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Corporate Identity No. U40100GJ1999SGCO36018

TRANSMISSION CIRCLE OFFICE,
MEHSANA – 384 001.

TECHNICAL BID

Survey, Design, Supply, Installation, Testing, commissioning with Comprehensive Maintenance contract of 5 years for Solar Rooftop projects at Various locations under Kheralu AM Division of GETCO, Mehsana Circle.

Technical Specification

The location wise assorted rating of the solar rooftop system for which the rates shall be discovered are as follows.

Sr.	Name of Division	Location	Voltage Class	Proposed Capacity (KW)
1	Kheralu	66KV Delvada	66	10
2	Kheralu	66KV Dharoi	66	10
3	Kheralu	66KV Gidasan	66	10
4	Kheralu	66KV Gorad	66	10
5	Kheralu	66KV Gunja	66	10
6	Kheralu	66KV Jaska	66	10
7	Kheralu	66KV Kahoda	66	10
8	Kheralu	66KV Kalyana	66	10
9	Kheralu	66KV Khali	66	10
10	Kheralu	66KV Khanapur	66	10
11	Kheralu	66KV Kodaram	66	10
12	Kheralu	66KV Mudana	66	10
13	Kheralu	66KV Nava Sudasana	66	10
14	Kheralu	66KV Otalpur	66	10
15	Kheralu	66KV Pilucha	66	10
16	Kheralu	66KV Sakri	66	10
17	Kheralu	66KV Samoda	66	10
18	Kheralu	66KV Satalasana	66	10
19	Kheralu	66KV Solsanda	66	10
20	Kheralu	66KV Sujanpur	66	10
21	Kheralu	66KV Tundav	66	10
22	Kheralu	66KV Umata	66	10
23	Kheralu	66KV Undhai	66	10
24	Kheralu	66KV Varetha	66	10
			TOTAL	**240**

Note: - (Project capacity will be considered in AC. Payment to Bidder will be done on AC Capacity Registered, DC Capacity Installed, and Invertor Installed, whichever will be less.)

The broad specifications of the system (Detailed Specifications are given in the Tender elsewhere) shall be as follows:

1) **Solar PV Modules: -** Indian make solar module 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 GEDA/GETCO.

   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. Such firm and Shortlisted bidder, those violate the requirement of Indian Make Solar Cell and Module shall be put under the black list, and or stop deal list as may be decided by the GEDA/GETCO.

   Violation of norms of Domestic Content Requirement (DCR) Under Solar PV projects will lead to penalties and action as mentioned in office memorandum of MNRE GOI vide letter no. 283/2018-GRID SOLAR dated 20th February, 2018.

   The ALMM list is published by the MNRE vide Latest Notification No. 283/51/2025-Grid Solar Dated 13.04.2026 and the other latest notification for the same is also published by the MNRE vide Notification. The Model and Manufactures of the Module and Cell shall be from the ALMM only used in the SPV System in this project.

   In absence of the ALMM, the shortlisted bidder shall have to submit self-declaration regarding domestically manufactured Cell & Modules used in the SPV system in this project. Whenever, the ALMM list published by the MNRE, the model and manufacturers of the module and cell shall be from the ALMM only used in the SPV system in this projects.

2) **Invertor:** - IEC certified invertor with in-built anti-islanding facility of Rated capacity ±10% of the aggregate capacity of the modules.

3) **Mounting structure:** - The mounting (Rectangle pipe/square pipe / circular pipe) with requisite cross bars, nuts and bolts etc. shall be pre-galvanized or galvanized. The Rectangular /square / circular hollows pipe section used for the structures should have a minimum 2.5 mm. A certificate of a structural engineer certifying the strength and stability of the mounting structure to withstand the weight and wind speed of 150 km/hour throughout the life span of 25 years of the system, shall be submitted by the vendors. The ground clearance of the bottom most edge of solar panel shall not be less than 1200 mm.

4) AC, DC cable shall be of ISI mark and reputed make & take approval from IEC before installation.

5) Lightning arrestor shall be provided for each of the Solar Rooftop installations. It shall be of ISI mark and reputed make.

6) The system cost shall be inclusive of supply of solar modules, invertors, mounting structure, AC DC cables in RPVC conduit, ACDB, DCDB, Earthing, LA, Bidirectional meter, Solar AC Meter and its installation as per requirement on location. No any differential/additional Charges for LT Bidirectional meter will be reimbursed.
The rate quoted per kW for each project should be inclusive of all taxes. No rate revision under this tender will be allowed in any circumstances.

7) The scope of regular cleaning of the modules for five years shall also be in the scope of Bidder. The arrangement of required water etc. for regular cleaning of the modules shall be in the scope of the Bidder.

8) It shall be responsibility of the bidder to clean the modules throughout the five year CMC period to insure a capacity utilization factor of 17% on annual basis to be measured at inverter/ solar meter. Until the end of fifth year, inclusive of degradation, if any, of the module and/ or inverter. The bidder shall ensure shadow free installation and easy access to the system monitoring, repairs etc.

9) It shall be mandatory for the vendor to visit the system installation site every 3 month and submit a report to GEDA duly signed by the authority of beneficiary agency/ office for the system working satisfactorily, in prescribed format, including the electricity generation record of the solar meter and Bi-directional meter reading.

10) The Capacity utilization factor (CUF) of the solar power plant shall not be less than 17% on annual basis, during the five year of CMC period. The CUF shall be maintained at 17% and necessary efforts shall be made to achieve it by the bidder. In case the system fails to attain the required CUF annually, the system shall be deemed to underperforming. The calculation of the CUF shall be on the basis of the generation recorded by the inverter/ solar system AC meter. The shortfall of energy to achieve 17% CUF on the yearly basis shall be compensated by the bidder to GEDA at the rate equivalent to the prevailing DISCOM tariff during the year. Failing which GEDA may invoke the entire Performance Bank Guarantee

SCOPE OF THE WORK

The work is to be carried out on 'Turn Key Basis' which includes survey, design, supply of SPV systems with all accessories and equipment, metering, installation, testing, commissioning and maintenance services for 5 years, of the GETCO's identified sites with free replacement warranty on spare parts against manufacturing defects for five years. It also includes obtaining permission of concern DISCOM and Chief Electrical Inspector (CEI) approvals. Which includes,

a) Survey of identified sites/ prospective beneficiaries of GETCO.

b) Preparation of Detailed Project Report (DPR) of the proposed Proposal of SPV Power plant.

c) Registration of the Project on GEDA online portal with necessary fees, Obtaining No objection certificate, net metering connectivity agreements from concerned DISCOM for grid connectivity and CEI's approval and payment of CEI Inspection Charges etc. EXCEPT charges for Strengthening of the DISCOM Network.

d) The work covers Design, supply, installation, commissioning and comprehensive maintenance for FIVE years, including grid connectivity charges, meter charges etc.

e) Design, supply, civil work, erection, testing and commissioning of SPV grid connected Power Plant as per schedule given in the work order.

f) Installation of solar meter and bi-directional meters along with second line of protection in the system such as SPD etc.

g) Installation of Remote Monitoring facility along with necessary dongle etc. for the period of 5 years.

h) The scope of the work covers cleaning and washing of the Photovoltaic Modules regularly (two times in a month) to ensure annual capacity utilization factor of 17% during the five years CMC.

i) Completion period:

The Projects completion period at both locations shall be 90 days from the date of placement of order, completion should mean, commissioning of the system, meaning commencement of injection of power to grid. The delay if any in the specific completion period shall be dealt with on the basis of the certified documentary evidence of the single line diagram (SLD) drawing, submission and approval to CEI, estimate generation and payment to DISCOM and application submission and approval of CEI for charging of system.

Qualification Requirement

1. **Registration**: - The Bidder shall be strictly a Registered with GEDA.

2. **Experience**: The Bidder should have designed, supplied, installed & commissioned Grid connected Solar PV Power Projects having aggregate capacity not less than 250 KW during last three years in any Government department of Gujarat as a main Contractor.

3. **Solvency**: Latest bank solvency certificate not older than 1 Year from any Nationalized/ Scheduled Bank of a sum of minimum 20 % of the estimated cost shown in the tender.

4. **Provident Fund Code:** Separate provident fund code number towards firm registered with Regional P. F. Commissioner.

