appropriated by the Company and set off against any claim of the Company, for the payment of a sum of money arising out of or under any other contract made by the Contractor with the Company. It is an agreed term of the Contract that the sum of money, withheld or obtained under this clause by the Company, will be kept withhold or retained as such by the Company or till this claim arising out of in the same Contract is either mutually settled or determined by the arbitrator, or by competent court, as the case may be, and that the Contractor shall have no claim for interest or damages whatsoever on this account or any other account in respect of any sum of money withheld or retained under this clause and duly notified as such to the Contractor.

6.46 Terms of Payment

6.46.1 Supply, Work and 5 years O&M: The GMRC shall pay the Contractor in the following manner for supply of material and at the following time for achieving the

respective milestones for the Supply. The Tender is a comprehensive EPC Contract of Supply, Works and O&M, however a single LoA shall be provided to the Successful Bidder. The payment terms for Supply, Works and O&M is given below.

Sr.	Payment Milestones for Supply	Amount
1.	On Supply of PV Modules, Inverter & Module Mounting Structure (MMS): Submission of invoice and receipt of material for all #15 Metro stations.	50% of EPC Contract Price of Supply against the submission of Safe Custody Bank Guarantee. The Guarantee will be released upon the installation of the materials at the site.
2.	On Supply of Balance of System: Submission of invoice and receipt of material (other than PV module and MMS) for both sites.	25% of EPC Contract Price of Supply
3.	Upon achieving Commissioning of the Plant with GEDA for all #15 Metro stations.	15% of EPC Contract Price of Supply
4.	Upon achieving Completion of the Facilities and successful Performance Ratio (PR) Test for both sites, whichever is later	10% of EPC Contract Price of Supply
5.	Total	100%

Note:

1. All works shall be considered for payment on the basis of payment milestones per approved billing break up to be approved after award of contract.
2. EPC Contract Price of Supply means the Supply part of the EPC Contract Price.
3. The arrangement of warehouse to store the material will be in the scope of contractor. The insurance coverage for supplied materials shall remain valid until the issuance of the Certificate of Taking Over and also ensuring adequate risk coverage throughout the project duration.

6.46.2 **Payment Terms for the Works** shall be as per the following table. The GMRC shall pay the Contractor in the following manner for all the erection, testing, commissioning.

Terms of Payment for Works

Sr.	Milestone for Works	Amount
1.	Upon Erection & Testing of entire Plant at both sites	50 % of Contract Value of Works

2.	Upon Successful Commissioning of the entire Plant at 15 nos. of station	30 % of Contract Value of Works
3.	Upon achieving Completion of the Facilities and successful Performance Ratio (PR) Test at bot sites, whichever is later	20 % of Contract Value of Works

Note: “Erection, Testing and Commissioning Works Price” is equal to the price of Works (all the erection, testing and commissioning works) portion of “EPC Contract Price” quoted by the Contractor in its Financial Proposal.

Completion of work

The work must be completed as per the Timeline below from the date of handing over of site.

Sr.	Stage	Reference from Zero Date (“D”)
1.	Issue of Letter of Award	D
2	Detailed site Assessment such as roof orientation, roof materials, shading analysis, metrological metrics , overall suitability to understand feasibility of solar project on Metro stations in line with Gujarat renewable energy policy 2023 Estimation of Rooftop Solar Photovoltaic generation potential and solar plant capacity estimation of #15 Metro stations	D+15
3.	Carryout Design and submit drawings & installation methodology and mentioning supporting arrangement and procedures, interconnection plans to GMRC for all #15 Metro stations	D+30
4.	Contractor to apply for net metering related work on the behalf of GMRC/ Engineer with the concerned DISCOM for #15 Metro stations	D + 45
5.	Approval by GMRC for designs/Drawings and Interconnections plans of all #15 Metro stations (In case any observations, GMRC to provide written objections within this period.) No objection by GEC / GMRC Civil department for construction at 15 nos. of stations	D + 50
6.	Contractor to identify & finalize all required steps as per the concerned DISCOM for all #15 Metro stations	D+65

7.	Contractor to ensure and avail all requisite approvals towards signing of Net Metering Agreement with the DISCOM 15 nos. of stations (Note: All activities in this reference are to be carried out by the Contractor. GMRC/ Engineer will facilitate signing of the necessary documents/Agreements.)	D + 70
8.	Completion of supply of PV modules for all #15 Metro stations	D +75
9	Completion of supply of major balance of system for all #15 Metro stations	D + 80
10.	Installation and interconnection of all major equipment at all #15 Metro stations	D + 120
11.	Interconnection and testing of entire plant	D + 155
	i) Intimation by the Contractor to GMRC/ Engineer for system readiness for Testing	7 days prior to the completion of installation and construction
	ii) Testing of the Project by GMRC/ Engineer and award of approval	Within 7 days of completion of installation and construction
12.	Contractor in consultation with GMRC/ Engineer to ensure and discuss the likely date of system inspection by Electrical Inspector	D+160
13.	Contractor to apply in GEDA (SNA) for inspection of the plant and issuance of Commissioning certificate by GEDA	D + 165
	Completion of PR test	D + 180

Note: “Erection, Testing and Commissioning Works Price” is equal to the price of Works (all the erection, testing and commissioning works) portion of “EPC Contract Price” quoted by the Contractor in its Financial Proposal.

On non-achievement of above said work (SN 6 to 13), the penalty of 0.25% of Contract Value for per week will be levied.

Terms of payment for Operation and Maintenance (O&M)

Sr.	Milestone for Works	Amount
1.	On Successful Operation and Maintenance of the Solar PV Power Plant on quarterly basis for each year till 5 years	Year 1: OM-1 Year 2: OM-2 Year 3: OM-3 Year 4: OM-4 Year 5: OM-5

6.47 Payments Procedure

6.47.1 Subject to any deduction which the Company may be authorized to make under this Contract, and or to any additions or deductions provided for in this Contract, the Contractor shall be entitled to payment as follows:

- a. All payments shall be made in Indian Rupees, unless otherwise specified in the LoA/Contract Agreement. All payment shall be made on the basis of actual measurement for the quantified items as per schedule of works.
 - b. The Contractor shall submit the bill for claim in three copies with all supporting documents as per the Contract condition to GMRC/ Engineer. After due verification and recommendation, GMRC/ Engineer shall process verified bills for release of payment. Payments shall be released in 15 (Fifteen) days by A/c payee cheque / RTGS/ NEFT from date of submission of clear invoice.
- All taxes and deductions shall be applicable as per prevailing income tax and other statutory rules and provisions in force.
 - In case Contractor fails to submit the invoice with all the required documents to process payments, GMRC/ Engineer reserves the right to hold the payment of the Contractor against such bills.

6.48 Warranty/ Guarantee

6.48.1 The Plant shall perform as per the Guaranteed Performance indicated by the Bidder in its Financial Proposal. 6.48.2 PV modules used in grid connected 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 2.5% of the PV Module capacity

and in subsequent years it shall not be more than 1% per annum.

6.48.3 The mechanical structures, electrical works, all plant equipment and components and overall workmanship of the grid solar power plants shall be warranted for a minimum of 25 years.

6.48.4 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.

6.48.5 The warranty / guarantee period shall be as follows:

- a. **Solar PV Modules:** Modules shall be warranted for a minimum period of 10years in the Bidder's detailed Warranty/ Guarantee certificate. Same shall be furnished with its Bid.
- b. **Inverters:** Inverters shall be warranted for the guarantee period provided by the original equipment manufacturer. Same shall be furnished with its Bid.
- c. **Balance of System, associated switchgear and others:** Bidder shall furnish in detail its warranties/ guarantees for these items.

6.48.6 During the period of Warranty/ Guarantee the Contractor shall remain liable to replace/ repair any defective parts, 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 unless otherwise arranged.

6.48.7 At the end of Guarantee period, the Contractor's liability shall cease. In respect of goods not covered above, GMRC shall be entitled to the benefit of such Guarantee given to the Contractor by the original Contractor or manufacturer of such goods.

6.48.8 During the Operation and Maintenance and Guarantee period, the Contractor shall be responsible for any defects in the work due to faulty workmanship or due to use of sub-standard materials in the work. Any defects in the work during the guarantee

period shall therefore, be rectified by the Contractor without any extra cost to GMRC within a reasonable time as may be considered from the date of receipt of such intimation from GMRC failing which GMRC shall take up rectification work at the risk and cost of the Contractor.

6.48.9 Material Warranty:

Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than ten (10) years from the date of sale to the GMRC:

- Defects and/or failures due to manufacturing defects and/or failures due to materials, including PID defect
- Non-conformity to specifications due to faulty manufacturing and/or inspection processes.

If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at GMRC's sole option.

(a) Performance Warranty:

The manufacturer should warrant the output of Solar Module(s) If, Module(s) fail(s) to exhibit such power output in prescribed time span, the Contractor will either deliver additional PV Module(s) to replace the missing power output with no change in area of roof used or repair or replace the PV Module(s) with no change in area of roof used at GMRC's sole option. Total roof area available from GMRC is fixed and the bidder shall design the plant so that in this case he has enough space within this roof area to accommodate additional capacity.

6.49 Arbitration

6.49.1 All matters, questions, disputes, differences and / or claims arising out of and / or concerning, and /or in connection with, and /or in consequence of, and /or relating to this contract which may arise between the parties in connection with the Contract or any matter arising out of or in relation thereto shall be reported to Gujarat Public Work Contract Dispute Arbitration Tribunal and provision of Gujarat Public Work Contract Disputes Arbitration and Tribunal Act 1996 shall be applied as updates time to time.

6.49.2 The Contractor shall ensure that the work under this Contract shall continue during

arbitration proceedings and dispute and no payments due from or payment by the Company shall be withheld on account of such proceedings except to the extent which may be in dispute.

6.49.3 The Arbitrator may, from time to time, with the consent of the parties to the contract enlarge the time for making the award. The venue of the arbitration shall be the place from which the acceptance of offer is issued or such other place as the Arbitrator, in his discretion, may determine.

6.50 Court of Competent Jurisdiction

6.50.1 The Courts at Ahmedabad / Gandhinagar for GMRC shall have exclusive jurisdiction in all matters arising under the Contract.

6.51 Law and Procedure

6.51.1 The law which is to apply to the Contract and under which the Contract is to be construed shall be Indian Law.

6.51.2 The law governing the procedure and administration of any arbitration instituted under the clause for arbitration shall be the Indian law.

6.52 Construction of Contract

6.52.1 The Contract shall in all respect be construed and operated, as a Contract as defined in the Indian Contracts Act, 1872, and all the payments there under shall be made in Indian Rupees (INR) unless otherwise specified.

6.53 Notices

6.53.1 For all purpose of the Contract, including arbitration there under, the address of the Contractor mentioned in the Bid shall be the address to which all communications addressed to the Contractor shall be sent, unless the Contractor has notified a change by a separate letter containing no other communication and sent by registered post with acknowledgement due to GMRC/ Engineer. The Contractor shall be solely responsible for the consequence of an omission to notify change of address in the manner aforesaid.

6.53.2 Any communication or notice on behalf of the Company in relation to the Contract Agreement may be issued to the Contractor by the Company and all such communication and notice may be served on the Contractor either by registered post

or under certificate of posting or by ordinary post or by hand delivery at the option of the officer.

6.53.3 Instructions or notices to the Contractor and notices from the Contractor to GMRC/ Engineer recorded in a minute signed by the authorized representatives of both GMRC/ Engineer and the Contractor. Such notice or instruction shall be valid notice of instruction for the purpose of the Contract.

6.54 Final Bill

6.54.1 The Final EPC Bill relating to the Contract shall be prepared only after the Performance Guaranteed Test of the plant has been observed as under Clause No. Appendix 16 A: Procedure for Performance Testing and it will include the adjustments of all claims against the Contractor by the Company and awarded in its favour by the arbitrator up to the date of preparation of the final bill.

6.55 Degradation of Solar Modules

6.55.1 The Contractor should warrant for the output of each Solar Module(s) for at least 90% of its actual rated capacity at Standard Testing Condition after initial 10 years and 80% of its rated capacity after 25 years upon commissioning of the Plant.

6.55.2 The derating of module should not be more than 1% in any year except for the first year of operation, which should be limited to 2.5%.

6.55.3 If, Module(s) fail(s) to exhibit such power output, the Contractor will either:

- a. Deliver additional PV Module(s) to replace the loss of power output with no change in area of land used;

<or>

- b. Repair or replace the existing PV Module(s) with no change in area of land used;

6.55.4 The Company will specifically do the audit of solar PV module by third-party at any point of the operation period and in case the Contractor fails to demonstrate the value as per the maximum deration allowed then, the Contractor shall compensate as per the Clause No. 6.55.3

6.56 Risk Purchase

6.56.1 If the Contractor fails, on receipt of the LoA, to take up the work within a

reasonable period or leave the work Site after partial execution of the work, GMRC shall have the liberty to get the work done through other agency at the Contractor's own risk and additional cost if any. If the situation, so warrants, to compel GMRC to cancel the LoA placed on the Contractor, it shall be liable to compensate the loss or damage, which GMRC may sustain due to reasons of failure on Contractor's part to execute the work in time.

6.57 Confidential Information

6.57.1 GMRC and the Contractor shall keep confidential and shall not, without the written consent of the other Party hereto, divulge to any third party any documents, data or other information furnished directly or indirectly by the other Party hereto in connection with the Contract, whether such information has been furnished prior to, during or following termination of the Contract. Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data and other information it receives from GMRC to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor.

6.57.2 Notwithstanding the generality of the foregoing Clause 6.57.2 all maps, plans, drawings, specifications, schemes and the subject matter contained therein and all other information given to the Contractor, by the Company in connection with the performance of the Contract shall be held confidential by the Contractor and shall remain the property of the Company and shall not be used or disclosed to third parties by the Contractor for any purpose other than for which they have been supplied or prepared. The Contractor may disclose to third parties, upon execution of secrecy agreements satisfactory to the Company, such part of the drawings, specifications or information if such disclosure is necessary for the performance of the Contract under this Clause of 6.57.

6.57.3 Maps, layouts and photographs of the unit/integrated plant including its surrounding region's showing vital installation for national security shall not be published or disclosed to the third parties or taken out of the country without prior written approval of the Company and upon execution of secrecy agreements satisfactory to the Company with such third parties prior to disclosure.

6.57.4 Title to secret processes, if any, developed by the Contractor on an exclusive basis and employed in the design of the unit shall remain with the Contractor. The Company shall hold in confidence such process and shall not disclose such processes to the third parties without prior approval of the Contractor and execution by such third parties of secrecy agreements satisfactory to the Contractor prior to disclosure.

6.57.5 Technical specifications, drawings, flow sheets, norms, calculations, diagrams, interpretations of the test results, schematics, layouts and such other information which the Contractor has supplied to the Company under the Contract shall be passed on to the Company. The Company shall have the right to use these for construction erection, start-up, commissioning, operation, maintenance, modifications and/ or expansion of the unit including for the manufacture of spare parts.

6.57.6 The obligation of a party under this Clause 6.57, however, shall not apply to that information which:

- a. now or hereafter enters the public domain through no fault of that Party,
- b. can be proven to have been possessed by that Party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other Party hereto, or
- c. otherwise lawfully becomes available to that Party from a third party that has no obligation of Confidentiality.

6.57.7 The above provisions of this Clause 6.57 shall not in any way modify any undertaking of Confidentiality given by either of the Parties hereto prior to the date of the Contract in respect of the Facilities or any part thereof.