5. **Financial Statement:** The Bidder should submit certified photocopy of audited financial statement i.e. IT Return, Balance sheet with profit and loss account of last three Years. In case, audit is not mandatory, bidder should submit photocopy of financial statements i.e. Balance Sheet & Profit & Loss Account

6. **Nature of Firm:** Attested copy of Partnership Deed, Power of Attorney, if any, for signing the bid documents in case of partnership firm & self-affidavit for proprietorship firm. MOA/AOA shall be submitted in case it is corporate entity. All such documents shall have to be NOTARISED.

7. **I.T.PAN CARD**: The bidder should submit the attested Photocopy of PAN Card of their firm.

8. **GST Registration:** The bidders should submit the certified copy of GST registration of their firm.

9. **Electrical contractor's license:** The bidders should submit the attested copy of GOG Electrical Contractor licenses of firm with latest validation.

The bidders must be attach and submit all above documents scanned copy on n-procure and certified/self-verified copy of all documents to be submitted with Technical bid online only. Detail bifurcation for documents requires in form of online & physical attached herewith.

CHECK LIST OF DOCUMENTS SUBMISSION

No.	Particulars	Check Mark
1	Transaction detail of Tender Fee Amount (Online payment receipt)	
2	Transaction detail of EMD Amount (Online payment receipt)	
3	Registration document as Approved Contractor –of GEDA	
4	Work completion certificate in Form No.3A (Experience Certificate as main contractor) only as Per Qualification Requirement	
5	Bank Solvency Certificate	
6	GST Registration Number Documents	
7	Nature of Firm: Partnership deed/Latest Form-G/ POA/Authorized Signatory Certificate for Partnership	
	Self-Affidavit/POA/Authorized Signatory Certificate for Proprietorship	
8	Provident Fund Code Number Documents	
9	PAN Number Document	
10	Income Tax Return, Profit Loss Accounts and Balance sheet of Last Three Financial Years	
11	Electrical Contractor License	
13	Filling all Annexure	

TECHNICAL SPECIFICATIONS OF GRID CONNECTED SPV SYSTEM

The specifications of SPV systems, for which EOI are invited, are as under. The self-certified Test Report(s) of each of the components/ systems mentioned shall be submitted before starting System installation. To ensure optimum performance of the solar installation and its related safety aspects, the provisions of the publication of GERMI on "Best Practices in Operation and Maintenance of Roof Top Solar PV systems in India" published in May, 2018 be followed.

The proposed projects shall be commissioned as per the technical specifications given below. Any short comings will lead to cancelation of Empanelment as may be decided by GETCO. 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, bi-directional energy meter 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 daytime. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should confirm to the BIS, IEC, or international specifications, wherever such specifications are available and applicable. Solar PV system shall consist of following equipment/components.

1. Solar Photo Voltaic (SPV) modules consisting as per latest MNRE Notifications.
2. Inverter and Remote Monitoring System.
3. Module mounting structures.
4. Energy Meter.
5. Array Junction Boxes.
6. DC Distribution Box.
7. AC Distribution Box.
8. Protections – Earthing, Lightning, Surge.
9. Cables.
10. Drawing & Manuals.
11. Miscellaneous.

a. SOLAR PHOTOVOLTAIC MODULES:

1.1.1 The PV modules and Solar Cell used should be made in India. Necessary documents in this regards must be provided to GETCO.
Violation of norms of Domestic Content Requirement (DCR) UNDER Solar PV projects will lead to penalties and actions as mentioned in office memorandum of MNRE GOI vide letter no. 283/51/2025-Grid Solar Dated 13.04.2026 as under:

a) Filing of criminal case under IPC 420 and related Sec.
b) Blacklisting f developers for period of 10 years
c) Forfeiting of relevant bank guarantee(s)
d) Disciplinary case against the Officers of concerned CPSU/ State Govt.
e) Any other action, in addition to those above

SPV Modules and Solar Cells must be used for this Scheme shall be domestically manufactured as per MNRE's requirement. The Empaneled Agencies shall require to submit the Self declaration, regarding the Modules and Solar cells used under the Scheme are "Made in India", from the concerned manufacturer of Solar Modules, supplied for this scheme of GoG/GOI, before commissioning of the System. Violation of this condition will be reported to the MNRE and GoG for taking actions against the Manufacturer of the Solar Modules and Empaneled Agency. Such firm and Empaneled Agency may be put under the black list or stop deal list as may be decided by the DISCOM Authority.

In absence of the ALMM, the Empaneled Agencies shall have to submit self-declaration regarding domestically manufactured Cell and Modules used in the SPV System in this project. Whenever, the ALMM list published by the MNRE, the Model and Manufactures of the Module and Cell shall be from the ALMM only used in the SPV System in this project.

The PV modules used must qualify to the latest edition of IEC standards or equivalent BIS standards, i.e. IEC 61215/IS14286, IEC 61853-Part I/IS 16170-Part I, IEC 61730 Part-1 & Part 2. For the PV modules to be used in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701.

a) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar modules. Module capacity less than 300 watts shall not be accepted.
b) Protective devices against surges (SPD) at the PV module shall be provided. Low voltage drop bypass diodes shall be provided. Surge Protective Device (SPD) of appropriate capacity & type shall be provided either in the inverter or in DC Junction Box for protection against surges. Low voltage drop bypass diodes shall be provided.
c) PV modules must be tested and approved by one of the NABL accredited and BIS Approved test centers.
d) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminum.
e) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid.
f) The PV Module efficiency should be higher than 16 %.
Solar PV modules of minimum fill factor 75%, to be used.
g) Other general requirement for the PV modules and sub systems shall be the following:

I. The rated power of solar PV module shall have maximum tolerance up to +3%.
II. The peak-power point current of any supplied module string (series connected modules) shall not vary by +1% from the respective arithmetic means for all modules and/or for all module strings (connected to the same MPPT), as the case may be.

The peak-power point voltage of any supplied module string (series connected modules) shall not vary by + 2% from the respective arithmetic means for all modules and/or for all module strings (connected to the same MPPT), as the case may be.

III. All electrical parameters at STC shall have to be provided.
Minimum certified PV module efficiency shall be +17 % for crystalline The temperature co-efficient power of the PV module shall be equal to or better than -0.45%/℃
All PV modules should carry a performance warranty of >90% during the first 10 years, and >80% during the next 15 years. Further, module shall have performance warranty of >97% during the first year of installation. Degradation of module should not be more than 1 % per annum.

The PV modules shall be equipped with IP 65 or better protection level junction box with required numbers of bypass diodes of appropriate rating and appropriately sized output power cable of symmetric length with MC4 or equivalent solar connectors. The IP level for protection may be chosen based on following conditions:

i. An IP 65 rated enclosure is suitable for most outdoor enclosures that won't encounter extreme weather such as flooding.
ii. An IP 67 rated enclosure is suitable at locations which may encounter temporary submersion at depths of up to one meter.
iii. An IP 68 enclosure is recommended if there may exist situations of submergence for extended periods of time and at substantial depths.

1.1.3. Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each module (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions).
a) Name of the manufacturer of the PV module
b) Name of the manufacturer of Solar Cells.
c) Month & year of the manufacture (separate for solar cells and modules)
d) Country of origin (separately for solar cells and module)
e) I-V curve for the module Wattage, Im, Vm and FF for the module
f) Unique Serial No and Model No of the module
g) Date and year of obtaining IEC PV module qualification certificate.
h) Name of the test lab issuing IEC certificate.
i) Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001
j) Nominal wattage +3%.
k) Brand Name, if applicable.

Other details as per IS/IEC 61730-1 clause 11 should be provided at appropriate place. The actual Power Output P_{max} shall be mentioned on the label pasted on the back side of PV Module. In addition to the above, the following information should also be provided:

i. Polarity of terminals or leads (color coding is permissible) on junction Box housing near cable entry or cable and connector.
ii. The Maximum system voltage for which the module is suitable to be provided on the back sheet of the module**.**

1.1.4. Warranties:

a) Material Warranty:

i. Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than five (05) years from the date of commissioning.
ii. Defects and/or failures due to manufacturing
iii. Defects and/or failures due to quality of materials
iv. Non conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at the Owners sole option.

b) Performance Warranty:

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

2. **ARRAY STRUCTURE:**

The mounting structure steel shall be as per latest IS 2062: 2011 and hot dip galvanization of the mounting structure shall be in compliance of latest IS 4759.

Module Mounting Structure (MMS):

3.1. 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.

3.2. Module mounting structures can be made from two types of materials. They are Hot Dip Galvanized Iron or Hot Dip Galvanized Mild Steel (MS). However, MS will be preferred for raised structure.

3.3. MMS Steel shall be as per latest IS 2062:2011 and galvanization of the mounting structure shall be in compliance of latest IS 4759.

3.4. All bolts, nuts, fasteners shall be 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 electrolytic ally compatible with the materials used in the module frame, its fasteners, nuts and bolts.

3.5. 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.

3.6. 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. The PV array structure design shall be appropriate with a factor of safety.

3.7. The upper edge of the module must be covered with wind shield so as to avoid build air ingress below the module. Slight clearance must be provided on both edges (upper & lower) to allow air for cooling.

3.8. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed. The Empaneled Agency shall be fully responsible for any damages to SPV System caused due to high wind velocity within guarantee period as per technical specification.

3.9. 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. Necessary testing provision for MMS to be made available at site.

3.10. 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.

3.11. The structure shall be designed to withstand operating environmental conditions for a period of minimum 25 years.

3.12. Material standards:

i. 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 IS 6403 / 456 / 4091 / 875).

ii. 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)

iii. Test reports for the raw material should be as per IS 1852 / 808 / 2062 / 1079 / 811.

iv. In process inspection report as per approved drawing & tolerance should be as per IS 7215.

v. For ascertaining proper welding of structure part following should be referred:
   a. D.P. Test (Pin Hole / Crack) (IS 822)
   b. Weld wire grade should be of grade (ER 70 S - 6)

vi. 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).

vii. Foundation Hardware – If using foundation bolt in foundation then it should be as per IS 5624.

3.13. Design Validation- The Structure design and drawing should be duly verified by a licensed Structural designer before installation for all types of structure arrangements including the extension made, as per specification.

3. JUNCTION BOXES (JBs):

a) The junction boxes are to be provided in the PV array for termination of connecting cables. The Junction 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 JBs shall be such that input & output termination can be made through suitable cable glands. **Suitable markings shall be** provided on the bus bars for easy identification and cable ferrules will be fitted at the cable termination points for identification.

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 should be provided.

c) For array junction box/ PV combiner box, Empaneled Agency may also provide polyamide glands and MC4 Connectors. 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.

4. DC DISTRIBUTION BOX (DCDB):

May not be required for small plants, if suitable arrangement is available in the inverter.

a) DC Distribution Box (DCDB) to receive the DC output from the PV array field.

b) DC DBs shall be dust & vermin proof conform having. IP 65 or better protection, as per site conditions.

c) The bus bars are made of EC grade copper of required size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the inverter along with necessary surge arrestors. MCB shall be used for currents up to 63 Amperes, and MCCB shall be used for currents greater than 63 Amperes

5. AC DISTRIBUTION BOX (ACDB):

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

b) All switches and the circuit breakers, connectors should conform to IEC60947:2019, part I, II and III/ IS60947 part I, II and III.

c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.

d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted, air - insulated, cubical type suitable for operation on three phase / single phase,415 or 230 volts, 50 Hz
e) The panels shall be designed for minimum expected ambient temperature of 45 degrees 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 as per site conditions.
g) Should conform to Indian Electricity Act and CEA safety regulations (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.
   a. Variation in supply voltage : +/- 10 % as per CEA/State regulations.
   b. Variation in supply frequency : +/- 3 Hz as per CEA/State regulations.
i) The inverter output shall have the necessary rated AC surge arrestors, if required and MCB/ MCCB. RCCB shall be used for successful operation of the PV system, if inverter does not have required earth fault/residual current protection.

6. PCU/ARRAY SIZE RATIO:

The recommended the solar PV array capacity in KW shall be in a range of 100%-110% of invertor capacity. i.e. if the Invertor Capacity is 5 KW, then the Solar PV array capacity should be from 5 KW to 5.5 KW.

7. Inverter and Remote Monitoring System: -

i. Marking:

All the Inverters should contain the following clear and indelible Marking Label & Warning Label as per IS16221 Part II, clause 5. The equipment shall, as a minimum, be permanently marked with:

a) The name or trade mark of the manufacturer or supplier;
b) A model number, name or other means to identify the equipment,
   A serial number, code or other marking allowing identification of manufacturing location and the manufacturing batch or date within a twelve-month time period.
c) Input voltage, type of voltage (AC or DC.), frequency, and maximum continuous current for each input.
d) Output voltage, type of voltage (AC. or DC), frequency, maximum continuous current, and for a.c. outputs, either the power or power factor for each output
e) The Ingress Protection (IP) rating
f) As per IS 16221

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.

Particulars	Details
Switching devices	IGBT/MOSFET
Control	Microprocessor /DSP
Nominal AC output voltage	For 3-phase/ 1 phase: - 415V / 240 V
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-65(Minimum).
Grid Frequency Tolerance range	+ 3 or more
No-load losses	Less than 1% of rated power
Inverter Efficiency(minimum)	**(Above 10 kW)** Peak Efficiency At least 97%, measure as per IEC 61683 Euro Efficiency At least 96%, measure as per IEC 61683
THD	`<3%
PF	>0.9
Communication interface	RS 485 with Modbus
Display type	LCD for data display. LCD / LED for status display
Protections	• Over voltage (both input and output) • Over current (both input and output) • Over/Under grid frequency • Over temperature • Short circuit • Lightening • Surge voltage induced at output due to external source • Anti-islanding
Recommended Alert/Indications	• Inverter ON • Grid ON • Inverter Under / Over Voltage • Inverter Overload & • Inverter Over Temperature
Recommended LCD Display on Inverter	• Output power (W) • Daily Energy (Wh) • cumulative energy (Wh) • DC voltage (V) & DC current (A) • AC voltage (V), AC frequency (Hz) • AC current (A) • Cumulative hours of operation (h).

a) The inverter shall have an RS-485 interface and support communication of its operational parameters and logs over Modbus protocol. The register mapping/memory mapping of the inverter data shall be made available by the Empaneled Agency from the inverter supplier to the DISCOMs/GUVNL.
b) Three phase PCU/ inverter shall be used with each power plant system above 6KW and In case of 6 KW or less Capacity single phase/3pahse inverter shall be used as per market availability. In case of capacity addition of existing Solar plant, if the existing inverter is required to be replaced, the cost same is to be borne by consumer up on mutual agreement with Agency and consumer.
c) The output of power factor of PCU/ inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustain 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 should comply with applicable IEC/equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068-2(1,2,14,30) /Equivalent BIS Std.
f) The charge controller (if any) / MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 Specifications.
g) 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. Valid type test report shall be submitted by the empaneled agency before commissioning of the SPV System.
h) All inverters shall be IEC 61000 compliant for electromagnetic compatibility, harmonics, Surge, etc.
i) Maximum Power Point Tracker (MPPT) shall be integrated in the PCU/inverter to maximize energy drawn from the array.
j) The PCU/ Invertor shall have overloading capacity of minimum 10%
k) The allowable capacity of inverter shall be (+15/-10 %) of registered AC Capacity.

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

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

1. DATA ACQUISITION SYSTEM / PLANT MONITORING

i. Data Acquisition System shall be provided for each of the solar PV plant.

ii. Remote Monitoring and data acquisition through Remote Monitoring System software at the GETCO location 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 Empaneled Agency. Provision for interfacing these data on GETCO server and portal in future shall be kept as per requirement.

iii. Empaneled agency shall ensure that Inverter should have provision of remote monitoring of inverter data through sim card or through Wi-Fi. Required website/mobile app platform, where the user (Consumer) can access the data, should be provided/explained to consumer while installation by Empaneled Agency. The facility of in-built Wi-Fi module or communication through sim-card should also be explained to the consumer.

Recurring cost of sim card/Data pack for communication shall be borne by consumers. All the inverter data should be made available to GETCO for monitoring by giving web access by sharing the user ID and password. SIM-card cost, Periodic data charges towards data pack and Internet/Wi-fi connectivity for maintaining Remote Monitoring System shall be the responsibility of Beneficiary.

10. METERING:

a) The bi-directional electronic energy meter (0.5S class) shall be installed for the measurement of Import/Export of energy in co-ordination with GETCO.

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

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.