6.57.8 The provisions of this Clause 6.57 shall survive Termination, for whatever reason, of the Contract.

6.58 Limitation of Liability

6.58.1 The total liability of the Contractor under or in connection with this Tender and the consequent Contract shall not exceed the full EPC Contract Price inclusive of taxes and duties.

6.58.2 This sub-Clause shall not limit the liability in case of fraud, deliberate default/ negligence, reckless misconduct or illegal or unlawful acts by the Contractor.

--- End of Section ---

7 Special Terms and Condition

7.1 Definition

- 7.1.1 The General Terms and Conditions as well as the Special Terms and Conditions of the Tender are complementary to each other, and wherever there is a conflict, the Special Terms and Conditions shall prevail.

7.2 Objective of the Project

- 7.2.1 With objective to promote sustainable energy management in Metro operations and help to address global issue of Climate change it is proposed to initiate project “Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Cirlce, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd, Gujarat of GMRC” on turnkey basis.

7.3 Compliance with GEDA/DISCOM/CEIG Guidelines

- 7.3.1 The Bidders and Contractor shall make themselves fully aware of and comply with the norms and guidelines provided by GEDA/DISCOM/CEIG if any, towards the Project.
- 7.3.2 The Contractor shall ensure that the Project shall comply with all the norms and guidelines of GEDA/DISCOM/CEIG if any, and subsequent clarifications or amendments issued from time to time. The Contractor is required to refer the compliance documents of GEDA/DISCOM/CEIG if any, for necessary compliances of GEDA/DISCOM/CEIG requirements.
- 7.3.3 In case of any conflict between the compliance of GEDA/DISCOM/CEIG and this Tender or any aspect of the Project, the Contractor shall immediately notify GMRC/ Engineer for clarity.

7.4 Project Site

- 7.4.1 Details of the Project Site will be as per the Annexure 1.

7.5 Scope of Service

7.5.1 The item of work to be performed on all equipment and accessories shall include but not limited to the following:

- a. Transportation, unloading, receiving and storage at site.
- b. Arranging to repair and/or re-order all damaged or short-supply items.
- c. Final check-up of equipment and commissioning and putting the system into successful operation, feeding power to the local internal grid.

7.6 Training of GMRC's Personnel

7.6.1 The Bidder shall provide training on Plant operations and maintenance to three (3) teams of 5-10 personnel each (Engineers and Technician/ Operators) of GMRC as and when requested by GMRC.

7.7 Mode of Execution

7.7.1 The entire work shall be executed on turnkey basis. 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 project shall be deemed to have been included in the scope of this work and the Contractor shall supply, install the same without any extra cost.

7.8 Programme of Work

7.8.1 The Contractor shall submit the programme of work within 3 days from the date of receipt of Letter of Award. The programme shall include a Bar Chart indicating there in the starting position and completion date of each of the major items of work.

7.9 Starting of Work

7.9.1 The issuance date of LoA should be termed as starting date of work.

7.10 Completion Schedule

7.10.1 The time of completion and Commissioning of the Plant is Hundred fifty Days (180) from the date of issue of Letter of Award. The O&M Contract Period for five (5) years.

7.10.2 The Contractor shall inform GMRC/ Engineer at least seven (7) days advanced final written notice, of the date on which it intends to commissioning of any unit.

7.10.3 The Contractor shall prepare the completion schedule accordingly and in conformity with provisions of technical specifications and carry out the work as per this schedule subject to “Force Majeure” conditions. The Contractor shall mobilize resources keeping in view, the above scheduled completion period.

7.10.4 The Contractor shall provide the power evacuation schedule as and when required or asked by any Central or State Government agency(s).

7.11 Site Inspection & Basis of Bid

7.11.1 The volume and quantity of work indicated in schedule of works may vary. The Contractor should visit the Site before quoting rate for civil works. After taking in to consideration all aspects of the site, condition of soil etc., the Contractor should quote for civil works. No extra claim will be entertained at post bidding stage. The foundation design of module structure and the building shall have to be approved by GEC/GMRC Civil department. In case of any defects arising in the building during guarantee period, the Contractor shall have to rectify the same at its own cost.

7.12 Price Escalation

7.12.1 The rate(s) quoted against the work shall remain firm during the entire Contract period.

7.13 Taxes and Duties

7.13.1 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.

7.13.2 Bidders shall quote the rates as well as taxes and duties based on the concessional exemption in the same that can be availed by the Bidder.

7.13.3 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 GMRC 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 GMRC or GMRC 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 GMRC, 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 GMRC shall not admit the same; however GMRC 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 GMRC or GMRC shall admit the decreased rate of taxes and duties while making the payment.

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

7.14 Procurement of Materials

7.14.1 The Contractor shall procure all necessary material required for the project work and arrange to store them properly. Test certificate in accordance with the specifications are to be furnished by the Contractor to GMRC/ Engineer for approval in respect of the materials procured by the Contractor.

7.15 Samples

7.15.1 Apart from adhering to special provision made in the specification regarding submission of samples, the Contractor shall within ten (10) days of its receipt of Letter of Award, provide to GMRC/ Engineer samples along with detailed literature of all materials it proposes to use irrespective of the fact that specific make/ material might have been stipulated. If certain items proposed to be used are of such nature that samples cannot be presented or prepared at Site, detailed literature / test certificate of the same shall be provided instead. GMRC/ Engineer shall check the

samples and give his comments and/or approval to the same.

7.16 Notice of Operation

7.16.1 The Contractor shall not carry out important operation without the consent in writing of GMRC/ Engineer. For carrying out such important activity, the Contractor shall intimate to GMRC/ Engineer at least Forty eight (48) hours before starting of the job.

7.17 Rejection of Materials

7.17.1 GMRC/ Engineer'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 the GMRC/ Engineer-in-Charge from the Site of work.

7.18 Power and Water Supply during Construction

7.18.1 GMRC will Provide Auxiliary Power to the EPC Contractor during execution.

7.18.2 Contractor has to arrange water supply during construction.

7.18.3 Not used.

7.18.4 GMRC shall provide space for storage of material (if available). However, GMRC shall not provide accommodation for labours at site. The Contractor shall make his own arrangement for the same.

7.19 Labour Engagement

7.19.1 The Contractor shall be responsible to provide all wages and allied benefits to its labours engaged for execution of the project work and also to carry out Operation and Maintenance service. The Contractor shall remain liable to the authorities concerned for compliance of the respective existing rules and regulations of the government for this purpose and shall remain liable for any contravention thereof.

7.19.2 Strict adherence of various applicable labour laws like the Factories Act, Minimum Wages Act, ESI Act, Payment of Wages Act, the Workman's Compensation Act, EPF Act, Contractor labour (Regulation & Abolition) Act, 1970 and all other statutory requirements as amended from time to time to the entire satisfaction of Central/State Govt. Authorities, shall be the responsibility of the Contractor and he shall have to

make good loss, if any, suffered by GMRC on account of default in this regard by the Contractor.

7.19.3 The contractor is encouraged to use local manpower as per the local statutory (labour) requirement, if any.

7.19.4 The successful Bidder shall obtain license under Contract Labour (Regulation & Abolition) Act 1970, read with rules framed there under and furnish the same to the Company within 15 days of the issue of Detailed order of Contract failing which the detailed order of contract shall be cancelled/terminated without any further notice and its EMD and/ or performance guarantee shall be forfeited.

7.19.5 65% of the jobs that will be created due to the projected in the supervisory and managerial cadres and 80% of the jobs that will be created in other cadres due to the project shall be filled in by employing the local persons. The expression “local person” shall mean a person domicile in Gujarat state for a minimum period of 15 years prior to applying for employment to the Contractor.

7.20 Handing Over –Taking Over

7.20.1 A 5 MW indicative capacity project shall be taken over by GMRC/ Engineer 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 this Tender. During handing over complete Project work, the Contractor shall submit the following for considering final payment:

- a. All as- Built Drawings;
- b. Detailed Engineering Document with detailed specification, schematic drawing, circuit drawing and test results, manuals for all deliverable items, Operation, Maintenance & Safety Instruction Manual and other information about the project;
- c. Bill of material; and
- d. Inventory of spares at projects Site.
- e. Copies of all warranties/guarantees.

7.20.2 Immediately after taking over of complete Plant, the same will be handed over to the Contractor for Operation & Maintenance for a period as mentioned in the Tender.

7.20.3 Handing over will be done only after Completion of Facilities and successful

Operational Acceptance Test

7.20.4 Prior to the handing over, GMRC/ Engineer shall conduct a plant audit by self or the third party as per GMRC/ Engineer's discretion, and any defects identified during such audits or inspection shall be rectified by the Contractor at its own cost prior to the completion of the O&M period.

7.21 Termination on the death of Contractor

7.21.1 Without prejudice to any of the rights or remedies under this contract, if the Contractor dies, the GMRC/ Engineer shall have the option of terminating the Contract without compensation to the contractor.

7.22 Retired Government servants taking to Contract

7.22.1 No engineer of gazette rank or other gazette officer employed in engineering or administrative duties in the Engineering Department of the Company is allowed to work as contractor for a period of two years of his retirement from Company's service without the previous permission of the Company. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be a person who had not obtained the permission of the Company as aforesaid before submission of the tender or engagement in the contractor's service as the case may be.

7.23 EPF

7.23.1 The contractor will deduct and deposit EPF of his labour staff/worker as applicable from time to time in his own EPF A/c code and then produce a photocopy of documentary evidence of EPF Challan with each R.A. Bill for the concerned period.

7.24 Miscellaneous

7.24.1 The project manager appointed by EPC contractor shall not be replaced without the prior written approval of GMRC/ Engineer.

7.24.2 Any project manager or member of the Contractor at Site shall be replaced within a period of forty eight (48) hours of intimation by GMRC/ Engineer without assigning any reason thereof.

7.24.3 The Contractor shall take care of all statutory, local clearance, approvals, etc.

7.24.4 All warranties on the equipment shall be in the name of GMRC.

- 7.24.5 The Contractor shall be responsible for claiming and retaining any subsidy and shall quote only final price and responsibility of Project registration/ applications etc. shall lie with the Bidder only. In no case, GMRC is responsible to provide any additional amount other than the EPC Contract Price & O&M Contract Price.
- 7.24.6 The Contractor shall provide arrangement for water drainage, which shall be appropriately arranged for dispersion/ evacuation as per the local statutory norms without causing any local inconvenience or hindrance.
- 7.24.7 The design philosophy and related specifications mentioned in this Tender are to be treated as baseline specifications. The Contractor may further improve the design of the Plant through minor modifications and execute the same contingent on GMRC/ Engineer's approval of the new design or specification.
- 7.24.8 Based on reviewing the Project, if the progress is below expectation as judged based on GMRC/ Engineer's discretion, then GMRC/ Engineer shall reduce the Scope of the Contractor in part or full and assign the same to other contractor(s) at the risk and cost of the existing Contractor.
- 7.24.9 The Contractor shall continue to provide all the monitoring services, licenses, software, access to all information (real-time or stored) that were been used during the O&M Contract period by the Contractor to GMRC at the time of hand over at no extra cost to GMRC for the rest of the life of the Plant.
- 7.24.10 Provision for installing any additional monitoring equipment to facilitate on-line transfer of data shall be provided by the Contractor.

--- End of Section ---

8 Operation and Maintenance

OPERATION & MAINTENANCE (O&M)

A. The Solar Plant installed at a particular location shall be handed over by the Solar Power Developer (SPD) to GMRC's E&M/O&M Wing through a joint note to be signed by the Authorized Representatives of the SPD, GMRC's E&M/O&M Wing and GMRC's Solar/Project Wing, after being successfully Commissioned (duly meeting the various Contractual requirements and Statutory requirements of the Electricity Act). Thus, after handing over of the Solar Plants by the SPD to GMRC's E&M/O&M Wing, all aspects related to Contract Execution shall be looked after by GMRC's E&M/O&M Wing.

The bidder shall submit the Comprehensive Maintenance Schedule to GMRC E&M/O&M Wing for GMRC E&M/O&M Wing's Approval, clearly specifying the Frequency (i.e. Periodicity), Duration, Scope of work (along with Corresponding Performa as maintenance check sheet) for each of the Maintenance Schedule, duly covering all facets of various types of Maintenance activities required to be undertaken for safe & reliable functioning of the Solar Power Plant. Decision of GMRC E&M/O&M Wing shall be final and binding on the bidder/SPD w.r.t. to Finalization of the above mentioned Comprehensive Maintenance Schedule. For undertaking proper maintenance (scheduled as well as unscheduled), the bidder (i.e. SPD) shall undertake proper coordination with the GMRC's E&M/O&M Wing for obtaining requisite maintenance blocks and use them effectively as availability of maintenance blocks in an MRTS system is very critical as the same are also required by other in system departments also. In case the bidder/SPD, does not undertake proper maintenance / attend the breakdown of equipment within the prescribed time period / does not follow the instructions of GMRC's E&M/O&M Wing in writing with regard to ensuring Reliability, Availability, Proper Functionality and Safety of the Solar Plant commissioned and also from point of view of ensuring safety of GMRC's premises (including the Public and GMRC's Personnel travelling / working in the GMRC's premise), Then,

GMRC's E&M/O&M Wing reserves the Rights to take any action against SPD (like withhold of monthly solar energy payments or deduction of an appropriate amount from the monthly solar energy bills etc.) as deemed fit to ensure the Reliability, Availability, Proper Functionality and Safety of the Solar Plant commissioned and also from point of view of ensuring safety of GMRC's premises (including the Public and GMRC's Personnel travelling / working in the GMRC's premise) in which the Solar Plant is commissioned. Cleaning of PV modules shall be carried out by SPD during non-revenue hours under maintenance block provided by GMRC E&M/O&M Wing. Moreover, SPD can carry out maintenance (other than cleaning of PV modules) during revenue hours under maintenance block, if granted by GMRC E&M/O&M based upon train services. Maintenance schedule in all aspects shall be submitted by the SPD including the requirement of maintenance blocks required for cleaning of PV modules and activities other than cleaning of PV modules. GMRC E&M/O&M will make efforts towards the fulfilment of grant of required maintenance blocks by SPD. Maintenance blocks details for required by SPD, requested by SPD, granted by GMRC and unutilized by SPD shall be jointly maintained/signed by the representatives of GMRC E&M/O&M and SPD on monthly basis. SPD shall be carried out maintenance work as per GMRC's Safety Circular no. SC-09 (Rev-01) regarding Procedure Order

for Installation / Testing / Repair / Maintenance of Solar Panels on Roof Top of Elevated Stations, as amended from time to time. Following activities pertaining to O&M will be under the scope of the SPD under this RfS:

- i. The SPD shall be responsible for all the required activities for successful O&M of the Rooftop/Ground mounted Solar PV project for 25 years
 - ii. O&M of the Project shall be compliant with grid requirements to achieve committed energy generation.
 - iii. Deputation of qualified and experienced engineer/ technicians till the O&M period at project site.
 - iv. Periodic cleaning of solar modules. The modules shall be cleaned with a periodic interval of 15 days or as and when required as per actual site conditions.
- A —hindrance register shall be maintained to record any issues affecting Project O&M. The same shall be duly signed by both parties of the PPA i.e. GMRC O&M and SPD.
- vi. Periodic checks of the Modules, PCUs and BoS shall be carried out as a part of routine, preventive and breakdown maintenance. Immediate replacement of defective Modules, Invertors/PCUs and other equipment as and when required.
 - vii. Supply of all spares, consumables and fixtures as required. Such stock shall be maintained for all associated equipment and materials as per manufacturer's / supplier's recommendations.
 - viii. All the testing instruments required for Testing, Commissioning and O&M for the healthy operation of the Plant shall be maintained by the SPD. The testing equipment must be calibrated once in a year from NABL accredited labs and the certificate of calibration must be kept for reference as required.
 - ix. If negligence/ mal-operation on part of the SPD's operation results in failure of equipment, such equipment should be repaired/ replaced by the SPD free of cost.

x. Co-ordination with Owner / DISCOM / CEIG as per the requirement for Joint Meter Reading (JMR) Report. The person-in-charge present at site from the SPD's side shall take a joint meter reading in the presence of representative of Client organization on a monthly basis.

Online Performance Monitoring, controlling, troubleshooting, maintaining of logs & records. A maintenance record register is to be maintained by the operator with effect from Commissioning to record the daily generation, regular maintenance work carried out as well as any preventive and breakdown maintenance along with the date of maintenance, reasons for the breakdown, duration of the breakdown, steps taken to attend the breakdown, etc. If any jobs covered in O&M Scope as per RfS are not carried out by the SPD during the O&M period, the Client Organization shall take appropriate action as deemed fit. GMRC reserves the right to make surprise checks/ inspection visits at its own or through authorized representative to verify the O&M activities being carried out by the SPD. Failure to adhere to above guidelines may result in penal action including debarring from participation in next tender.

Following activities pertaining to Preventive Maintenance will be under the scope of the Bidder / SPD under this RfS Document:

i. During design stage, the contractor (i.e. SPD) shall submit the Comprehensive Maintenance Schedule, clearly specifying the Frequency (i.e. Periodicity), Duration, Scope of work (along with Corresponding Performa as maintenance check sheet) for each of the Maintenance Schedule, duly covering all facets of various types of Maintenance activities required to be undertaken for safe & reliable functioning of the Solar Power Plant along with meeting the various Contractual Requirements and Statutory requirements, covering each of the Individual equipment & their sub-equipments/sub-components/Fasteners (like, PV modules, Inverter, MC-4 Connectors, DC cables, Earthing pits, Earthing strips etc) which comprise the complete Solar Power Plant as well as the complete system as a whole, for GMRC's Approval.

Decision of GMRC shall be final and binding on the contractor w.r.t. to Finalization of the above mentioned Comprehensive Maintenance Schedule. The maintenance schedule submitted at design stage may be modified depending on need, in future by O&M wing in future after plant handover.

ii. The maintenance work undertaken by the SPD as per above approved Comprehensive Maintenance Schedule as well as any other unscheduled maintenance (if undertaken by the SPD) shall be supervised by GMRC's E&M (O&M) wing and corresponding Maintenance Check sheets are jointly signed by Authorized representatives of the contractor & GMRC's E&M (O&M) wing. Any issues raised by GMRC's E&M (O&M) wing w.r.t. Maintenance & Safety has to be promptly addressed by the contractor i.e. SPD.

iii. For undertaking proper maintenance (scheduled as well as unscheduled), the contractor (i.e. SPD) shall undertake proper coordination with the GMRC's E&M (O&M) wing for obtaining requisite maintenance blocks and use them effectively as availability of maintenance blocks in an MRTS system is very critical as the same are also required by other system departments also.

Maintenance shall be governed under the provisions of Safety Circular-09 (Rev.-02 or as amended from time to time) (regarding Procedure Order for Installation / Testing / Repair / Maintenance of Solar Panels on Roof Top of Elevated Stations.)

MODULES CLEANING SYSTEM

The developer shall strive to install a module cleaning system after approval of layout by GMRC. The contractor (i.e. SPD) shall be responsible for deploying adequate and technically skilled human resource duly equipped with all Proper tools & safety equipments, for undertaking proper maintenance of all types (including cleaning) as per actual site requirements, in a safe and reliable manner to meet the various contractual requirements. For undertaking proper Cleaning of PV Modules, a comprehensive scheme shall be submitted by the contractor (i.e. SPD) at design stage for GMRC's Approval. For undertaking proper maintenance (scheduled as well as unscheduled), the contractor (i.e. SPD) shall undertake proper coordination with the GMRC's E&M (O&M) wing for obtaining requisite maintenance blocks and use them effectively because availability of maintenance blocks in an MRTS system is very critical as these maintenance blocks are required by other system departments also. The contractor (i.e. SPD) shall ensure the periodic cleaning of solar modules with a preferable interval of 15 days or as and when required as per actual site

conditions. It's the responsibility of the contractor to get the modules cleaned during O & M Period, so as to achieve guaranteed CUF. The contractor shall submit the dully filled in maintenance record to O&M as documentary evidence for having undertaken the prescribed/committed maintenance.

3IDENTIFICATION OF HOT SPOTS AT VARIOUS VULNERABLE LOCATIONS OF THE ENTIRE SOLAR PLANT

The Contractor i.e. SPD shall submit Complete details (i.e Tools & Equipments to be used along with the Methodology to be adopted clearly specifying the pass/fail criteria and also the periodicity) to Identify the Hot Spots at various vulnerable locations of the entire Solar System, like PV Modules, MC4 connectors, Junction Boxes, Inverters and ACDBs etc. during the design stage for GMRC's Approval. The above activity related to Identification of Hot Spots, be also incorporated in the Maintenance schedules/checklist.

PENALTY FOR FIRE INCIDENTENCES

- a) The successful contractor shall be responsible for the Safe and Reliable Operation of the Solar Power Plant for the whole O&M period of 25 years. If there is a Fire incidence initiated through Solar Power Plant installed at site, then, a Penalty of Rs. 50,000/- (Rupees Fifty Thousand Only) along with the Recovery of Cost of damages to GMRC's property / assets due to fire incidences shall be imposed / recovered from the Solar Power Developer (SPD).
- b) If any subsequent Fire incidence occurs, then a Penalty amount of Rs. 1,00,000/- (Rupees One Lakh Only) along with the Recovery Cost of damages to GMRC's property / assets for each fire incidences shall be imposed / recovered from the Solar Power Developer (SPD).
- c) The above Penalty Amounts along with Recovery of the cost of damages to GMRC's property / assets due to fire incidences shall be deducted / recovered from the Payments due to the SPD against the subsequent Monthly Solar Energy Bill and if the balance amount (if any) still remains to be recovered by GMRC, then such balance amount shall be deposited / paid by the SPD to GMRC within a period of 90 days from the date of conveying the amount of Penalty / Recovery for Cost of Damages by GMRC to SPD.

VII TESTING PROCEDURE

Mandatory check before and after connecting the SPV system with DISCOM Network and steps for maintenance of network where such connectivity exists.

MANDATORY SAFETY PRECAUTIONS/FEATURES

The following are mandatory safety precautions which will be taken care before and after commissioning of grid connected Solar PV system.

- i) An inbuilt Inverter relay which trips on Discom / Metro supply failure and thus prevents any solar power injection to the Discom / Metro Network when there is no power from Discom / Metro. The anti-islanding protection shall be tested by GMRC/ Engineer and the EPC Contractor during the release of connection.

- ii) The Solar PV system should be separately grounded / earthed. A minimum of two Separate dedicated and interconnected earth electrodes must be used for the Earthing of the PV system support structure, with a total earth resistance not exceeding 1 ohms. There must be at least three different earth pits, with minimum distance of 3 meters between any two, for each PV system; one for DC side (panels and structure), second for AC side (also called as neutral earthing) and lightning arrestor earthing. Additionally inverter body must be earthed as per instructions from inverter manufacturer.
- iii) A properly designed Lightning Protection System (including arrestors as necessary) also must be provided for SPV.
- iv) Manual isolator switch, at an easily accessible location with locking facility, shall be provided between inverter AC output and grid interconnection.
- v) Caution Stickers shall be used with the green background and the text “Solar PV Systems” written in white letters. The size of these stickers shall be 10 CM (width) x 7 CM (height) with the text clearly printed in the center of the sticker.
- vi) All SPV systems should have a mandatory sign board fitted near the existing meter reading terminal stating that ‘This service is fitted with a LT grid connected SPV plant’. The Solar PV system Caution Stickers shall be fixed under the supervision of GMRC/ Engineer and the Solar Power Developer in the following locations.
 - a. On or near to meter of service with grid connected solar PV system;
 - b. On The Consumer main switch, of a service connected with a grid connected Solar PV System;
 - c. On substation end of HT feeder having Solar PV System.
 - d. A List of service connected with grid connected Solar PV Systems shall be available at the GMRC/ Engineer’s office.
 - e. A record may be maintained at the GMRC/ Engineer’s Office and with the each SPV plant’s commissioning date and other details.
 - f. The SPV connected details of pole / pillar box /DT/ SS feeder end wise may be maintained at GMRC/ Engineer’s office.
- vii) During planned / forced maintenance work on Discom network, before taking up the work in hand, besides ensuring all other provisions such as line earthing, de- energizing the line section where the work is to carried out as per prevailing norms, it should also be ensured that supply from such small solar roof-top PV power plants are not back-feeding and supply should also be disconnected by manual isolating switch with locking facility installed in the premises of such consumers and ensuring proper earthing.

The Contractor shall compliance the below mentioned check list before release of connection.

- i) Component Inspection Checklist :

S N	Item Type
1	Installation Layout as per approved drawing
2	Inverter IS/ IEC standards qualified
3	PV panel IS / IES standards qualified
4	PV isolators / PV cables IS / IES standards qualified
5	Ac disconnect manual switch provided with locking arrangement
6	Meters approved by MT staff? (as per meter regulations)
7	Any other critical component IS/ IES standards certified

ii) Grid connected Functional Safety Checklist :

S N	Item Type
1	Check whether solar generation stops automatically when DISCOM
2	Bi-directional flow recorded on DISCOM meter
3	Consumption (Import) only mode ok?
4	Solar Generation meter Ok?
5	Check all Earthing points as per standard
6	Solar and Bi-directional meter tested & sealed by DISCOM meter testing lab
7	Check whether manual Isolating switch is installed at accessible location with locking arrangement
8	Check whether manual Isolating switch stops feeding supply in

8.1 System operations

8.1.1 The EPC Contractor will be responsible for operation and maintenance of the project ensuring the generation and sale of power. It will be bearing all costs and expenses for the operation and maintenance of the same.

A. MAINTENANCE REQUIREMENTS

8.1.2 The EPC Contractor will also undertake cleaning of the solar systems at regular intervals.

8.1.3 The EPC Contractor shall give undertaking that for the plant period of 5 years all the power packs covered under this project will be operated, maintained and repaired whenever necessary so that all Units are operative and export maximum possible energy to the grid. This shall be ensured through undertaking services that include, but are not limited to, the following

- i) Daily monitoring of plant performance.
- ii) Supply of all technical, production/operation data and information through a monthly report.
- iii) Planned visits on a monthly, quarterly, and annual basis for preventative and corrective maintenance which include, but are not limited to the following:
 - a. Clean solar panels on weekly basis or as appropriate to get maximum output from the panels.
 - b. Check inverter cabinets (ventilation openings, lighting, leakages in inverter cabinets and cleaning of filters) and inverter maintenance. Solar Power Developer will keep the necessary spares at the Project Site.
 - c. Check security and fire protection system.
 - d. Check parts for corrosion.
 - e. Check the state of tightness of connections, fuses, main junction boxes, etc.
 - f. Adequate spares to ensure uninterrupted operation and minimum downtime during the entire period.
 - g. Comprehensive operation and maintenance of the Facility up to the energy meter shall be the responsibility of the EPC Contractor.

- h. Comprehensive Operation and Maintenance during entire life of the systems shall include supply of spares, consumables, machine breakdown insurance, transpiration, and general comprehensive insurance covering fire, earthquake and provision of security personnel with the insurance policy which shall be taken in the GMRC's name as the primary beneficiary. Copies of the Insurance Policies are to be given to the concerned department, as and when taken/renewed. All risks associated with lapses or delays in insurance coverage, during the construction period, shall be at the EPC Contractor's cost.

8.1.4 The EPC Contractor shall ensure efficient operation of the Project and the associated facilities to achieve the maximum power generation from the Project. For this purpose the EPC Contractor shall engage the services of adequate number of Engineers and Technicians. The EPC Contractor shall also attend to all failures, rectifications, breakdown, comprehensive Operation and Maintenance checks. Daily Management Information System (MIS) reports with generation and down time analysis data shall be made available to GMRC office by E-mail.

8.2 Maintenance Manual

8.2.1 With Scheduled Completion Date, the EPC Contractor shall, in consultation with the GMRC/ Engineer, evolve a repair and maintenance manual (the "Maintenance Manual") for the regular and preventive maintenance of the Solar Rooftop Power System in conformity with the Specifications and Standards, Maintenance Requirements, Safety Requirements and Good Industry Practice, and shall provide 3 (three) copies thereof to GMRC/ Engineer. The Maintenance Manual shall be revised and updated once before hand over the system to GMRC/ Engineer.

8.2.2 Without prejudice to the provision of Clause 8.2.1, the Maintenance Manual shall, in particular, include provisions for maintenance of Project Assets and shall provide for life cycle maintenance, routine maintenance and reactive maintenance which may be reasonably necessary for maintenance and repair of the Project Assets, including replacement thereof, such that its overall condition conforms to Good Industry Practice.

8.3 Safety, breakdowns and accidents

- 8.3.1 The EPC Contractor shall ensure safe conditions for the operation of Solar Rooftop Power System and in the event of unsafe conditions, damage, breakdowns and accidents, it shall follow the relevant operating procedures and undertake removal of obstruction and debris without delay. Such procedures shall conform to the provisions of this RFP, Applicable Laws, Applicable Permits and Good Industry Practice.

8.4 Safety Requirements

- 8.4.1 The EPC Contractor will take all necessary and reasonable safety precautions with respect to providing the Installation Work, Solar Power, and System Operations that will comply with all Applicable Laws pertaining to the health and safety of persons and real and personal property.
- 8.4.2 The EPC Contractor 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.
- 8.4.3 Project Management shall include adherence to all requisite safety practices.
- 8.4.4 Security, safety, watch, and ward of all materials at sites shall be the responsibility of the EPC Contractor.
- 8.4.5 Contractor Safety Management to be strictly complied with by the EPC Contractor throughout Project activity.
- 8.4.6 The EPC Contractor shall comply with the provisions of this RFP, Applicable Laws and Applicable Permits and conform to Good Industry Practice for securing the safety of the Solar Rooftop Power System. In particular, the EPC Contractor shall develop, implement and administer a surveillance and safety programme for providing a safe environment on or about the Solar Rooftop Power System, and shall comply with the “Safety Requirements”.
- 8.4.7 The Parties hereby agree that the GMRC’s Electrical Engineer shall carry out safety audit of the Solar Rooftop Power System in accordance with the Safety Requirements at least once a quarter. The EPC Contractor shall, no later than 7 (seven) days after the close of each quarter, furnish to GMRC a copy of the safety

certification issued by the Safety Consultant. All costs and expenses to be incurred for facilitating the safety audit shall be solely borne by the EPC Contractor.

8.5 Inspection

- 8.5.1 The GMRC's Electrical Engineer shall inspect the Solar Rooftop System at least once a month. It shall make a report of such inspection (the "O&M Inspection Report") stating in reasonable detail the defects or deficiencies, if any, with particular reference to the Maintenance Requirements, Maintenance Manual, the Maintenance Programme and Safety Requirements, and send a copy thereof to GMRC and the EPC Contractor within 7 (seven) days of such inspection.

Appendix 1: Format for Covering Letter

To,

The GM (Contract);

Gujarat Metro Rail Corporation (GMRC) Limited

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Sub: Submission of the RFP Document No. GMRC/SYSTEM/RFTP-03/PH-II/2024

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 Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd on turnkey basis; in the State of Gujarat. The Successful Bidder shall be required to ensure the continuous running of plant without any interruption during entire O&M period. All the above shall be as per RFP Document No. GMRC/SYSTEM/RFTP-03/PH-II/2024, dated 22-06-2024.