3.14. The installation of Generation meters including CTs & PTs, wherever applicable, shall be <u>carried out by the Empaneled Vendor</u> as per the terms, conditions and procedures laid down by the concerned GERC/GETCO.

11. POWER CONSUMPTION:

a) Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any surplus power can be injected in to the grid.

12. PROTECTIONS

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

12.1. LIGHTNING PROTECTION:

i. The SPV power plants shall be provided with lightning & over voltage protection, if required. The main aim in this protection shall be to reduce the overvoltage 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.
ii. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors (LAs). Lightning protection should be provided as per NFC17-102:2011/IEC 62305 standard.
iii. The protection against induced high-voltages shall be provided by the use of Metal Oxide Varistors (MOVs)/Franklin Rod type LA/Early streamer type LA.
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 mm^2 copper/ 16 mm^2 aluminum or GI strip bearing size 25*3 mm thick). Separate pipe for running earth wires of Lightning Arrestor shall be used.

12.2. SURGE PROTECTION

i. Internal surge protection, wherever required, shall be provided.
ii. It will consist of three SPD type-II/MOV type surge arrestors connected from +ve and –ve terminals to earth.

12.3. EARTHING PROTECTION

i The earthing shall be done in accordance with latest Standards.
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. shall be grounded properly as per IS 3043-2018.
iii. 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.
iv. Earth resistance should be as low as possible and shall never be higher than 5 ohms.
v. separate three earth pits shall be provided for individual three earthing viz.: DC side earthing, AC side earthing and lightning arrestor earthing.

12.4. 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 Anti islanding features. 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 / 2 pole isolation switch (RCCB may also be used) 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.

13. CABLES

Cables of required 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℃ to +80℃.
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) should be insulated with a special grade PVC compound formulated for outdoor use.
vii. **Cable Routing**/ **Marking:** All cable/wires 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.
viii. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25 years.
ix. 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.
x. 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. Aluminum cable may be used on the AC-side of the PV system.
xi. 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%.
xii. 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 %.

14. 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.

15. DRAWINGS & MANUALS:

- Operation & Maintenance manual/user manual, Engineering and Electrical Drawings 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 and provided to the beneficiary.

- ISI marked (wherever applicable) and reputed makes equipment be used.

16. SOLAR PV SYSTEM ON THE ROOFTOP

The Solar PV system on the rooftop of the premises will be installed for PV capacity permitted by GETCO as per regulation issued by GERC.

17. 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 Safety Regulation 2010 etc.

18. DOCUMENTATION:

Operation & Maintenance 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 and provided to the beneficiary.

19. SHADOW ANALYSIS:

The shadow analysis report with the instrument such as Solar Pathfinder or professional shadow analysis software of each site has to be submitted by Bidder and shall be his responsibility to educate the user to install the system only in shadow free space. Lower performance of the system due to shadow effect shall be the responsibility of the bidder and shall be liable for penalty for lower performance.

Solar PV Modules/Panels	
IEC 61215 and IS 14286	Design Qualification and Type Approval for Crystalline Silicon Terrestrial Photovoltaic (PV) Modules
IEC 61701:2011	Salt Mist Corrosion Testing of Photovoltaic (PV) Modules
IEC 61853- 1:2011 / IS 16170-1:2014	Photovoltaic (PV) module performance testing and energy rating –: Irradiance and temperature performance measurements, and power Rating.
IEC 62716	Photovoltaic (PV) Modules – Ammonia (NH3) Corrosion Testing (as per the site condition like dairies, toilets etc)
IEC 61730-1,2	Photovoltaic (PV) Module Safety Qualification – Part 1: Requirements for Construction, Part 2: Requirements for Testing
IEC 62804	Photovoltaic (PV) modules – Test method for detection of potential-induced degradation. IEC 62804-1: Part 1: Crystalline Silicon
Solar PV Inverters	
IEC 62109 or IS : 16221	Safety of power converters for use in photovoltaic power systems – Part 1: General requirements, and Safety of power converters for use in photovoltaic power systems Part 2: Particular requirements for inverters. Safety compliance (Protection degree IP 65 or better for outdoor mounting, IP 54 or better for indoor mounting)
IS/IEC 61683 latest (as applicable)	Photovoltaic Systems – Power conditioners: Procedure for Measuring Efficiency (10%, 25%, 50%, 75% & 90-100% Loading Conditions)
IEC 60068-2 /IEC 62093 (as applicable)	Environmental Testing of PV System – Power Conditioners and Inverters
IEC 62116:2014/ IS16169	Utility-interconnected photovoltaic inverters - Test procedure of islanding prevention measures
Fuses	
IS/IEC 60947 (Part 1, 2 & 3), EN 50521	General safety requirements for connectors, switches, circuit breakers (AC/DC): 1)Low-voltage Switchgear and Control-gear, Part 1: General rules 2)Low-Voltage Switchgear and Control-gear, Part 2: Circuit Breakers 3)Low-voltage switchgear and Control-gear, Part 3: Switches,

	dis-connector switch-dis-connector and fuse-combination units 4) EN 50521: Connectors for photovoltaic system-Safety requirements and tests
IEC 60269-6:2010	Low-voltage fuses - Part 6: Supplementary requirements for fuse-links for the protection of solar photovoltaic energy systems
Solar PV Roof Mounting Structure	
IS 2062/IS 4759/AA6063 T6	Material for the structure mounting
Surge Arrestors	
BFC 17-102:2011/ NFC 102:2011/ IEC 62305	Lightening Protection Standard
IEC 60364-5-53/ IS15086-5 (SPD) IEC 61643- 11:2011	Electrical installations of buildings - Part 5-53: Selection and erection of electrical equipment - Isolation, switching and control 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, IEC60502/IS 1554 (Part 1& 2)/ IEC69947 (as applicable)	General test and measuring method for PVC (Polyvinyl chloride) insulated cables (for working voltages up to and including 1100 V, and UV resistant for outdoor installation)
BS EN 50618	Electric cables for photovoltaic systems (BT(DE/NOT)258), mainly for DC Cables
Earthing /Lightning	
IEC 62561/IEC 60634 Series (Chemical earthing) (as applicable)	IEC 62561-1: Lightning protection system components (LPSC) - Part: Requirements for connection components IEC 62561-2: Lightning protection system components (LPSC) – Part 2: Requirements for conductors and earth electrodes IEC 62561-7: Lightning protection system components (LPSC) - Part 7: Requirements for earthing enhancing compounds
Junction Boxes	
IEC 60529	Junction boxes and solar panel terminal boxes shall be of the thermo-plastic type with IP 65 or better protection for outdoor use, and IP 54 or better protection for indoor use

GUARANTEE AND CMC

(a) Guarantee

The Grid connected Solar Photovoltaic System for the project supplied, installed and commissioned shall be guaranteed by the empaneled agency for a minimum period of 5- years from the date of successfully commissioning of the last system, in regard to quality of design, material, workmanship, quality of process/ manufacturing, performance, efficiency, installation, etc.

In the event any defect is found or developed in the system within guarantee period, shall be rectified/replaced by the Empaneled Agency at his own expense promptly.

In case the defects are not rectified within 2 (Two) days of the receipt of the complaint by the Empaneled Agency, GETCO shall have full liberty to rectify such defect or undertake such repairs as may be necessary to restore the system in working condition at the risk and cost of the Empaneled Agency.

The expenditure so incurred by GETCO shall be deducted from EOI applicant's pending claims, security, etc. and if necessary may be recovered in other mode provided under the law. In the event of failure of the complete system, if necessary, the whole system shall be replaced by the Empaneled Agency promptly.

(b) CMC: - Comprehensive Maintenance Contract for 5 years: - (Resolving Complaints related to defects/ non-working / poor performance of the system)

This EOI Document cover Five-year Comprehensive Maintenance Contract under the scope of EOI applicant.

The Five-year Comprehensive Maintenance Contract shall include comprehensive on-site guarantee and warranty for all materials and components of the system under the project as mentioned above in para no 16(a).

During this CMC period the Empaneled Agency has to repair/replace the defective part/s or the material/s or any or all Components of the System to make it in working condition without loss of performance or degradation in efficiency and without compromising safety aspects free of cost within 48 (Fort eight) Hours of time limit as soon as the complaint is received from the GETCO. Also the Empaneled Agency has to undertake regular/periodical preventive maintenance of the system to avoid any future fault in the system and to improve the solar yield.

During the CMC period, the inverter monitoring, monitoring and controlling, shall be done by EOI applicant. Hence necessary reports shall be submitted by the EOI applicant in the soft/hard copies periodically to the concern authority of the GETCO as and when asked.

a) **Logging of complain:**
The record of each and every complaint received and resolve with down time and up time shall have to be maintained by the Empaneled Agency in register as well as computer based software and shall have to be submitted to GETCO office in each quarter**.**

b) While doing repairing or rectification work, the Empaneled Agency's technician or any person is not authorized to work on GETCO's electric line of 11 KV and LT having potential danger of electricity.

In case the defects are not rectified within 2 (Two) days from the receipt of the complaint by empaneled agencies than penalty of Rs 200 per day is applicable till the complaint is resolved.

This penalty shall be payable to GETCO, in case of empaneled agency failed to pay the same, it will be recovered from the PBG or may be recovered in other mode provided under the law. In the event of failure of the complete system, if necessary, the whole system shall be replaced by empaneled agencies within 15 days failing which 0.5% per day plus GST and cess on the particular project value subject to maximum of 10% of the project value plus applicable GST and cess to be recovered from the PBG.

(C) Generation Guarantee:

(c)-1

The Bidder shall provide a minimum generation guarantee corresponding to a capacity utilization factor (CUF) of 17% (the "Guaranteed CUF") with respect to the AC capacity of the PV system.

(c)-2

This Guaranteed CUF shall be calculated on an annual-basis and shall be verified by the GETCO at the end of each year during the 5 year guarantee period.

(c)-3

1% degradation in guaranteed CUF every year-on year basis for Five year will be considered.

(c)-4

In case of Guaranteed CUF is found below 17% than GETCO shall recover an amount at the rate of Rs.5.00 +Applicable GST per kWh from the Empanelled Agency for such shortfall at the end of the contract year to compensate the same.

Periodical maintenance:

The record of down time and up time and periodical maintenance at least in every quarter shall have to be maintained by the Empaneled Agency in register as well as computer based software and shall have Mandatorily to be submitted to GETCO at the end of every Quarter**.** Non submission of the report shall be considered as "Breach of Contract" and shall attract punitive actions like encashment of PBG will be applicable and the decision of GETCO shall be final in this regard.

Notices, Statements and other communications sent by GETCO through registered post or e-mail or fax to the EOI applicant / Empaneled Agency at his specified address shall be deemed to have been delivered to the EOI applicant.

GUIDELINES FOR AGENCY:

1. It is mandatory for EOI applicant to have valid test report of SPV Modules and grid tie inverters with similar or larger capacity from MNRE approved laboratories.
2. The program implementation guidelines of the MNRE, as declared from time to time, for SPV program shall be applicable and followed at all times.
3. The technical specification, scope of work for which EOI Document is invited are furnished in EOI Document
4. The quantity mentioned in the EOI Document is only indicative and not final. Payment will be done only for the actual quantity executed.
5. Cost of Comprehensive Maintenance during Guarantee and warrantee period and Insurance of system for 5 years is required to be included in the quoted prices.
6. The Empanelled Agency shall be responsible for overall project management, system integration and testing to complete all criteria for successful functioning of the Grid connected Solar PV plant, but not limited to the functions laid down in this documents.
7. It shall be the responsibility of the bidder to clean the modules though out the five (5) years CMC period to ensure a capacity utilization factor of 17% on annual basis to be measured at inverter/ Solar meter.
8. It shall be mandatory for the vendor to visit the system installation sit every 3 months and submit a report to GETCO duly signed by the authority in prescribed format.

SPECIAL CONDITIONS OF CONTRACT

1.0 General Particulars:

This part of the Bid Document relates to certain specific/special terms and conditions particular to the Contract. The provisions herein are to be read and understood in conjunction with the relevant provisions elsewhere in the Instructions to Bidders (ITB), the General Conditions of Contract (GCC) and Erection Conditions of Contract (ECC). The intent of provisions herein is specific to this contract and are, in general, supplementary to related provisions under ITB, GCC and ECC. However, in certain provisions which are contrary to those in ITB, GCC and ECC, the provisions in these Special Conditions of Contract will prevail.

2.0 Tender Fee:

- Payment of tender Fees should be by RTGS/NEFT/IMPS only.
- ~~In case of Payment through Demand Draft, the scanned copy of Original document shall to be uploaded with the bid and original copy of the same will have to submitted, at the office address specified in the tender document, within due submission dt. of physical bid mentioned in Tender Notice.~~

3.0 Earnest Money Deposit (EMD):

- Payment of EMD should be by RTGS/NEFT/IMPS.
- ~~In case of Payment through Demand Draft, the scanned copy of Original document shall to be uploaded with the bid and original copy of the same will have to submitted, at the office address specified in the tender document, within due submission dt. of physical bid mentioned in Tender Notice.~~
- Unsuccessful Bidder's bid security/EMD will be returned/refunded on finalization of tender or three months from the date of submission of tender whichever is later.
- The successful bidders, Bid Security will be discharged upon, furnishing the contract submission of Security Deposit
- The bid guarantee may be forfeited.
  a) If a Bidder withdraws its bid during the period of bid validity specified by the bidder on the bid Form:
  b) If a bidder refuses to accept the contract or fails to commence the works (including supplies within thirty days of letter of award of contract)

4.0 Declaration by bidder:

The Bidder shall sign the Declaration enclosed to this SCC and not furnishing the same will make the Bid invalid.

5.0 Technical Qualifying Criteria:

As per Qualification requirement clause No.- 2

6.0 Financial Qualifying Criteria:

As per Qualification requirement clause No.- 2

7.0 Price Inclusions (including Taxes & Duties):

7.1 The prices quoted shall be all inclusive of freight, Octroi, transportation, loading, – unloading & stacking at site of equipment materials received at mentioned location after observing all store formalities of GETCO.

7.2 No extra payment toward any type of templates and erection tools /materials will be made.

7.3 GST:

Every bidder shall inform their GSTIN No. of the registered place(s) where from the bidder intends to supply the goods / services, meaning thereby the bidder has to supply the goods / services from the relevant declared / registered place

i. Contractor has to submit the GST Registration certificate

ii. Contractor has to submit invoice/Challan as documentary proof with each RA bill & Final Bill and in which it shall be specifically mention the nature of service &code SAC code under which the amount of service tax GST payable by contractor and payable by GETCO (if any))without fail.

iii. GETCO will withheld the GST amount of contractor and it shall be reimbursed on production of documents evidences of payment made by contractor

iv. The Contractor has to submit invoice to GETCO indicating following.

- Name, address and GST registration no. of the service provider
- Name and address of person receiving the service i.e. GETCO
- Description and value of taxable service provided
- The total GST payable thereon with bifurcation of GST payable by service provider and service receiver.
- Rate and amount of taxes i.e. CGST/ SGST/ IGST/UGST
- Place of supply along with the name of State, in case of a supply in the course of inter-State trade or commerce i.e. Out of Gujarat Supply
- Applicable SAC Code

  Contractor has to also supply tax invoice as described under GST rules and Regulation indicating GSTIN

v. Contractor has to provide Tax invoice in a standard format as per CGST act, CGST rules 2017 and GST invoicing rules containing all details as provided in Act and rules. Contractor / Supplier has to mention GST no. of GETCO i.e. 24AABCG4029R2ZC in the invoice invariably & failure of which payment will not be made.

Supplier/Contractor should charge GST in Invoice at the rate as agreed to / mentioned in acceptance of tender only and any deviation in the same shall not be accepted. Further, any additional liability of GST (later on due to wrong mentioning of GST rate, mis-interpretation of HSN/SAC Code, etc.) over and above as charged in the invoice shall be borne by the Supplier/Contractor. However, any refund received by the supplier / contractor on account of GST charged from the company; such refund shall have to be passed on to the company, along with interest if any. Such refund along with interest needs to be passed on suo-moto by the supplier / contractor.

Further, the Company has a right to recover the amount of GST along with penal interest at the rate of 15% per annum if GST charged is not paid / short paid to the government or fail to upload the details or uploads inaccurate particulars on GSTIN portal by the Supplier / Contractor within the stipulated time limit.

In case, Govt. revises the rate of GST rate / Code during the tenure of the contract, the provision of statutory variation clause shall apply.