Also we have familiarized ourselves with the, land surface and subsurface, metrological, climatological 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 Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on

rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd Ltd, Ahmedabad; 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 180 (Hundred fifty) days from the date of LOA. This shall be the essence of the Contract between us.

We further agree and stipulate as follows:

1. 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.
2. That the Company will not supply any material. In all respects we shall be fully self-sufficient in the performance of the work.
3. I/ We understand that you are not bound to accept the lowest of the Bid you may receive.
4. I/ We shall make available to the Company any additional information it may find necessary or require to supplement or authenticate the qualification statement.
5. 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.
6. 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.
7. 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.
8. 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.

9. 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.
10. We understand that the selected Bidder shall either be an existing Company incorporated under the Indian Companies Act, 1956 or Companies Act 2013.
11. 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.
12. I/ We agree and undertake to abide by all the terms and conditions of the RFP document.
13. We agree to keep the bidding valid for acceptance for a period of 180 (One hundred eighty) days from the date of opening of the Technical Bid (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.
14. We also undertake not to vary/modify the Bid during the validity period or any extension thereof.
15. 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.
16. 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.
17. 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.
18. 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.

19. 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.
20. 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 _____ 2024

Signature: _____

In the capacity of: _____

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

Witness

Appendix 2: Details of Bidder

1. (a) Name:
(b) Country of incorporation:
(c) Address of the corporate headquarters and its branch office(s), if any, in India:
(d) Date of incorporation and/ or commencement of business:
(e) GST No.
(f) Pan No.
2. Brief description of company including details of its main lines of business and proposed role and responsibilities in this Project:
3. Details of individual(s) who will serve as the point of contact/ communication for company:
(a) Name:
(b) Designation:
(c) Company:
(d) Address:
(e) Telephone Number:
(f) E-Mail Address:
(g) Fax Number:
4. Particulars of the Authorised Signatory of the Bidder:
(a) Name:
(b) Designation:
(c) Address:
(d) Phone Number:
(e) E-Mail Address:
(f) Fax Number:
5. In case of a Joint Venture (JV) or support from parent company
(a) The information above (1-4) should be provided for all the Members of the Joint Venture (JV) or support from parent company.

- (b) Information regarding the role of each Member should be provided as per table below:

Sr. No.	Name of Member	Role	% of equity in the JV or Parent Company
------------	----------------	------	--

Appendix 3: Format of Details of Similar Technical Experience

INSTRUCTIONS:

- A. The Bidder shall indicate similar EPC experience of grid-connected solar photovoltaic projects herein.
- B. The Bidder shall duly attach the Letter of Award (LOA) from the Client, Commissioning Certificate, and Certificate of Satisfactory Completion of Work from the Client.
- C. Projects without sufficient documentary evidence of execution, commissioning and completion as per the discretion of GMRC shall not be considered towards technical evaluation of the Bidder.
- D. The Bidder may indicate more than five (5) projects.

Sr.	Name of Client (with name and contact information of Contact Person)	PV Project AC/ DC Capacity (in KW)	Work Order No. & Date	Commissioning Certificate (Date)
1.				
2.				
3.				
4.				
5.				

Appendix 4: Format of Disclosure of PV Technology

PV MODULE		
Type	:	Select One: <input type="checkbox"/> Poly-crystalline Silicon <input type="checkbox"/> Mono-crystalline Silicon <input type="checkbox"/> Other variant of the above. Please specify
Manufacturer	:	
Model Number	:	
Module Capacity	: W
No. of Cells per Module	:	
No. of Modules	:	
PV INVERTER		
Type	:	
Manufacturer	:	
Model Number	:	
Inverter Capacity	: kW
Number of Inverters	:	

Note:

1. Above Appendix to be filled for 5 MW capacity
2. Bidders to note that, this Annexure is for bidding purpose only. Separate approval for makes of Modules, Inverters and other critical items to be obtained after award of the contract from the Engineer. Moreover, proposed makes of Modules, Inverters & other critical items should be proven and in service.
3. We hereby undertake that the warranty Certificate against clause no. 5.4.1 v) a.i of scope of work shall be submitted during vendor approval stage/supply stage.

Appendix 5: Format for Project Execution Plan

I. Division of Scope of Work

Discipline/ Equipment	Basic Engineering	Design/ Detailed Engineering	Procurement	Supply	Project Management	Construction/ Fabrication/ Installation	Commissioning

NOTES:

- i) Bidder shall clearly indicate the agency which will carry out each activity and the location of activity.
- ii) In case any activity is proposed with back-up consultant, Bidder shall clearly indicate role of back-up consultant
- iii) Bidder to identify major equipment / items and discipline

II. DETAILED PROJECT SCHEDULE

Sr.	Activity	Start Date	End Date
1.	Issue of LoA	Zero Date	
2.			
3.			

NOTES:

1. The Bidder shall ensure that the entire work is completed within 180 days of issue of LoA.
2. All Start Dates and End Dates to be indicated with respect to the Zero Date.
3. The Bidder may use as many lines as required to satisfactorily provide the detailed project schedule.

SIGNATURE OF BIDDER

NAME

DESIGNATION

SEAL DATE

Appendix 6: Evaluated Bid Value (EBV)

The Evaluated Bid Value (EBV) shall be calculated using the following parameters:

Parameters Quoted by the Bidder:

- i. Quoted EPC Contract Price,
- ii. Quoted Annual Net Electrical Energy Generation Guarantee (NEEGG) at the metering point of the Plant for each year during the O&M period (as specified in the NIT of this Tender),
- iii. Quoted O&M Contract Price for each year during the O&M period (as specified in the NIT of this Tender),

Parameters assumed constant for evaluation of each Bidder:

- iv. Discount Factor of 9.08% annually.

The Evaluated Bid Value (EBV) shall be calculated using the abovementioned parameters as follows:

Step 1		:	Quoted EPC Contract Price at the zero th (0 th) year
Step 2		:	Net Present Value (NPV) of 5 years of O&M Cost quoted by the Bidder
Step 3	ADD	:	Summation of EPC Contract Price and NPV of O&M for 5 years
Step 4		:	Summation of quoted NEEGG for 5 years
Step 5	DIVIDE	:	(Sum of EPC Contract Price and NPV of each year O&M Contract Price for 5 years) by (Summation of quoted NEEGG for 5 years) i.e. (Step3/Step4)

The Evaluated Bid Value (EBV) shall be the Net Present Value (NPV) as calculated above.

Evaluated Bid Value (EBV) =

$$\frac{[(\text{EPC Contract Price}) + (\text{NPV of each year O\&M Contract Price of 5 years})]}{\sum \text{NEEGG}}$$

The Bidder with the lowest EBV in Rs./ kwh shall be the Successful Bidder.

Example:

The following example will further clarify the methodology of comparison:

Note: Figures quoted by Bidder are in Box.

For Metro station -1

Figures Quoted by Bidder 1					Derived/ Evaluated Figures	
EPC Price	:	Rs.	1.66	Crores		
Year			NEEGG	O&M Cost including GST		
			(in kWh)	(Rs.)		
0			NA	NA		
1			6,65,760	1,41,600	NPV of each year O&M Contract Price of 5 Years for the Project (in Rs.)	Rs. 6.57 Lacs
2			6,59,102	1,48,680		
3			6,52,511	1,56,114		
4			6,45,986	1,63,920		
5			6,39,526	1,72,116		
Total			32,65,885	7,82,430	EBV (in Rs/ kWh)	5.28

For Metro station -2

Figures Quoted by Bidder 2					Derived/ Evaluated Figures	
EPC Price	:	Rs.	1.70	Crores		
Year			NEEGG	O&M Cost including GST		
			(in kWh)	(Rs.)		
0			NA	NA		
1			6,65,760	1,44,432	NPV of each year O&M Contract Price of 5 Years for the Project (in Rs.)	Rs. 6.70 Lacs
2			6,59,102	1,51,654		
3			6,52,511	1,59,236		
4			6,45,986	1,67,198		

5			6,39,526	1,75,558		
Total			32,65,885	7,98,078	EBV (in Rs/ kWh)	5.29

Result:

EBV of Bidder 1 = Rs/kWh 5.28

EBV of Bidder 2 = Rs/kWh 5.29

- EBV in Rs/kWh of Bidder 1 is Rs. 5.28 per kWh.
- EBV in Rs/kWh of Bidder 2 is Rs 5.29 per kWh.
- EBV of Bidder 1 is lower than Bidder 2.

Bidder with lower EBV in Rs./kWh shall be L-1 and Bidder with higher EBV will be L-2. Hence, in the above Bidder 1 would be preferred as the Successful Bidder (L-1) compared to Bidder 2.

Note:

1. The Above figures are for example purposes only.
2. The Rate for Comprehensive O&M including all taxes for subsequent year shall not be more than 5% of the previous year. E.g. The Rate for Comprehensive O&M including all taxes of 3rd Year shall not be more than 5% of the 2nd Year.
3. No variation due to change in forex rate shall be admissible.
4. Payment shall be made in Indian National Rupees (INR) only. Bidder(s) has to quote their rate in INR only.
5. 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.
6. Bidders are advised to refer clause 3.14.4 before quoting the value of NEEGG. Bidders to quote NEEGG, for #15 Metro stations , minimum @ 18% CUF for the first year and less than 18% shall be summarily rejected.

Appendix 7: NON- BLACKLISTING DECLARATION

(UNDERTAKING IN REGARD TO STOP DEAL / BLACK LIST THEREOF)

Sub: Undertaking in regard to Stop Deal / Black List thereof.

RFP No.: GMRC/SYSTEM/RFTP-03/PH-II/2024

I / We _____

authorized signatory of M/s _____ here

by certify that M/S _____ is not stop

deal / black listed by GUVNL and or their any subsidiary company viz. GETCO / DGVCL / MGVCCL / UGVCL / PGVCL/ TORRENT/ GEDA for the tendered item.

Date:

Note: Bidders has to reproduce above declaration in the text box area with filling of all blanks.

Appendix 8: Details of Qualified Technical Staff

<i>Sr. No.</i>	<i>Name</i>	<i>Relevant Qualification</i>	<i>Additional Certifications</i>	<i>Total Years of Relevant Experience</i>	<i>Remarks</i>
1.					
2.					
3.					
4.					
5.					
6.					

Note:

Kindly submit copies of resumes and appropriate certifications with this sheet.

Additional sheets may be used to provide accurate information.

Appendix 9: Declaration of Compliance

Date:

To,

The GM (Contract);

Gujarat Metro Rail Corporation (GMRC) Limited

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Sub: Declaration of Compliance for the Bid for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd.; in the State of Gujarat on EPC basis.

Dear Sir,

This is to certify that I, _____, am the duly authorized signatory appointed on behalf of my organization to submit this Bid. The authorization letter is attached herewith.

I agree to all the terms and conditions set forth in this RFP Document.

If awarded the job, the job work shall also conform to the terms and conditions, as well as specifications indicated in the RFP documents and as finally indicated by the Evaluation Committee.

I further certify that all the information provided in this document is accurate to the best of my knowledge.

Signature: _____ Designation: _____

Name: _____ Organization: _____

Address: _____ Phone: _____

Email: _____

Appendix 10: No Deviation Certificate

Date:

To

The GM (Contract);

Gujarat Metro Rail Corporation (GMRC) Limited

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Sub: No Deviation Certificate regarding Bid for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Cirlee, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd.; in the State of Gujarat on EPC basis.

Dear Sir,

We, _____ (Bidder's name), confirm our acceptance to all terms and conditions mentioned in the RFP Document, and all subsequent clarifications, in totality and withdraw all deviations raised by us, if any.

SEAL AND SIGNATURE OF BIDDER

Date: _____

Appendix 11: Declaration on Bidder's relation to Directors

Date:

To,

The GM (Contract);

Gujarat Metro Rail Corporation (GMRC) Limited

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Sub: Declaration of relationship with Directors/any other employee/associates.

Dear Sir,

This has reference to our proposed Contract regarding Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd.; in the State of Gujarat to be entered into Agreement with Gujarat Metro Rail Corporation (GMRC) Limited.

For the purpose of Section 297/299 of the Companies Act, 1956 we certify that to the best of my/our knowledge;

- i) I am not a relative of any Director of GMRC;
- ii) We are not a firm in which a Director of GMRC or its relative is a partner;
- iii) I am not a partner in a firm in which a Director of GMRC, or its relative is a partner;
- iv) We are not a private company in which a Director of GMRC is a member or director;
- v) We are not a company in which Directors of GMRC hold more than 2% of the paid-up share capital of our company or vice-versa.

Authorised Signatory of the Contracting Party

Place:

Date:

Appendix 12: Format of Power of Attorney as Authorized Signatory

(On a non-judicial stamp paper of appropriate value)

Know all men by these presents, We, (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorise Mr. / Ms (Name), son/daughter/wife of and presently residing at, who is presently employed with us and holding the position of, as our true and lawful attorney (hereinafter referred to as the “Attorney”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Bid for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Cirlce, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd.;

in the State of Gujarat, pursuant to the RFP document no. _____ issued by

Gujarat Metro Rail Corporation (GMRC) Limited. (“GMRC”),including but not limited to signing and submission of all applications, Bids and other documents and writings, participate in Bidders’ and other conferences and providing information / responses to the Company, representing us in all matters before the Company, signing and execution of all contracts including the Contract Agreement and undertakings consequent to acceptance of our Bid, and generally dealing with the Company in all matters in connection with or relating to or arising out of our Bid for the said Project and/or upon award thereof to us and/or till the entering into of the Contract Agreement with GMRC.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE,, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF, 20.....

For.....

(Signature, name, designation and address)

Witnesses:

- 1.
- 2.

Accepted Notarised

(Signature, name, designation and address of the Attorney)

Notes:

1. *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.*
2. *Wherever required, the Bidder should submit for verification the extract of the charter documents and documents such as a board or shareholders resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.*

3. *For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention, 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Apostile certificate.*
4. *This format for Power of Attorney is for reference and in case a Bidder has a different format approved by their management then the same can submitted.*

Appendix 17: Submission of Bank Guarantee / EMD / Tender Security

- The Tenderer shall submit with his Tender a Tender Security for the sum mentioned in NIT in any one of the following forms.
 - a. Irrevocable bank guarantee issued by a Scheduled Commercial bank based in India or from a branch in India of a scheduled foreign bank in the form given in Appendix – 18A.
 - b. Demand Draft / Pay Order / Bank Draft in favour of “Gujarat Metro Rail Corporation (GMRC) Ltd” payable at Gandhinagar/Ahmedabad from a Scheduled Commercial bank based in India,
 - c. Fixed Deposit Receipt (FDR) of a Scheduled Commercial bank / Post office based in India duly pledged in favour of “Gujarat Metro Rail Corporation (GMRC) Ltd”.

- The Bank Guarantee submitted should have the clear one time validity in all respect and up to the completion period. If by any reason the Contract Period is extended, the Bidder shall undertake to renew the Bank Guarantee at least one month before the expiry of the validity failing which GMRC will be at liberty to encash the same.