TDS Under GST at Prevailing rate will be detected from bills in accordance with the provision of section 51 of the CGST act 2017 in concurrence with other GST act and allied rules. Certificate will be issued to the contractor for the deduction

7.4 **Statutory Variations:**

Any statutory increase or decrease in the taxes and duties including GST and Cess as applicable or in the event of introduction of new tax/cess or cessation of existing tax/cess subsequent to suppliers offer if it takes place within the original contractual delivery date will be to COMPANY's account subject to the claim being supported by documentary evidence. However, if any decrease takes place after the contractual delivery date, the advantage will have to be passed on to COMPANY.

Statutory Variation clause will not be applicable in case of Supplier / Contractor has opted for Composition Scheme under GST.

7.5 **Income Tax**

Income tax at source at the prevailing rate will be deducted from bills in accordance with the provision of Income-Tax Laws and to that effect a certificate will be issued to the contractor.

8.0 SECURITY DEPOSIT / PERFOMANCE GUARANTEE

8.1 The successful bidder has pay security deposit within **15 working days** of receipt of LOI.

8.2 The successful bidder will be required to pay an amount equivalent to **5%** of the value of the order as a Security Deposit for satisfactory execution of the contract. Such Security Deposit will be payable either in DD/BG payable at Mehsana. Bank guarantees from Scheduled/Nationalized Banks will be acceptable.

8.3 No interest will be allowed on amount of Security deposit.

8.4 For Rooftop Solar Installation- Security Deposit shall be released on submission of 20% Performance Guarantee which valid for a period of 5 years from Date of commissioning of System (Dt. of Installation of Meter). The same shall be return on receipt of N.O.C. by the concerned EE (TR.)

8.5 This security deposit is for the performance of contract and the same is liable to be forfeited by the in event of non-fulfillment of the term and conditions of this contract by the contractor.

8.6 Corporate Guarantees are not admissible.

8.7 The Signing of Contract and Contract Agreements will be done as per relevant Terms and Conditions.

8.8 Contractor shall pay SD within stipulate time if SD is not paid by contractor than EMD Will is forfeited.

9.0 GUARANTEE PERIOD:

Total work executed shall be covered under guarantee period against any defect in poor workmanship etc. for a period of **Five year** from the date of commissioning.

9.0A BAR CHARTS

The Bidder shall furnish along with the bid, the bar charts and project schedules indicating starting and completion dates of each activity. This is mandatory condition the tenders without which shall be liable to be rejected.

10.0 PENALTY FOR DELAY:

10.1 The tenderer should note that the completion time allowed for carrying out the work should be strictly observed. Any delay that may take place in supply and erection beyond Contractual cutoff date stated as per stipulated delivery period shall be subject to the penalty at the rate of ½ % per week or part thereof on delayed portion of the work subject to ceiling of 10% of total contract value will be impose.

10.2 The penalty will be deducted from bills payable either against this contract or from any Bank Guarantee or any other amount payable under any other contract with the GETCO.

11.0 COMPLETION PERIOD

11.1 Overall Completion period for this Contract will be **90 Days.**

11.2 Instruction for mobilization or stoppage period will be as per required as per condition during this period of the Contract.

11.3 The completion date will be deemed to be the date on which all works on the Contract are demonstrated to be complete to the satisfaction of the /Engineer and is complete in all respects as per the terms and conditions of this Contract.

12.0 The validity of tender is 180 days from the date of opening of technical bid.

13.0 Insurance:

The Bidder's insurance liabilities pertaining to the scope of Works are detailed out in Clauses titled Insurance, in General Terms and Conditions of Contract and in Erection Conditions of this Part-I. Bidder's attention is specifically invited to these clauses. Bid price shall include all the costs in fulfilling all the insurance liabilities under the Contract.

12.0 Presentation of Bills

12.1 RA bills for allotted sub-order and work executed including cost of material consumed is to be prepared in triplicate and submitted to Site in-charge of the work, for necessary payment. These bills shall be serially numbered with suffix SE-I.

12.2 Balance 20% payment shall be released only after finalization of material account and passing of final bill. The contractor has to submit the final bill along with the material consumption statement and other required data of the work carried out within 3 months from the date of completion of work. These bills shall be serially numbered with suffix SE-I.

12.3 All the bills in accordance with the above clauses must be submitted with the following information:

a) Item wise work done during billing period.
b) Item wise cumulative work done.
c) Account for material consumed and balance stock.

12.4 For non-submission or part submission of above information, an additional 5% amount of the Respective RA bill shall be withheld and shall only be released at the time of final bill.

13.0 Terms of Payment

The payment of the above supply will be processed through VMS portal of GUVNL, hence you are required to get yourself registered on https://vms.guvnl.com and submit the digitally signed Invoices, GST CA Certificates, E-way bill, Delivery Challan and other supporting documents to Consignee Location/ Division offices using your login ID and Password on the VMS portal of GUVNL.

You should forward the RR/TR directly to the consignee along with the triplicate copy of Bill. The original and duplicate copy of the bill along with relevant documents including approved test certificate where applicable should be now uploaded on VENDOR MANAGEMENT SYSTEM (VMS) Portal, www.vms.guvnl.com including Invoice, documents which are digitally signed by Vendors/ Suppliers. The VMS portal also provides 'real time' tracking status to monitor the process of submissions and also receive timely updates

All payments made during the Contract shall be on account payments only. The payment will be made on fulfillment of all his liabilities under the Contract and production of work completion certificate of the Sub-Station in-charge, after following the procedures of GETCO.
Payment will be made by concern Division offices under which work executed.

The payment terms towards the supply, installation, commissioning and 5 year CMC shall be as follows.

- 80% of the order value upon certification of GEDA/third party approved by GEDA and commission of the system upon installation of the Bi-directional & solar meter and complete the installation process with uploading of all documents on GEDA online portal, or as may be specified.
  - Bills
  - Installation certificate duly signed by beneficiary/ GEDA official/ third party showing its commissioning date (Dt. of installation of the Bi-directional meter installation)
- Remaining 20% of the order value against the equivalent amount of performance guarantee valid for a period of 5 years from the date of commissioning of the system (Dt, of meter installation). Security deposit shall be released with this 80% payment against NOC from respective Division offices.

- Invoice with all statutory requirement as above will be submitted to respective Division office for payment carried out by respective offices.

- The payment to the Contractor for the performance of the works under the Contract will be made by the Owner as per the guidelines and conditions specified herein. All payments made during the Contract shall be on account payments only. The final payment will be made on completion of all Works and on fulfillment by the Contractor of all his liabilities under the Contract.
- Currency of Payment: All payments under the Contract shall be in Indian Rupees only.
- Terms: Payment terms will be as prescribed in the special conditions of contract and on fulfillment of conditions specified thereof.

- Mode of Payment: Payment made by GETCO through RTGS only directly to Owner's Bank or directly to the Contractor Bank account as per the payment schedule.
- The payment of test charges, if any, payment, taxes and duties (whenever admissible) inland transportation (including port handling), insurance and the erection portion of the Works shall be made direct to the Contractor by the Owner.
- All payments under the Contract shall be made as stipulated in the Special Conditions of Contract after signing the Contract Agreement. The payments linked with the dispatch of materials shall only be made after production of all dispatch documents as specified in the relevant Contract conditions which will interalia include the Material Inspection Clearance Certificate issued by the Owner.

14.0 RISK DISTRIBUTION

INSURANCE

The Contractor at his cost shall arrange, secure and maintain all insurance as may be pertinent to the Works and obligatory in terms of law to protect his interest and interests of the Owner against all perils detailed herein. The form and the limit of such insurance as defined herein together with the under-writer in each case shall be acceptable to the Owner. However, irrespective of such acceptance, the responsibility to maintain adequate insurance coverage at all time during the period of Contract shall be of Contractor alone. The Contractor's failure in this regard shall not relieve him of any of his contractual responsibilities and obligations. The insurance covers to be taken by the Contractor shall be in the joint name of the Owner and the Contractor. The Contractor shall, however, be authorized to deal directly with Insurance Company or Companies and shall be responsible in regard to maintenance of all insurance covers. Further the insurance should be in freely convertible currency.