Appendix 13: Format of Summary of Audited Financial Statements

To

The GM (Contract);

Gujarat Metro Rail Corporation (GMRC) Limited (SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan, Sector 10/A, Gandhinagar: 382010, Gujarat, India

Sub: Summary of Financial Statement

Ref: *Request for Proposal for Bid for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Cirlee, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd.*

Dear Sir,

This is to certify that [Insert name of Bidder] (the “Bidder”) having its Registered Office at [Insert Registered Address of the Bidder] with PAN No. [Insert PAN No. of the Bidder] and GST No. is in the business of..... [Insert briefly the nature of the business], has recorded the following turnovers and net worth:

Financial Year	Turnover (in INR)	Liquidity (in INR)	Net Worth (in INR)	For Official Use Only Audited Statement Attached?
2018-19				Yes / No
2019-20				Yes / No
2020-21				Yes / No
2021-22				Yes / No

2022-23				Yes / No
Name of Chartered Accountant (CA)				

Seal & Signature of CA	
Membership No. of CA	
Unique Document Identification (UDI) Number of CA	

All figures indicated herein are arrived from the Audit Reports of the Bidder duly submitted to the Income Tax Department.

Sincerely yours,

.....

[Official seal of the Chartered Accountant]

[Insert Name of the Chartered Accountant]

Date: [Insert Date]

[Insert address and contact information of the Chartered Accountant]

Place: [Insert Place]

All figures indicated herein are calculated as per the guidelines mentioned in the Tender.

NOTES:

- A. If the Bidder is seeking financial qualification based on the financial standing of the Parent Company, then a similar certificate summarizing the financial statement of the Parent Company shall be attached by the Bidder as a part of the Bid.
- B. All audited statements to be attached by the Bidder as a part of the Bid.
- C. Financial data for latest last three audited financial years has to be submitted by the tenderer in Appendix-13 along with audited balance sheets. The financial data in the prescribed format shall be certified by Chartered Accountant with his stamp and signature in original. In case audited balance sheet of the last financial year is not made available by the bidder, he has to submit an affidavit certifying that 'the balance sheet has actually not been audited so far' in Appendix- 13A. In such a case the financial data of previous '2' audited financial years will be taken into consideration for evaluation. If audited balance sheet of any year is not submitted, the tender may be considered as non-responsive.

Appendix- 13A

(Affidavit for Unaudited Balance Sheet as per Note of Clause(d) of Section-III)

(On a non-judicial stamp paper of appropriate value)

(To be filled by the bidder* in case their Balance Sheet for F.Y. 2022-2023 has not been audited. If the Balance sheet for F.Y. 2022-23 has been audited then the bidder need not to fill this form or may simply write "NOT APPLICABLE")

I,..... (Name and designation of
Authorised signatory)
of.....(Name of
Company/ Firm/Proprietorship/Partnership) hereby confirm that the Balance sheet for
Financial year i.e. F.Y.
2022-23 has actually not been audited/ or under finalization so far.

Signature of authorized signatory on behalf of Tenderer

* In case the bidder is a Joint Venture/Consortium, each individual member has to submit this affidavit.

Appendix 14: Format of Authorization by Parent Company

[On the Official Letterhead of the Parent Company]

[Reference No.]

From: [Name of Parent Company]

[Address of Parent Company]

[Date]

To

The GM - Contract;

Gujarat Metro Rail Corporation (GMRC) Limited (SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Sub: Authorization of use of financial capability by Parent Company

Ref: *Request for Proposal for Bid for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Cirlce, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd...*

Dear Sir,

A. With reference to RFP No....., we confirm that we hold [Insert percentage of share held in words] percent ([Insert percentage of share held in figures] %) share in M/s. [Insert Name of the Bidder].

- B. We confirm that M/s. [Insert Name of the Bidder] is authorized by us to use our financial capability for meeting the financial criteria as specified in the Tender, meeting all the provisions including but not limited to terms and conditions of the Tender and undertaking the Scope of Work as defined in the Tender.
- C. We further confirm that we shall by jointly and severely be held responsible for the performance of M/s. [Insert Name of the Bidder] as per the various provisions including but not limited to the terms and conditions in undertaking the Scope of Work as defined in the Tender.
- D. Our financial summary is attached as a part of the Bid submitted by [Insert Name of the Bidder] as per the appropriate format indicated in the Tender.

For and on behalf of [Insert Name of Parent Company]

[Signature and Stamp of any Whole-Time Director]

Name: [Insert name of the Whole-Time Director]

Place: [Insert Place]

Date: [Insert Date]

[NOTE:

- A. The Authorization of use of financial capability by Parent Company shall be supported by a specific Board Resolution of the Parent Company satisfactorily conveying the same.]

Appendix 15: Format of Financial Proposal

To

The GM (Contract);

Gujarat Metro Rail Corporation (GMRC) Limited (SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Sub: Financial Proposal for Bid for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd.

Dear Sir,

I, _____
, present the Financial Proposal for the “ Bid for Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd. on EPC basis through the Tender Document No. “GMRC/SYSTEM/RFTP-03/PH-II/2024” 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, Construction, Comprehensive Operation and Maintenance of “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 Clause no. 7.13 Taxes and duties of Tender Document. Under no circumstances shall escalation in the prices of this Tender Document shall be entertained.
- iv. The details quoted herein stand valid for at least six months from the date of opening of the Price Bid.
- v. The Bidder may note that the financial proposal to be filled on N Procurement portal only.

Note

1. Bidders to quote NEEGG, for #15 Metro stations , minimum @ 18% CUF for the first year and less than 18% shall be summarily rejected

SCHEDULE OF PRICE

All Schedules of Prices to be submitted on N Procurement Portal only

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

**Table 15.A: SCHEDULE OF PRICE –A: Total Price Quote for Supply for 15 Metro stations
(BREAK-UP OF PRICE FOR SUPPLY OF EQUIPMENTS)**

Sr. No.	Item	Price for #15 Metro stations (Without taxes & duties)	Freight & Transportation	Custom Duties (if applicable)	Other Taxes & Duties (if applicable)	Good and Services Tax (if applicable)	Total Cost for #15 Metro stations Project
		(A)	(B)	(C)	(D)	(E)	(F) = (A+B+C+D+E)
		(In Rs.)	(In Rs.)	(In Rs.)	(In Rs.)	(In Rs.)	(In Rs.)
1	Supply of PV Modules (For #15 Metro stations)						
2	Supply of Inverters (For #15 Metro stations)						
3	Supply of Module Mounting Structure & its accessories (For #15 Metro stations)						

4	Supply of Balance of System includes all equipments, materials, spares, accessories, Weather Monitoring System, Civil works etc. excluding 1, 2 & 3 above (For #15 Metro stations)						
5	Total (Rs.) 5 = (1+2+3+4)						
6	“Supply Price” quoted by the Bidder [in Words as per column (5F)] Loading						

Table 15.A: SCHEDULE OF PRICE –B: Total Price Quote for Work for 15 Metro stations

(BREAK-UP OF COST FOR CONSTRUCTION, ERECTION, TESTING, COMMISSIONING & COD with GEDA)

Sr. No.	Items	Price for (For #15 Metro stations) (without taxes & duties)	GST	Other taxes & duties (if any)	Final Price For #15 Metro stations
		(A)	(B)	(C)	(D) = (A+B+C)
		(In Rs.)	(In Rs.)	(In Rs.)	(In Rs.)
1	General work including Construction, erection, testing, commissioning COD with GMRC/GEDA etc. of entire plant as per details specified in the Tender documents, on EPC Basis. (For #15 Metro stations)				
2	“Works Price” quoted by the Bidder: (in Words) (=TOTAL Final Price as per Column (1D))				

Note:

1. EPC cost (supply + work) with taxes and duties shall be considered for evaluation of bid.
2. Bidders are advised to quote for 5 MW indicative capacity for #15 Metro stations for Solar rooftop plant.
3. In case of any reduction in capacity of solar rooftop power plant due to site constraint, payment will be made on prorata basis for the actual installed capacity of the solar rooftop power plant.
4. No variation due to change in forex rate shall be admissible.
5. Payment shall be made in Indian National Rupees (INR) only. Bidder(s) has to quote their rate in INR only.
6. 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.

Table 15.B: Price Quote for O&M Contract for 15 Metro stations
(BREAK-UP OF COST FOR O & M AND NEEGG)

Sr. No.	Head	Annual Rate for Comprehensive O&M (each year “O&M Contract Price”) (A)	Taxes & Duties (B)	O&M charges including taxes (C)=(A+B)	NEEGG (D)	Discounting Factor for NPV @ 9.08% (E)	NPV of O&M Charges (F = C×E)
		(In Rs.)	(In Rs.)	(In Rs.)	(kWh)		(In kWh)
1.	Operation and Maintenance of the Project for 1st Year. (For #15 Metro stations)					1	
2.	Operation and Maintenance of the Project for 2nd Year. (For #15 Metro stations)					0.92	

3.	Operation and Maintenance of the Project for 3rd Year. (For #15 Metro stations)					0.84	
4.	Operation and Maintenance of the Project for 4th Year. (For #15 Metro stations)					0.77	
5.	Operation and Maintenance of the Project for 5th Year. (For #15 Metro stations)					0.71	
6.	Total (in Figure) in Rs.						
7.	TOTAL Rate for Comprehensive O&M including all taxes “ Total O&M Contract Price” (In Words) As per Column 6 C						
8	Total NEEGG (in Word) – As Per Column 6 D						

Signature: _____ Designation: _____

Name: _____

Address: _____

_____ Seal of Company / Organization:

_____ Phone: _____

Email: _____

Note:

- 1. The Rate for Comprehensive O&M including all taxes for subsequent year shall not be more than 5% of the previous year. E.g. The Rate for Comprehensive O&M including all taxes of 3rd Year shall not be more than 5% of the 2nd Year.
- 2. No variation due to change in forex rate shall be admissible.
- 3. Payment shall be made in Indian National Rupees (INR) only. Bidder(s) has to quote their rate in INR only.
- 4. 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.
- 5. Bidders are advised to refer clause 3.14.4 before quoting the value of NEEGG. Bidders to quote NEEGG, for #15 Metro stations minimum @ 18% CUF for the first year. and less than 18% shall be summarily rejected.

Appendix 16 A: Procedure for Performance Testing

Part A: Solar PV power plant Net power generation

1. The Contractor shall quote the ‘Net Electrical Energy Generation Guarantee’ for annual basis considering the Reference Global Average Radiation indicated in this Tender for each zone for all 15 nos of metro stations.
2. The Contractor shall demonstrate “Actual Delivered Energy” at metering point as compared to the ‘Base NEEGG’ for every year from the date of starting of O&M Period for all 15 nos of metro stations
3. The quoted NEEGG as in Table no. 15 B in Appendix 15 for any year shall be permitted with maximum 1 % degradation factor from previous year generation for all 15 nos of metro stations
4. The quoted NEEGG will be used for the calculating CUF.
5. The Bidder shall clearly mention the technology used i.e. fixed/tilt or seasonal tracker (please specify) as per Table given in Appendix 6.

Operational Acceptance Test Procedure

Performance Ratio (PR) - Test Procedure

1. Performance Ratio as determined through the PR Test (Temperature corrected) Procedure specified here should not be less than **83%** for all 15 nos of metro stations.
2. The Performance Ratio Test to prove the guaranteed performance parameters of the power plant shall be conducted at site by the Contractor in presence of the Company. The Contractor's Engineer shall make the plant ready to conduct such tests. The PR Test shall be commenced, after successful Commissioning. 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 the GMRC/ Engineer.
3. The test will consist of guaranteeing the correct operation of the plant at the time of commissioning 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.

4. The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning as per the GHI levels of the location for 15 nos. of station.
5. PR shall be demonstrated against the installed AC Capacity for 15 nos. of station.
6. The Performance Ratio (PR) of the SPV System shall be calculated as follows (according to IEC 61724-2nd Edition)

$$\text{PR}_{tc} (\text{Temperature corrected}) = (\text{P}_{out} / \text{P}_{in}) / (1 + \gamma (\text{T}_{mod} - \text{T}_{ref}))$$

Where,

1. PR Temperature Corrected Performance Ratio
2. P_{out} Cumulative AC power measured at the plant end ABT meter
3. P_{in} = Plant capacity (in kWp) x Instantaneous irradiance (kW/m²)
4. T_{mod} : PV Module temperature measured at the commencement of time (°C)
5. T_{ref} : PV Module temperature at which P_o is determined, i.e. 25°C P_o Installed nominal peak power of PV modules, i.e. Nameplate rating at STC (kWp)
6. γ Temperature coefficient of power with negative sign (°C⁻¹)

Monitoring System for PR Verification

The following instrumentation will be used to determine the Solar Plant Performance:

- Power Meter at the delivery point.
- Power Meter for each inverter for reference only.
- One nos. calibrated pyranometer to determine irradiance on the plane of array (with a target measurement uncertainty of ± 2).
- One nos. calibrated pyranometer to determine irradiance on horizontal plane (with a target measurement uncertainty of ± 2)
- Two nos. thermocouples to measure module temperature with a measurement uncertainty of ± 1 °C.
- Shielded ventilated thermocouple with a measurement accuracy of ± 1 °C.
- An anemometer mounted on a 10m mast to measure wind speed (without additional shadowing on modules).
- Data measurement shall be witnessed in the format mutually agreed before the start of PR test by the employer and the contractor jointly for the said period.
- The Contractor shall show the specified PR for Operational Acceptance.

Appendix 16 B: Procedure for Performance Guarantee Test during O&M Periods

The procedure for Performance Guarantee in terms of generations of electricity shall be as follows:

1. A weather station with a calibrated pyranometer shall be installed by the Contractor at the location mutually agreed by the Contractor and GMRC/ Engineer. The test report for the calibration shall be submitted by the Contractor for approval by GMRC/ Engineer. The calibration should be traceable to a national/international laboratory. The output of this pyranometer for shall be logged in the Solar Energy Remote Monitoring system.
2. In case the pyranometer 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 GMRC/ Engineer. However, for the dispute period for which such error has occurred and until the instrument is recalibrated to the satisfaction of GMRC/ Engineer, data from any one of the following list of sources as decided by GMRC/ Engineer will be used:
 - i. A separate pyranometer installed by the Company near the site, if available
 - ii. Average of two closest solar power projects, as identified by GMRC/ Engineer
 - iii. Nearest MNRE weather station
3. “Actual Delivered Energy” from the plant supplied by the Contractor shall be noted for every month and summed up for entire year. For this purpose, the net delivered energy at the metering point shall be taken into account.
4. The measured value of energy at step (3) shall be compared with ‘Base NEEGG’ and hence with ‘Base CUF’ value. “Base NEEGG/ CUF” for a month is calculated by using the NEEGG quoted for 15 nos. of station in the offer by the Contractor adjusted with a correction factor to take into account the actual average global solar radiation measured by the calibrated pyranometer for that year.
5. Further, if the plant is not able to achieve the calculated *Base NEEGG/CUF* during O&M period and there is a shortfall in energy generation, then the Contractor shall be penalized as per relevant Clause of the Tender.
6. The Contractor shall share with GMRC/ Engineer all the radiation, generation, etc. parameters details and all other factors necessary for GMRC/ Engineer to corroborate

the estimate. GMRC/ Engineer has the right to cross verify data submitted by the Contractor by all possible means/sources.

Following factors may be noted for computing the Base NEEGG/ CUF and PR Test for all 15 nos of metro stations:

7. Effect due to variation in annual insolation shall only be considered for computing the Base NEEGG/ CUF quoted by Bidder for 15 nos. of station.
8. Effect due to variation of meteorological parameters e.g. ambient temperature, wind speed, humidity etc. shall not be considered.
9. **Generation loss due to grid outage (or power evacuation system which is not in the scope of the Contractor):** The measured global horizontal solar radiation of the period of the outage of the power evacuation system shall be excluded to calculate average global horizontal solar radiation for the period of O&M.