Any loss or damage to the equipment during handling, transportation, storage, erection, putting into satisfactory operation and all activities to be performed till the successful completion of commissioning of the equipment shall be to the account of the Contractor. The Contractor shall be responsible for preference of all claims and make good the damages or loss by way of repairs and/or replacement of the equipment, damaged or lost. The transfer of title shall not in any way relieve the Contractor of the above responsibilities during the period of Contract. The Contractor shall provide the Owner with copy of all insurance policies and documents taken out by him in pursuance of the Contract. Such copies of documents shall be submitted to the Owner immediately after such insurance coverage. The Contractor shall also inform the Owner in writing at least sixty (60) days in advance regarding the expiry/cancellation and/or change in any of such documents and ensure revalidation, renewal etc., as may be necessary well in time.

The perils required to be covered under the insurance shall include, but not be limited to fire and allied risks, miscellaneous accidents (erection risks) workman compensation risks, loss or damage in transit, theft, pilferage, riot and strikes and malicious damages, civil commotion, weather conditions, accidents of all kinds, etc. The scope of such insurance shall be adequate to cover the replacement/reinstatement cost of the equipment for all risks up to and including delivery of goods and other costs till the equipment is delivered at Site. The insurance policies to be taken should be on replacement value basis and/or incorporating escalation clause. Notwithstanding the extent of insurance cover and the amount of claim available from the underwriters, the Contractor shall be liable to make good the full replacement/rectification value of all equipment/materials and to ensure their availability as per project requirements.

All costs on account of insurance liabilities covered under the Contract will be on Contractor's account and will be included in Contract Price, However, the Owner may from time to time,

during the pendency of the Contract, ask the Contractor in writing to limit the insurance coverage, risks and in such a case, the parties to the Contract will agree for a mutual settlement, for reduction in Contract price to the extent of reduced premia amount. The Contractor, while arranging the insurance shall ensure to obtain all discounts on premia, which may be available for higher volume or for reason of financing arrangement of the project.

The clause entitled 'Insurance' under the section ECC of this Volume-I, covers the additional insurance requirements for the portion of the works to be performed at the Site.

Special Conditions of Contract details out the various insurance liabilities.

LIABILITY FOR ACCIDENTS AND DAMAGES

Under the Contract, the Contractor shall be responsible for loss or damage to the plant until the successful completion of commissioning as defined elsewhere in the Bid document.

DELAYS BY OWNER OR HIS AUTHORISED AGENTS

In case the Contractor's performance is delayed due to any act of omission on the part of the Owner or his authorized agents, then the Contractor shall be given due extension of time for the completion of the Works, to the extent such omission on the part of the Owner has caused delay in the Contractor's performance of the Contract.
Regarding reasonableness or otherwise of the extension of time, the decision of the Engineer shall be final.
In addition, the Contractor shall be entitled to claim demonstrable and reasonable compensation if such delays have resulted in any increase in cost. The Owner shall examine the justification for such a request for claim and if satisfied, the extent of compensation shall be mutually agreed depending upon the circumstances at the time of such an occurrence.

15.0 FORCE MAJEURE

Force major is herein defined as any cause which is beyond the control of the Contractor or the Owner as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the Contract, such as:

a. Natural phenomena, including but not limited to floods, droughts, earthquakes and epidemics;
b. Acts of any Government, domestic or foreign, including but not limited to war, declared or undeclared, priorities, guarantees, and embargoes.

Provided either party shall within fifteen (15) days from the occurrence of such a cause notify the other in writing of such causes.

The Contractor or the Owner shall not be liable for delays in performing his obligations resulting from any force major cause as referred to and/or defined above

The date of completion will, subject to hereinafter provided, be extended by a reasonable time even though such cause may occur after Contractor's performance of obligation has been delayed due to other causes.

16.0 SUSPENSION OF WORK

The Owner reserves the right to suspend and reinstate execution of the whole or any part of the Works without invalidating the provisions of the Contract. Orders for suspension or reinstatement of the Works will be issued by the Engineer to the Contractor in writing. The

time for completion of the works will be extended for a period equal to duration of the suspension.

Any necessary and demonstrable cost incurred by the Contractor as a result of such suspension of the works will be paid by the Owner, provided such costs are substantiated to the satisfaction of the Engineer. The Owner shall not be responsible for any liabilities if suspension or delay is due to some default on the part of the Contractor or his Sub-Contractor.

17.0 CONTRACTOR`S DE FAULT

If the Contractor shall neglect to execute the works with due diligence and expedition or shall refuse or neglect to comply with any reasonable order given to him, in writing by the Engineer in connection with the works or shall contravene the provisions of the Contract, the Owner may give notice in writing to the Contractor to make good the failure, neglect or contravention complained of. Should the Contractor fail to comply with the notice within thirty (30) days from the date of serving the notice, then and in such case the Owner shall be at liberty to employ other workmen and forthwith execute such part of the works as the Contractor may have neglected to do or if the Owner shall think fit, without prejudice to any other right he may have under the Contract to take the work wholly or in part out of the Contractor's hands and re-contract with any other person or persons to complete the works or any part thereof and in that event the Owner shall have free use of all Contractor's equipment that may have been at the time on the Site in connection with the works without being responsible to the Contractor for fair wear and tear thereof and to the exclusion of any right of the Contractor over the same, and the Owner shall be entitled to retain and apply any balance which may otherwise be due on the Contract by him to the Contractor, or such part thereof as may be necessary, to the payment of the cost of executing the said part of the Works or of completing the Works as the case may be. If the cost of completing of works or executing part thereof as aforesaid shall exceed the balance due to the Contractor shall pay such excess. Such payment of excess amount shall be independent of the liquidated damages for delay which the Contractor shall have to pay if the completion of works is delayed.

In addition, such action by the Owner as aforesaid shall not relieve the Contractor of his liability to pay liquidated damages for delay in completion of Works as defined in Clause 14.0 of this Section.

Such action by the Owner as aforesaid the termination of the Contract under this clause shall not entitle the Contractor to reduce the value of the Contract Performance Guarantee nor the time thereof. The Contract Performance Guarantee shall be valid for the full value and for the full period of the Contract including guarantee period.

19.0 TERMINATION OF CONTRACT ON OWNER`S INITIATIVE

The Owner reserves the right to terminate the Contract either in part or in full due to reasons other than those mentioned under clause entitled 'Contractor's Default'. The Owner shall in such an event give fifteen (15) days' notice in writing to the Contractor of his decision to do so.

The Contractor upon receipt of such notice shall discontinue the work on the date and to the extent specified in the notice, make all reasonable efforts to obtain cancellation of all orders and Contracts to the extent they are related to the work terminated and terms satisfactory to the Owner, stop all further sub-contracting or purchasing activity related to the work terminated, and assist Owner in maintenance, protection, and disposition of the works acquired under the Contract by the Owner.

In the event of such a termination the Contractor shall be paid compensation, equitable and reasonable, dictated by the circumstances prevalent at the time of termination.

If the Contractor is an individual or a proprietary concern and the individual or the proprietor dies and if the Contractor is a partnership concern and one of the partners dies then unless the Owner is satisfied that the legal representatives of the individual Contractor or of the proprietor of the propriety concern and in the case of partnership, the surviving partners, are capable of carrying out and completing the Contract the Owner shall be entitled to cancel the Contract as to its incomplete part without being in any way liable to payment of any compensation to the estate of deceased Contractor and/or to the surviving partners of the Contractor's firm on account of the cancellation of the Contract. The decision of the Owner that the legal representatives of the deceased Contractor or surviving partners of the Contractor's firm cannot carry out and complete the Contract shall be final and binding on the parties. In the event of such cancellation the Owner shall not hold the estate of the deceased Contractor and/or the surviving partners of the estate of the deceased Contractor and/or the surviving partners of the Contractor's firm liable to damages for not completing the Contract.

20.0 FRUSTRATION OF CONTRACT

In the event of frustration of the Contract because of supervening impossibility in terms of Section 56 of the Indian Contract Act, parties shall be absolved of their responsibility to perform the balance portion of the Contract, subject to provisions contained in sub-clause 45.3 below.

In the event of non-availability or suspension of funds for any reasons, whatsoever (except for reason of willful or flagrant breach by the Owner) and/or Contractor then the works under the Contract shall be suspended.

Furthermore, if the Owner is unable to make satisfactory alternative arrangements for financing to the Contractor in accordance with the terms of the Contract within three months of the event, the parties hereto shall be relieved from carrying out further obligations under the Contract treating it as frustration of the Contract.