Solar Radiation:

Ideally, actual measurement of solar radiation at the site is desirable for estimating the projected power output since solar energy is the raw material for power generation. It may be noted that the annual average solar radiation measurement even for 1-2 years is not sufficient. World over, an average radiation value for at least 8-10 years is used for solar power project designing since climatic variations are quite wide year-to-year. Under such a situation, the prevailing practice world over is to develop software which uses satellite measured solar radiation and matches it with the actual ground measured data for the particular site where actual data has been obtained for many years. There are radiation data from reputed agencies like NASA available. Weather Monitoring Station is to be installed at Site.

Table 0-1 GHI data

Source: NASA

Month	GHI
	GHI (kWh/m ² /month)
January	139.5
February	143.4
March	184.8
April	192.3
May	204.3
June	177.9
July	146.6
August	139.2

September	154.2
October	158.7
November	136.5
December	128.7
Annual	1,906.1

The above radiation data shall be used by the Bidder to calculate NEEGG. This radiation data is for evaluation purpose. However, for every year actual radiation shall be considered to calculate the NEEGG by the Bidder.

Illustration: (below figures and calculation are presented for purpose of example only)

If the GHI of a year is more or less than the reference GHI then NEEGG (Quoted by Successful Bidder) will be calculated as follows:

NEEGG guaranteed by Contractor = 3,24,821 kWh

Reference GHI = 1906 kWh/m² per annum

For Example:

Case A) for higher irradiation:

If Actual GHI = 1950 kWh/m² per annum then NEEGG will be:

$$\text{NEEGG for Zone A} = (1950 \times 3,24,821) / 1906$$

$$\text{NEEGG} = 3,32,319 \text{ KWh/ Annum}$$

Case B) for lower irradiation:

If Actual GHI = 1850 kWh/m² per annum then NEEGG will be:

$$\text{NEEGG} = (1850 \times 3,24,821) / 1906$$

$$\text{NEEGG} = 3,15,277 \text{ KWh/ Annum}$$

Appendix18 (a): Format of Bank Guarantee for EMD

[To be on non-judicial stamp paper of 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._____

1. In consideration of you, Gujarat Metro Rail Corporation (GMRC) Limited, a company incorporated under the Companies Act, 1956 and having its registered office at Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan, Sector 10/A, Gandhinagar: 382010, Gujarat (hereinafter referred to as the “Client”, which expression shall unless it be repugnant to the subject or context thereof include its, successors and assigns) having agreed to receive the Proposal of (a company registered under the Companies Act, 1956) and having its registered office at (and acting on behalf of its Consortium)¹ (hereinafter referred to as the “Consultant” which expression shall unless it be repugnant to the subject or context thereof include its/their executors, administrators, successors and assigns), in response to the Tender Document issued vide Tender / RFP No: _____,

dated_____ for “Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd

” [hereinafter referred to as “the Services”] we (Name of the Bank) having our registered office at and one of its branches at(hereinafter referred to as the “Bank”), at the request of the Consultant, do hereby in terms of ‘Instructions to Consultants’, irrevocably, unconditionally and without reservation guarantee the due and faithful fulfilment and compliance of the terms and conditions of the Tender by the said Consultant and unconditionally and irrevocably undertake to pay forthwith to the Client an amount of INR ***** (Indian Rupees ***** only) (hereinafter referred to as the “BID GUARANTEE”) as our primary obligation without any demur, reservation, recourse, contest or protest and without reference to the Consultant if the Consultant shall fail to fulfil or comply with all or any of the terms and conditions contained in the said RFP.

2. Any such written demand made by the Client stating that the Consultant is in default of the due and faithful fulfilment and compliance with the terms and conditions contained in the tender shall be final, conclusive and binding on the Bank.
3. We, the Bank, do hereby unconditionally undertake to pay the amounts due and payable under this Bid Guarantee without any demur, reservation, recourse, contest or protest and without any reference to the Consultant or any other person and irrespective of whether the claim of the Client is disputed by the Consultant or not, merely on the first demand from the Client stating that the amount claimed is due to the Client by reason of failure of the Consultant to fulfil and comply with the terms and conditions contained in the RFP including failure of the said Consultant to keep its Proposal open during the Proposal validity period as set forth in the said RFP for any reason whatsoever. Any such demand made on the Bank shall be conclusive as regards amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding INR ***** (Indian Rupees ***** only).
4. That this Guarantee commences from the date hereof and shall be irrevocable and remain in force till: _____ and it should be payable to either Gandhinagar /

Ahmedabad branch office of particular bank.

- a. The Consultant, in case its Proposal is accepted by the Client, executes a formal agreement after furnishing the Performance Guarantee from a Scheduled Commercial Indian Bank based in India (excluding Cooperative Banks) or from a scheduled Foreign Bank in India as defined in Section 2(e) of RBI Act 1934 read with Second Schedule.
- b. Sixty days after the date of validity or the extended date of validity of the Proposal , as the case maybe
5. We, the Bank, further agree that the Client shall be the sole judge to decide as to whether the Consultant is in default of due and faithful fulfilment and compliance with the terms and conditions contained in the tender including, *inter alia*, the failure of the Consultant to keep its Proposal open during the Proposal validity period set forth in the said tender, and the decision of the Client that the Consultant is in default as aforesaid shall be final and binding on us, notwithstanding any differences between the Client and the Consultant or any dispute pending before any Court, Tribunal, Arbitrator or any other Client.
6. The Bid Guarantee shall not be affected by any change in the constitution or winding up of the Consultant or the Bank or any absorption, merger or amalgamation of the Consultant or the Bank with any other person.
7. In order to give full effect to this Guarantee, the Client shall be entitled to treat the Bank as the principal debtor. The Client shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee from time to time to vary any of the terms and conditions contained in the said tender or to extend time for submission of the Proposal or the Proposal validity period or the period for conveying acceptance of Letter of Acceptance by the Consultant or the period for fulfilment and compliance with all or any of the terms and conditions contained in the said tender by the said Consultant or to postpone for any time and from time to time any of the powers exercisable by it against the said Consultant and either to enforce or forbear from enforcing any of the terms and conditions contained in the said tender or the securities available to the Client, and the Bank shall not be released from its liability under these presents by any exercise by the Client of the liberty with reference to the matters aforesaid or by reason of time being given to the said Consultant or any other forbearance, act or omission on the part of the Client or any indulgence by the Client to the said Consultant or by any change in the constitution of the Client or its absorption, merger or amalgamation with any other person or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of releasing the Bank from its such liability.
8. Any notice by way of request, demand or otherwise hereunder shall be sufficiently given or made if addressed to the Bank and sent by courier or by registered mail to the Bank at the address set forth herein.
9. We undertake to make the payment on receipt of your notice of claim on us addressed to [name of Bank along with branch address] and delivered at our above branch which shall be deemed to have been duly authorised to receive the said notice of claim.
10. It shall not be necessary for the Client to proceed against the said Consultant before proceeding against the Bank and the guarantee herein contained shall be enforceable against the Bank, notwithstanding any other security which the Client may have obtained from the said Consultant or any other person and which shall, at the time when proceedings are taken against the Bank hereunder, be outstanding or unrealised.
11. We, the Bank, further undertake not to revoke this Guarantee during its currency except with the previous express consent of the Client in writing.
12. The Bank declares that it has power to issue this Guarantee and discharge the obligations

contemplated herein, the undersigned is duly authorised and has full power to execute this Guarantee for and on behalf of the Bank.

13. For the avoidance of doubt, the Bank's liability under this Guarantee shall be restricted to INR *** million (Indian Rupees ***** million only). The Bank shall be liable to pay the said amount or any part thereof only if the Client serves a written claim on the Bank in accordance with paragraph 9 hereof, on or before [*** (indicate date falling 60 days after the Proposal Validity Date)].

Signed and Delivered by Bank

By the hand of Mr./Ms., its and authorised official.

(Signature of the Authorised Signatory) (Official Seal)

INSTRUCTIONS FOR FURNISHING BANK GUARANTEE

1. 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.
2. The Bank Guarantee by Bidder will be given from Nationalized/Scheduled bank only.
3. This bank guarantee/ all further communication relating to the bank guarantee should be forwarded to "Gujarat Metro Rail Corporation (GMRC) Limited" payable at Gandhinagar/Ahmedabad only.
4. The full address along with the Telex/Fax No. and email address of the issuing bank to be mentioned.

Appendix 18 (b): Format of Bank Guarantee for Security Deposit/ Performance Bank Guarantee

[To be on non-judicial stamp paper of 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 Appropriate value)

FORMAT OF BANK GUARANTEE FOR SECURITY DEPOSIT/ PERFORMANCE.

(To be stamped in accordance with the Stamp Act of the Country of Issuing Bank)

To,

The Managing Director

[Attn: GM (Contract)]

Gujarat Metro Rail Corporation (GMRC) Limited

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Corporate Identification No (CIN): U60200GJ2010SGC059407

WHEREAS _____ (Name and address of the Consultant) (hereinafter called “the Consultant”) has undertaken, in pursuance of LOA No.: _____ for **“Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd”** (hereinafter called “the Contract”)

AND WHEREAS it has been stipulated by the Client in the said Contract that the Consultant shall furnish the Client with a Bank Guarantee from an Indian Scheduled Bank (excluding Cooperative Banks) or from a scheduled Foreign Bank as defined in Section 2(e) of RBI Act 1934 read with Second Schedule for the sum specified herein as security its due and faithful performance of its obligations in accordance with the Contract.

AND WHEREAS we _____ [Insert name and address of Bank] having registered office at _____ and having the branch at _____ (herein after referred to as the “Bank”), which expression shall unless repugnant to the context of the meaning thereof, include its successors, administrators, executors and assigns do hereby agree to give the Consultant such a Bank Guarantee.

NOW THEREFORE

1. We hereby affirm that we are the Guarantor and responsible to the Client, on behalf of the Consultant up to a total of INR _____/- (Indian Rupees _____ Only), such sum being payable in the types and proportion of currencies in which the Contract Price is payable and we hereby unconditionally, irrevocably and without demur undertake to immediately pay at Gandhinagar / Ahmadabad Branch to the Client, upon its first written demand and without cavil or argument any sum or sums within the limits of INR _____/- (Indian Rupees _____) as aforesaid without the Client needing to prove or to show grounds or reasons for its demand for the sum specified therein.
2. The Client shall have full rights whatsoever to encash this Bank Guarantee at any time during the validity of the guarantee and the Consultant shall have no right or claim whatsoever in the matter of encashment of the Bank Guarantee amount by the Client and any disputes / claim whatsoever in this regard shall only be settled by means of arbitration as provided for in the Contract and the Client's decision as to what amount is due to the Client from the Bank against the guarantee and as to Consultant has committed breach of contract or not, shall be final and binding on the guarantor-Bank and the Consultant shall have no right to interfere with the same and the Bank shall have full rights in terms of the guarantee to make immediate payments against the Bank Guarantee to the Client without the consent of the Consultant and without referring the matter to the Consultant.
3. The Bank further agrees that the Client shall be the sole judge as to whether the Consultant is in default in due and faithful performance of its obligations during the Contract Period under the Contract and its decision that the Consultant is in default shall be final, and binding on the Bank, notwithstanding any differences between the Client and the Consultant, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Consultant for any reason whatsoever.
4. In order to give effect to this Guarantee, the Client shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Consultant and/or the Bank, whether by way their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
5. It shall not be necessary, and the Bank hereby waives any necessity, for the Client to proceed against the Consultant before presenting to the Bank its demand under this Guarantee.
6. The Client shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Contract or to extend the time or period for the compliance with, fulfilment and/or performance of all or any of the obligations of the Consultant contained in the Contract or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Client against the Consultant and either to enforce or forbear from enforcing any of the terms and conditions contained in the Contract and/or the securities available to the Client, and the Bank shall not be released from its liability and obligations under these presents by any exercise by the Client of the liberty with reference to matters aforesaid or by reason of time being given to the Consultant or any other forbearance, indulgence, act or omission on the part of the Client or of any other matter or thing whatsoever which under any law relating to the sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligations under this Guarantee and the Bank hereby waives all of its rights under any such law.
7. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Client in respect of or relating to the Contract or for the fulfilment, compliance and/or performance of all or any of the obligations of the Consultant under the Contract.

8. Courts at Ahmedabad/Gandhinagar, Gujarat, India shall have exclusive jurisdiction for contesting legal cases arising out of encashment of the Guarantee.
9. The Performance Security should be valid up to 06 months after “the date of completion of work”. The Client will issue the certificate of completion of work. Further, if the date of commissioning / completion is extended, for whatsoever reason, the Bank Guarantee for Performance shall be suitably extended at the Consultant’s cost in order to meet the validity period as and when required. The pendency of any dispute or arbitration or other proceedings shall not affect this Guarantee in any manner.
10. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Client in writing and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
11. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Client that the envelope was so posted shall be conclusive.
12. For the avoidance of doubt, the Bank’s liability under this Guarantee shall be restricted to INR _____ (Indian Rupees ***** only). The Bank shall be liable to pay at either Gandhinagar or Ahmedabad Branch (mention complete Branch Address of Bank in Gandhinagar / Ahmedabad where guarantee will be payable) the said amount or any part thereof only if the Client serves a written claim on the Bank in accordance with paragraph 9 hereof, on or before [(indicate date)]

The guarantee is issued by Mr./Ms. _____ who is/are authorised by the Bank.

SIGNATURE AND SEAL OF THE GUARANTOR _____

NAME OF BANK -----

ADDRESS -----

DATE-----

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 Appendix 17 only.
- This Bank Guarantee/ all further communication relating to the bank guarantee should be forwarded to “Gujarat Metro Rail Corporation (GMRC) Limited” payable at Gandhinagar/Ahmedabad only.

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

Appendix18 (c): Format of Bank Guarantee for Performance

[To be on non-judicial stamp paper of 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:

(To be stamped in accordance with the Stamp Act of the Country of Issuing Bank)

To,

The Managing Director

[Attn: GM (Contract)]

Gujarat Metro Rail Corporation (GMRC) Limited

(SPV of Govt. of Gujarat and Govt. of India)

Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,

Sector 10/A, Gandhinagar: 382010, Gujarat, India

Corporate Identification No (CIN): U60200GJ2010SGC059407

WHEREAS _____ (Name and address of the Consultant) (hereinafter called “the Consultant”) has undertaken, in pursuance of LOA No.: _____ for “**Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteswar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd**” (hereinafter called “the Contract”)

AND WHEREAS it has been stipulated by the Client in the said Contract that the Consultant shall furnish the Client with a Bank Guarantee from an Indian Scheduled Bank (excluding Cooperative Banks) or from a scheduled Foreign Bank as defined in Section 2(e) of RBI Act 1934 read with Second Schedule for the sum specified herein as security its due and faithful performance of its obligations in accordance with the Contract.

AND WHEREAS we _____ [Insert name and address of Bank] having registered office at _____ and having the branch at _____ (herein after referred to as the “Bank”), which expression shall unless repugnant to the context of the meaning thereof, include its successors, administrators, executors and assigns do hereby agree to give the Consultant such a Bank Guarantee.

NOW THEREFORE

1. We hereby affirm that we are the Guarantor and responsible to the Client, on behalf of the Consultant up to a total of INR _____/- (Indian Rupees _____ Only), such sum being payable in the types and proportion of

currencies in which the Contract Price is payable and we hereby unconditionally, irrevocably and without demur undertake to immediately pay at Gandhinagar / Ahmadabad Branch to the Client, upon its first written demand and without cavil or argument any sum or sums within the limits of INR _____/- (Indian Rupees _____) as aforesaid without the Client needing to prove or to show grounds or reasons for its demand for the sum specified therein.

2. The Client shall have full rights whatsoever to encash this Bank Guarantee at any time during the validity of the guarantee and the Consultant shall have no right or claim whatsoever in the matter of encashment of the Bank Guarantee amount by the Client and any disputes / claim whatsoever in this regard shall only be settled by means of arbitration as provided for in the Contract and the Client's decision as to what amount is due to the Client from the Bank against the guarantee and as to Consultant has committed breach of contract or not, shall be final and binding on the guarantor-Bank and the Consultant shall have no right to interfere with the same and the Bank shall have full rights in terms of the guarantee to make immediate payments against the Bank Guarantee to the Client without the consent of the Consultant and without referring the matter to the Consultant.
3. The Bank further agrees that the Client shall be the sole judge as to whether the Consultant is in default in due and faithful performance of its obligations during the Contract Period under the Contract and its decision that the Consultant is in default shall be final, and binding on the Bank, notwithstanding any differences between the Client and the Consultant, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Consultant for any reason whatsoever.
4. In order to give effect to this Guarantee, the Client shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Consultant and/or the Bank, whether by way their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
5. It shall not be necessary, and the Bank hereby waives any necessity, for the Client to proceed against the Consultant before presenting to the Bank its demand under this Guarantee.
6. The Client shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Contract or to extend the time or period for the compliance with, fulfilment and/or performance of all or any of the obligations of the Consultant contained in the Contract or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Client against the Consultant and either to enforce or forbear from enforcing any of the terms and conditions contained in the Contract and/or the securities available to the Client, and the Bank shall not be released from its liability and obligations under these presents by any exercise by the Client of the liberty with reference to matters aforesaid or by reason of time being given to the Consultant or any other forbearance, indulgence, act or omission on the part of the Client or of any other matter or thing whatsoever which under any law relating to the sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligations under this Guarantee and the Bank hereby waives all of its rights under any such law.
7. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Client in respect of or relating to the Contract or for the fulfilment, compliance and/or performance of all or any of the obligations of the Consultant under the Contract.
8. Courts at Ahmedabad/Gandhinagar, Gujarat, India shall have exclusive jurisdiction for contesting legal cases arising out of encashment of the Guarantee.
9. The Performance Security should be valid up to 06 months after "the date of completion of work". The Client will issue the certificate of completion of work. Further, if the date of commissioning /

completion is extended, for whatsoever reason, the Bank Guarantee for Performance shall be suitably extended at the Consultant's cost in order to meet the validity period as and when required. The pendency of any dispute or arbitration or other proceedings shall not affect this Guarantee in any manner.

10. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Client in writing and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
11. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorized to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Client that the envelope was so posted shall be conclusive.
12. For the avoidance of doubt, the Bank's liability under this Guarantee shall be restricted to INR _____ (Indian Rupees ***** only). The Bank shall be liable to pay at either Gandhinagar or Ahmedabad Branch (mention complete Branch Address of Bank in Gandhinagar / Ahmedabad where guarantee will be payable) the said amount or any part thereof only if the Client serves a written claim on the Bank in accordance with paragraph 9 hereof, on or before [(indicate date)]

The guarantee is issued by Mr./Ms. _____ who is/are authorised by the Bank.

SIGNATURE AND SEAL OF THE GUARANTOR _____

NAME OF BANK -----

ADDRESS -----

DATE _____

INSTRUCTIONS FOR FURNISHING 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 the Bidder shall be given from bank only given in Appendix 17.
- This Bank Guarantee/ all further communication relating to the bank guarantee should be forwarded to “Gujarat Metro Rail Corporation (GMRC) Limited” payable at Gandhinagar/Ahmedabad.
- The full address along with the Telex/Fax No. and email address of the issuing bank to be mentioned.

Appendix 19: Contract Agreement (to be entered separately with GMRC for their respective projects)

This **Contract Agreement** (hereinafter called the “**Contract**”) is made at Gandhinagar on _____ day of _____ by and between **Gujarat Metrorail Corporation (GMRC) Limited**, a company

incorporated under Companies Act 1956, vide Corporate Identification Number: U60200GJ2010SGC059407 and having its registered office at **Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan, Sector 10/A, Gandhinagar: 382010, Gujarat, India**, represented by Mr. _____ (name and designation) of the company, by virtue of his designation and on authorisation by Mr. _____ (name and designation) of the company (hereinafter referred to as the “**GMRC**” or the “**Employer**”, as the case may be, which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include its successors and permitted assigns) of the one part, and

_____, a company organized and existing under the laws of _____ vide Corporate

Identification Number: _____ and having its registered office at _____ represented by Mr. _____ (name and designation) authorised to sign and bind the company, under the Power of Attorney dated _____ issued by _____, authorised to issue the same as per Board Resolution dated _____ (hereinafter referred to as the “**Contractor**” or the “**Contractor**”

(**CONTRACTOR**) as the case may be, which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include its successors and permitted assigns) of the other part.

[Note 1]

OR

[Note 2] [insert the name of consortium/ JV] comprising:

- (a) _____, a company organized and existing under the laws of _____ vide Corporate Identification Number: _____ and having its registered office at _____ and head office located at _____, represented by Mr. _____ (name and designation) authorised to sign and bind the company, under the Power of Attorney dated _____ and the Board Resolution dated _____; and **[Note 3]**
- (b) _____, a company organized and existing under the laws of _____ vide Corporate Identification Number: _____ and having its registered office at _____ and head office located at _____, represented by Mr. _____ (name and designation) authorised to sign and bind the company, under the Power of Attorney dated _____ and the Board Resolution dated _____; **[Note 3]**

each of which shall be jointly and severally responsible to the Employer under the Contract for Ahmedabad Metro Rail Project as per the terms and conditions of the Tender Documents, Consortium Agreement and the Contract and/or as agreed to by the Employer (hereinafter collectively referred to as the “**Contractor**” or the “**CONTRACTOR**” as the case may be, which expression shall unless excluded by or repugnant to the context or meaning thereof be deemed to include its successors and permitted assigns) of the other part **[Note 2]**.

In this **Contract Agreement**, as the context may require, both the **Employer** and the **Contractor** shall hereinafter be collectively referred to as “**Parties**” and individually as “**Party**”.

WHEREAS the **Employer** is desirous of executing the **Project**, and as part of it, the **Employer** intends to engage a **Contractor** to execute the **Works/ Services**, and

WHEREAS the **Contractor** has declared that the **Contractor** has valuable and specialized knowledge and expertise for works/ services including detailed designing of _____ and submitted a **Tender** for the execution and completion, and remedying any defects in the **Works/ Services** of the “**Feasibility study, Design, Engineering, Supply, Civil works, Procurement, Erection of suitable structure, Installation, Testing, Commissioning and Comprehensive Operation & Maintenance for 5 (five) years for 5 MW (indicative capacity) (AC) grid connected rooftop solar photovoltaic power project on rooftop of 15 Metro stations (Sector 1, Infocity, Dholakuva, Randesan, Raisen, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteshwar road) of Ahmedabad Metro Rail Project, Phase II of Gujarat Metro Rail Corporation (GMRC) Ltd.**” covered under the tender document no.: **Tender No.: GMRC/SYSTEM/RFTP-03/PH-II/2024** including all its addenda, clarifications, etc. and agrees to undertake performance of the **Work/ Services** under the terms and conditions set forth in this **Contract**.

WHEREAS the **Contractor** has obtained clarifications on technical and commercial aspects, inspected the Site and its surroundings and has examined and considered all other matters, conditions and things, probable contingencies including delays, hindrances and interferences and generally all matters incidental thereto and ancillary thereof, affecting the execution and completion of the **Works/ Services**, and the **Contractor** has agreed to undertake to execute the **Works/ Services** as per the terms and conditions specified in this **Contract Agreement** and the other **Contract Documents**.

Now, THEREFORE the **Parties** hereby agree as follows:

Clause 1: Words and Expression

In this **Contract** all the words and expressions shall have the same meanings as are respectively assigned to them in the **Conditions of Contract** and terms and condition of Tender Document and other documents mentioned as forming part of the contract hereinafter referred to,

Clause 2: The Contract Documents

The following documents as listed in **Table 1** below shall be deemed to form and be read and construed as a part of the **Contract**:

- a. Letter of Acceptance
- b. Board Resolution & Power of Attorney in favor of authorized signatory on behalf of the Contractor and Registered JV/Consortium Agreement (in case of JV/Consortium)
- c. Performance Security
- d. All the Tender Documents duly incorporating the amendments effected through addenda & clarifications
- e. Priced financial offer (Financial Bid submitted by contractor along with Negotiation letter, if any, wherein the contractor had amended his offer).
- f. Other correspondence regarding tenders considered appropriate to be Incorporated in the Agreement.
- g. The tenderer's Technical Proposal.
- h. GMRC General (Standard) Conditions of Contract & SHE Manual
- i. Any other document specifically provided in the tender document for inclusion in the Contract Agreement

All of the foregoing documents, together with this **Contract Agreement**, are herein referred to as the **Contract**. All codes, standard specifications, and similar requirements that are referred to therein the mentioned documents are also incorporated into the **Contract**, and made part thereof. In the event of a conflict in consistency, ambiguity or discrepancy between the contents of the **Contract**, the order of precedence/ priority shall be according to the order of the documents with the highest priority listed as Sr. No. 1 and remaining down in dilution of the priority as listed in **Table 1** above, and the **Employer/ the Employer's Engineer** shall issue any necessary clarification or instruction to the **Contractor** as per terms of contract from time to time, during operation and currency of the contract.

Clause 3: Obligations of the Contractor

The mutual rights and obligations of the **Employer** and the **Contractor** shall be as set forth in the **Contract** and in particular:

The **Contractor/Contractor** agrees, subject to the terms and conditions of the **Contract**, to perform efficiently and faithfully all of the **Works/ Services** and other facilities requisite for or incidental to the successful completion of the **Works/ Services** and in carrying out all duties and obligations imposed by the **Contract**.

Clause 4: Obligations of the Employer

The **Employer** agrees, subject to the terms and conditions of the **Contract**, to pay the **Contractor** the amount specified, and at the rates and terms and in the manner set forth in the **Contract**.

Clause 5: Contract Price and Completion Time

The **Employer** agrees to pay for the total cost of the **Works/ Services** and the **Contractor** agrees to accept the sums mentioned below in the following currencies, to be the total cost for the **Works/ Services** carried out by the **Contractor** as part of its obligations, responsibilities and liabilities under and according to the provisions and obligations imposed on it by the **Contract**.

The **Contract Price** is all inclusive of a Tender Total cost of **Indian Rupees _____** (Indian Rupee _____)

The **Contract Price** shall be inclusive of all taxes, levies, duties, cess, royalties and other charges leviable and payable to the authorities including taxes to be deducted at source, except Service Tax, cesses on Service Tax and levies on Service Tax [on the Fixed Lump Sum Portion only] **[Note 4]**. The **Employer** shall reimburse the Service Tax, cesses on Service Tax and levies on Service Tax [on the Fixed Lump Sum Portion only] **[Note 4]**, paid by the **Contractor**, in terms of **Conditions of Contract**. The **Employer** shall deduct the tax at source from the payments to the **Contractor**, which, **Employer** will be required by law for deposition with the statutory authorities in India for which TDS (Tax Deduction at Source) certificates will be issued by the **Employer**.

The **Contractor** shall complete whole of the **Works/ Services** mostly within _____ weeks (that is on or before _____) from the **Commencement Date (which is _____)**, as stipulated in the "Notice to Proceed" mentioned in the **Letter of Acceptance** itself, issued by the **Employer** and continue to provide services for construction support and other related activities till the period mentioned in the contract documents.

The total **Contract Price** will be increased/ decreased during the period of performance of the **Contract** as specifically provided, if any, in the **Special Conditions of Contract** and / or **Pricing Document** under

price variation clause and no additional amount on any other account whatsoever shall be payable to the **Contractor**.

Clause 6: Integration

The **Employer** and the **Contractor** agree that this **Contract Agreement**, together with the other **Contract Documents**, expresses all of the agreements, understandings, promises, and covenants of the **Parties**, and integrates, combines, and supersedes all prior and contemporaneous negotiations, understandings, and agreements, whether written or oral and no modification or alteration of the **Contract Documents** shall be valid or binding on either party, unless expressed in writing and executed with the same formality as this **Contract Agreement**, except as may otherwise be specifically provided in the **Contract Documents**.

Clause 7: Governing Law

This **Contract** is enforceable and construed under and in accordance with the applicable laws of the Republic of **India**.

Clause 8: Language

This **Contract Agreement** and the other **Contract Documents** are made in the English language.

Clause 9: Jurisdiction of Court

The Court at Ahmedabad / Gandhinagar (Gujarat) shall have the exclusive jurisdiction to all the disputes arising out of this **Contract** between the **Parties**.

Clause 10: Notices

All **Notices** called by the terms of the **Contract** shall be in writing and in English language and shall be delivered by hand or by registered post/mail with acknowledgement due. All notices shall be duly made by the **Party** to whom it is addressed at the following address or such other address as mentioned below:

To Employer:

Gujarat Metrorail Corporation (GMRC) Limited
Block No.1, First Floor, Karmayogi Bhavan, Behind Nirman Bhavan,
Sector 10/A, Gandhinagar: 382010, Gujarat, India

To Contractor:

IN WITNESS WHEREOF, the **Parties** hereto have caused this **Contract** to be signed in their respective names as of the day and year first above written

The Employer

The Contractor [Note 5]

Gujarat Metrorail Corporation (GMRC) Limited *[insert the name of Consortium/ Joint Venture]*

(a)

(_____)

(_____
_____)

[insert the name, designation, member/company name]

(b)

(_____
_____)

[insert the name, designation, member/company name]

Witness:

Witness:

1.

1.

2.

2.

Notes:

(For preparation of but not for inclusion in the engrossment of the Contract Agreement)

1. Applicable in case the Contractor is a single company/entity and delete in case the Contractor is a consortium/ joint venture.
2. Applicable in case the Contractor is a Consortium and delete in case the Contractor is a single company/entity.
3. If the Contractor is a Consortium, liability will be joint and several, and each member thereof must be identified. Add another para(s) as per para (a) hereafter for identification of any additional member of the consortium/ joint venture.
4. Delete is not applicable.
5. If the Contractor is a Consortium, each Member thereof must execute.

Appendix 20: Format for Bid Queries

Sr.	Chapter No.	Clause No.	Page No.	Tender Term	Bidder's Query

Appendix 21: Solvency Certificate (Liquidity Certificate)

FORMAT FOR BANKING REFERENCE FOR LIQUIDITY

BANK CERTIFICATE

This is to certify that M/s is a reputed company with a good financial standing.

If the contract for the work, namely.....is awarded to the above firm, we shall be able to provide overdraft / credit facilities to the extent of Rs..... to meet their working capital requirements for executing the above contract.

____Sd.____

Name of Bank: _____

Senior Bank
Manager _____

Address of the
Bank _____

Change the text as follows for Joint Venture:

This is to certify that M/s who has formed a JV with M/s and M/s for participating in this bid, is a reputed company with a good financial standing.

If the contract for the work, namely.....is awarded to the above joint venture, we shall be able to provide overdraft / credit facilities to the extent of Rs..... to M/s to meet their working capital requirements for executing the above contract.

[This should be given by the JV members in proportion to their financial participation]

Appendix 22: Format for Guarantee Card

FORMAT FOR GUARANTEE CARD TO BE SUPPLIED WITH EACH SOLAR PV ROOF TOP SYSTEM

1. Name & Address of the System:
2. Date of supply of the system:
 - i. Solar PV Module:
 - ii. Inverter:
3. Details of PV Module (s) supplied in the System
 - i. Make:
 - ii. Model Serial No(s):
 - iii. Wattage of the PV Module (s) under STC:
 - iv. Guarantee valid up to:
4. Details of Electronics & other BOS items.
 - i. Make:
 - ii. Model:
 - iii. Serial No(s):
 - iv. Guarantee valid up to:

(Signature)

Name & Designation

Name & Address of the Bidder/bidder
(SEAL)

Place & Date:

(During the guarantee period GMRC / users reserves the right to cross check the performance of the systems with the minimum performance levels specified in the Tender specifications).

Appendix 23: Quarterly Maintenance & Servicing Report

1. DETAILS OF SOLAR PHOTOVOLTAIC (PV) SYSTEM INSTALLED

1. Name of Building :
2. Date of installation:
3. Servicing period : From _____ to _____

2. USER PROFILE

1. Name and address of User:

3. TECHNICAL DETAILS

1. SPV Module
 - a. Capacity (Wp),
 - b. Make
 - c. Numbers of Module:
2. Inverter
 - a. Capacity (Wp),
 - b. Make
 - c. Numbers of Inverter:

4. CHECK OF THE PRODUCT

1. Correct inclination and orientation of SPV panel :
2. Cleaning of dust from SPV panel :
3. Interconnection of modules, charge controller etc.:
4. Fuse of charge controller:

5. DIFFICULTIES IN OPERATION/ PROBLEM FACED BY USER:

6. DIAGNOSIS DETAILS/ REPAIR ACTION:

7. DATE ON WHICH SYSTEM WAS LAST ATTENDED:

REMARKS:

User Name & Signature

Technician's Name & Signature

Date:

(with rubber stamp)

Appendix 24: Project completion Report for SPV Photo-Voltaic (PV) System by the Contractor

S No	Component	Observation
1	Name of the Building	
	Site/ Location with Complete Address	
	Longitude/ Latitude	
2	Capacity of system installed(kWp)	
3	Specification of the Modules	
	Type of modules(multi/mono)	
	Make of Modules and year of manufacturing	
	No. of Modules	
	Wattage of Modules	
	Module Efficiency	
	No of series & Parallel combinations	
	Tilt Angle of Modules	
3.1	IEC certificate Date of issue Agency Validity Enclose a IEC certificate	
3.2	RFID tag is pasted inside or outside	
3.3	Type of RFID	
4	PCU	
	Make,& rating Type of Charge controller/MPPT	
	Capacity of inverter and year of manufacturing	
	AC Output	
	Whether hybrid or stand alone	

	Whether indigenous or imported	
	Enclose test certificate as per MNRE requirement	
	Input Voltage to Inverter	
5	Structures	
	Tracking or non-tracking	
	Indigenous or imported	
6	Cables Make and size	
	Enclose Certificate: Rating :-	
	voltage of cable	
7	Distribution Box	
	Name	
	Make	
	Certificate	
8	Earthling and protections	
	Lightening Arrester (Type)	
9	Detail of Weather Monitoring System (If Installed)	
10	ABT Meter & Back Meter No	

Declaration

It is to certify that all the components/subsystems and materials including junction boxes, cables, distribution boards, switches, circuit breakers used are as per RFP requirement.

(Solar Company signature and stamp)

Date and place

Appendix 25: Inspection Report (By Inspecting Officer)

S No	Component	Observation
1	Site/ Location with Complete Address	
2	Capacity of system installed (kWp)	
3	Whether the system was installed in shadow free area or not? If not mention the details	
	Gap between rows of the modules	
	Any inter module shading exists or not	
	Whether the modules contains information about company name, serial no and year manufacturing inside	
	RIFD pasted inside or outside	
4	PCU	
	Whether the information given in Appendix 23 is same or found any deviation	
5	Structures	
6	Cables Make and size	
7	Distribution Box	
8	Earthling and protections	
9	Cumulative generation data at the date of visit or cumulative energy consumption data at the time of visit	
10	User Feed Back	
11	Any specific problem	

1. Signature of User With Stamp and date
2. Solar Company signature with stamp and date
3. Signature of inspecting Officer and date

Appendix 26: Performa for Submission of the List of the Goods, Works & Services Tentatively Proposed to be Offered with Local Value Addition

S.No.	Description of Items (Goods/Works/Services)	Vendor	Location	% of Local content

STAMP & SIGNATURE OF AUTHORISED
SIGNATORY

NOTE:

1. In case of JV/Consortium, the undertaking shall be submitted by each member of the JV/Consortium.
2. The undertaking shall be signed by authorized signatory of the tenderer or constituent member in case of JV/Consortium.

Appendix 26A: Undertaking as per Clause 4.1 of NIT

We hereby jointly and severally certify in accordance with clause '9.a' of the Order no. P-45021/2/2017 – PP (BE-II) of Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade (DPIIT) {formerly Department of Industrial Policy and Promotion (DIPP)}, Government of India dated 28.05.2018 as amended from time to time (till date of submission of tender), that the item(s) offered meets the minimum local content of 90% (as specified in Clause 4.1 of NIT). The details including name of vendor, location and percentage of local content is enclosed as Appendix-26 of FOT.

We acknowledge that false declaration by the tenderer regarding local value addition including payments to be made to their vendors for local value addition shall be treated as a fraudulent practise for which the tenderer or its successor can be debarred for a period upto three years along with such other actions as may be permissible under the law.

In cases of procurement for a value in excess of Rs.10 crores, we also undertake to submit a certificate from statutory auditor or cost auditor of the company (in the case of companies) or from a practising cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content, in accordance with clause '9.b' of the Order no. P-45021/2/2017-PP (BE-II) of Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade (DPIIT) {formerly Department of Industrial Policy and Promotion (DIPP)}, Government of India dated 28.05.2018, after completion of works to the Engineer.

STAMP & SIGNATURE OF AUTHORIZED SIGNATORY

Note:

1. This appendix need to be submitted only if bidder wants to avail the purchase preference as specified in Clause 4.1 of NIT.
2. The undertaking shall be signed by authorized signatory of the tenderer. In case of JV/Consortium by the authorized signatory of the constituent members counter signed by the authorized signatory of tenderer.

Appendix 27: CHECKLIST, [Refer: Para 4.2 of NIT]

SN	Particular	Yes	No	Reference (Document placed at in Technical Submission)
1	The bidder is participating in the form of JV / Consortium.			
	If yes, please provide the following information (to be submitted by bidder in separate sheet in technical submission) - (a) Name of the bidder participated as JV / Consortium : (b) Whether, the bidder participated is subsidiary or parent firm : (c) If subsidiary, provide the details of parent firm: (b) Country name of the bidder participated as JV / Consortium : (c) Percentage Participation of JV Members:			
2	The bidder participated in JV/Consortium, any of its member shares a land border with India.			
3	If yes in SN 2, whether the approval was obtained from Competent Authority as specified in Annex – 1 of GFR Circular, F.NO.6/18/2019-PPD, dated: 23-07-2020 and shall be enclosed with this checklist.			
4	Whether, the bidder has proposed any of work to subcontract / sub consultant to any contractor from country, which share land border with India.			
5	If yes in SN 4, whether the approval as obtained from Competent Authority, as specified in Annex – 1 of GFR Circular, F.NO.6/18/2019-PPD, dated: 23-07-2020 and shall be enclosed with this checklist			

Stamp & Signature of Authorised Signatory

Note:

1. It may be noted that SN 2 & 3 to be filled by the bidder, who share a land border with India and SN 4 & 5 to be filled by the bidder, who propose any of work to be subcontracted / sub consultant to any agency, from the country, which share land border with India.
2. The answer "NO" in SN 3 & 5 will disqualify the bidder, who participated in the form of JV / Consortium.
3. The relevant documentary evidence of approval as asked in SN 3 & 5 shall be attached with this FoT, otherwise the bidder will be disqualify.
4. The above details are to be filled by the authorized signatory of the bidder or constituent member in case of JV/Consortium.

Appendix 28: UNDERTAKING, [Refer: Para 4.2 of NIT]

1. "I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; **I hereby certify that this bidder or any of its constitutes is not from such a country and is eligible to be considered.**"
2. "I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country **or, if from such a country, has been registered with the competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered**".
3. "I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and **on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.**

Stamp & Signature of Authorised Signatory

Note:

1. The bidder has to read the above mentioned undertakings, para 1 to 3 and the applicable para in undertaking FoT to be submitted along with the bid submission.
2. If bidder falls under SN 2 & 3, the bidder shall require to submit the evidence of valid registration by the Competent Authority along with this Appendix.
3. In case of JV/Consortium, the undertaking shall be submitted by each member of the JV/Consortium.
4. The undertaking shall be signed by authorized signatory of the tenderer or constituent member in case of JV/Consortium.

Annexure-A1: Details of Site

1. Site Location:

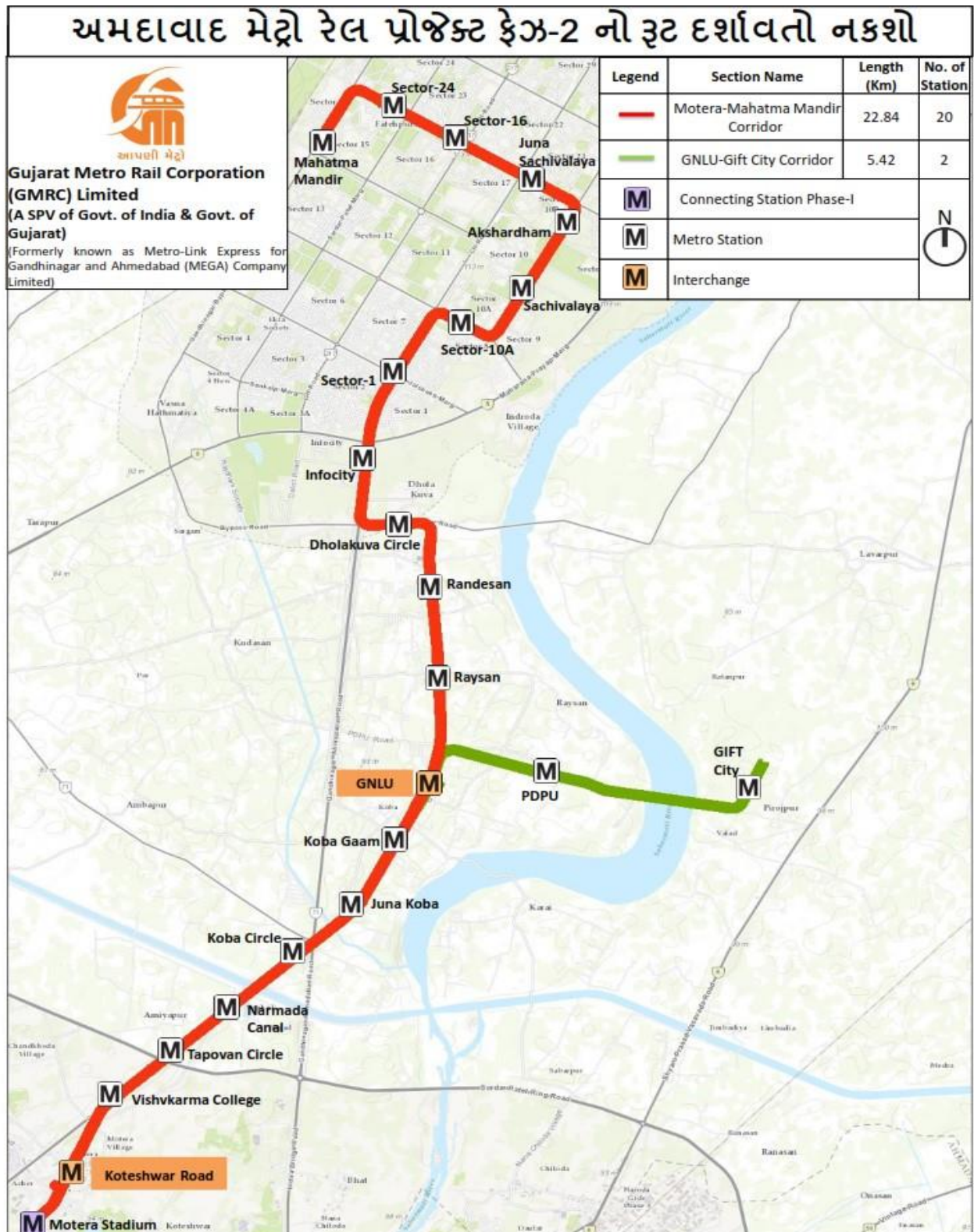
The proposed Rooftop Solar PV Power project shall be installed on roof of 15 nos. of Metro Stations (Entry / Exist, Foot Over Bridge, Utility Rooms etc.) from Sector – 1 to Koteswar Road of Gujarat Metro Rail Corporation (GMRC) Limited.

The Site data of the Project is being provided only as a preliminary reference document by way of assistance to the Bidders who are expected to carry out their own surveys, investigations and other detailed examination of the Project before submitting their Bids.

Bidder is required to economize the allocated space on the rooftop. In case the developer demonstrates that the capacity from the survey is lower than the indicated capacities for which the allocated roof top space is not adequate, GMRC at its discretion may offer reduce or additional/ alternate new roof space. After the LoA the Bidder has to carry out a detailed survey of the sites and submit the calculation, and complete engineering document for the approval of GMRC.

2. Site Details

The 15 nos. of Metro stations are Sector 1, Infocity, Dholakuva, Randesan, Raisan, GNLU, PDEU, Gift city, Koba gam, Juna Koba, koba circle, Narmada canal, Tapovan Circle, Vishwakarma college, Koteshwar road. Bidder may refer the map pasted as below;



Document Checklist

[Note: Document Checklist shall be attached with Appendix 1 of the Technical Bid]

Sr.	Document	Attached? (Yes/ No)	For Official Use
1.	Complete sets of Bids (original and copies)		
2.	Not Used		
3.	Demand Draft of Tender Fees, EMD in Cover-I		
4.	Enclosures of the Bid including the Covering Letter as per the format prescribed in Appendix 1: Format for Covering Letter Cover-II		
5.	Details of Bidder as specified in Appendix 2		
6.	EMD in the form of Demand Draft or/and Bank Guarantee as per format prescribed in Appendix 18 (a): Format of Bank Guarantee for EMD		
7.	Attested copy of GST Registration Certificate of Bidder.		
8.	Attested copy of Provident Fund Code of Bidder.		
9.	Attested copy of PAN Card for Bidder.		
10.	Certificate of Commencement of Business issued by the Registrar of Companies for Bidder.		
11.	Power of Attorney by the Bidder in favour of Bidder as per format prescribed in Appendix 12		
12.	Document as per Clause No. 3.2		

13.	Details of qualified technical staff as per the format in Appendix – 8		
14.	Project Plan as mentioned in Appendix 5: Format for Project Execution Plan.		
15.	Bill of Quantities with Specifications / Make etc. as per Tender/RFP		
16.	Copy of this RFP with sign and official seal on every page.		
17.	A comprehensive project management schedule in the form of Pert Chart for execution plan		
18.	Signed Tender Documents along with Addendum and Clarifications in Cover-III		

Note :

- a) The bidder are advised to submit the Technical Bid in spiral / binder book with index, page numbering, sign and stamp on each and every page of the Bid by the authorised signatory.
- b) The submission in loose papers may hamper the evaluation process, hence bidder are requested to submit their bid as per above note.
- c) On submission of Appendix on N Procurement, the bidder may note that there is a size limit of 3 MB of one document, however there is no limit of attachment of nos. of documents with size limit of 3 MB. Hence, for e.g if you are uploading Appendix – 8 in three parts/files with size limit of 3 MB then you have to rename the file as (1) Appendix - 8, part 1, (2) Appendix – 8, part 2 & (3) Appendix – 8, part 3.