In the event referred to in sub-clauses 45.1 & 45.2 above the parties shall mutually discuss to arrive at reasonable settlement on all issues including amounts due to either party for the work already done on quantum merit_ basis, which shall be determined by mutual agreement between the parties.

21.0 GRAFTS AND COMMISSIONS ETC.

Any graft, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner(s), agent(s), officer(s), director(s), employee(s) or servant(s) or any one on his or their behalf in relation to the obtaining or to the execution of this or any other Contract with the Owner, shall in addition to any criminal liability which it may incur, subject the Contractor to the cancellation of this and all other Contracts and also to payment of any loss or damage to the Owner resulting from any cancellation. The Owner shall then be entitled to deduct the amount so payable from any monies otherwise due to Contractor under the Contract.

RESOLUTION OF DISPUTES

22.0 SETTLEMENT OF DISPUTES

Any dispute(s) or difference(s) arising out of or in connection with the Contract shall, to the extent possible, be settled amicably between the parties.

If any dispute or difference of any kind, whatsoever, shall arise between the Owner and the Contractor, arising out of the Contract for the performance of the Works whether during the progress of the Works or after its completion or whether before or after the termination, abandonment or breach of the Contract, it shall, in the first place, be referred to and settled by the Engineer, who, within a period of thirty (30) days after being requested by either party to do so, shall give written notice of his decision to the Owner and the Contractor.
Save as hereinafter provided, such decision in respect of every matters so referred shall be final and binding upon the parties until the completion of the Works and shall forthwith be given effect to by the Contractor who shall proceed with the Works with all due diligence, whether he or the Owner requires arbitration as hereinafter provided or not.

If after the Engineer has given written notice of his decision to the parties, no claim to arbitration has been communicated to him by either party within thirty (30) days from the receipt of such notice, the said decision shall become final and binding on the parties.

In the event of the Engineer failing to notify his decision as aforesaid within thirty (30) days after being requested as aforesaid, or in the event of either the Owner or the Contractor being dissatisfied with any such decision, or within thirty (30) days after the expiry of the first mentioned period of thirty days, as the case may be, either party may require that the matters in dispute be referred to arbitration as hereinafter provided.

23.0 ARBITRATION

1. Amicable Settlement

Any dispute, difference, controversy or claim between the Parties arising out of or relating to this contract with reference to the construction, interpretation, breach, termination or validity thereof (hereinafter referred as "the Dispute") shall, upon the written request of either Party be referred to the authorized representatives of the Disputing Parties for resolution. The authorized representatives shall promptly meet and attempt to negotiate in good faith a resolution of the Dispute within thirty days of the service of the request.

2. Arbitration

If the parties fail to amicably resolve the disputes or differences or contrary claims as indicated herewith in sub clause (1) of Clause, arising under or in connection with the present works contracts, whether pertaining to works contracts alone or works and procurement both, the same shall be referred to arbitration under the Gujarat Public Works Contracts Disputes Arbitration Tribunal Act, 1992.".

24.0 RECONCILIATION OF ACCOUNTS

The Contractor shall prepare and submit every one month, a statement covering payments claimed and the payments received vis-à-vis the works executed, for reconciliation of accounts with the Owner. The Contractor shall also prepare and submit a detailed account of Owner Issue materials received and utilized by him for reconciliation purpose in a format to be discussed & finalized with the Owner before the award of Contract.

Welfare Cess

- As per the Welfare Cess Act, the welfare cess @ 1% is applicable on supply and erection items for supply, erection, testing & commissioning of substation, transmission lines, EPC/Turnkey projects and civil works.
- Contractor shall get registered under Welfare Cess Act before commencement of work. Office of the Factory Inspector is authorized at present as a registering authority.
- The welfare cess@1% is considered in the price schedules so; the bidders are requested to quote accordingly.

- GETCO shall pay the welfare cess by way of reimbursing to contractors on production of documentary evidence of payment.
- The contracts for which supply or part supply of material are in the scope of GETCO, then contractors shall deposit welfare cess on estimated cost of supplied items to GETCO on progressive basis of utilization. As this part of welfare cess is on GETCO account, the same shall be reimbursed to the contractor on receipt of request letter along with documentary evidence of payment. For calculation of welfare cess on supply part, valuation as per MR shall be taken and informed to the contractor for payment. This will be over and above the A/T value. The modality of payment/ reimbursement of welfare cess will be as under.
  - On receipt of A/T, the contractor / bidder will get them registered under Welfare Cess Act and submit the documentary evidence to the concern office.
  - Before release of payment of first R.A. Bill, the contractor has to submit the documentary evidence of registration. Only thereafter, the bill will be processed for payment.
  - Before release of payment of subsequent R.A. Bills, the contractor has to submit the documentary evidence of payment of welfare cess of previous R.A. Bill.
  - Before release of payment of final bill, the contractor has to submit documentary evidence of payment of welfare cess of previous R.A. Bill as well as of this final bill.
  - If the R.A. Bill happens to be first and final bill, then before release of payment, contractor has to submit documentary evidence of registration under Welfare Cess Act and evidence of payment of welfare cess.
  - The welfare cess shall be reimbursed to the contractor on submission of copy of documentary evidence of payment by observing due formalities.

Note: welfare tax shall be reimbursed on production of proof of such payments made by the contractor to the appropriate department.

25.0 GENERAL

The following shall supplement the conditions already contained in other parts of these specifications & document and shall govern the portion of the work of this Contract to be performed at Site.

The Contractor upon signing of the Contract shall, nominate a responsible officer as his representative at Site suitably designated for the purpose of overall responsibility and coordination of the works to be performed at Site. Such person shall function from the Site office of the Contractor during the pendency of Contract.

26.0 REGULATION OF LOCAL AUTHORITIES AND STATUTES

The Contractor shall comply with all the rules and regulations of local authorities during the performance of his field activities. He shall also comply with the Minimum Wages Act, 1948 and the Payment of Wages Act (both of the Government of India) and the rules made there under in respect of any employee or workman employed or engaged by him or his Sub-Contractor. He shall abide by labour laws and others as specified in the special conditions of contract.

All registration and statutory inspection fees, if any, in respect of his work pursuant to this Contract shall be to the account of the Contractor. Should any such inspection or registration need to be re-arranged due to the fault of the Contractor or his Sub Contractor, the additional fees to such inspection and/or registration also shall be borne by the Contractor.

27.0 OWNER'S LIEN ON EQUIPMENT

The Owner shall have lien on all equipment brought to the Site for the purpose of erection, testing and commissioning of the equipment to be supplied & erected under the Contract. The Owner shall continue to hold the lien on all such equipment throughout the period of

Contract. No material brought to the Site shall be removed from the Site by the Contractor and/or his Sub-Contractors without the prior written approval of the Engineer.

28.0 ACCESS TO SITE AND WORKS ON SITE

Suitable access to and possession of the Site shall be afforded to the Contractor by the Owner in reasonable time.

The works so far as it is carried out on the Owner's premises, shall be carried out at such time as the Owner may approve and the Owner shall give the Contractor reasonable facilities for carrying out the works.

In the execution of the works, no person other than the Contractor or his duly appointed representative, Sub- Contractor and workmen, shall be allowed to do work on the Site, except by the special permission, in writing of the Engineer or his representative.

29.0 CONTRACTOR'S SITE ESTABLISHMENT

The Contractor shall at all times keep posted an authorized representative for the purpose of the Contract. Any written order or instruction of the Engineer or his duly authorized representative, shall be communicated to the said authorized resident representative of the Contractor and the representative shall be available at a stated address for this purpose.

30.0 CO-OPERATION WITH OTHER CONTRACTORS

The Contractor shall co-operate with all other Contractors or tradesmen of the Owner, who may be performing other works on behalf of the Owner and the workmen who may be employed by the Owner and doing work in the vicinity of the Works under the Contract. The Contractor shall also so arrange to perform his work as to minimize, to the maximum extent possible, interference with the work of other Contractors and their workmen. Any injury or damage that may be sustained by the employees of the other Contractors and the Owner, due to the Contractor's work shall promptly be made good at the Contractor's own expense.

31.0 DISCIPLINE OF WORKMEN

The Contractor shall adhere to the disciplinary procedure set by the Engineer in respect of his employees and workmen at Site. The Engineer shall be at liberty to object to the presence of any representative or employee of the Contractor at the Site, if in the opinion of the Engineer such employee has misconduct himself or is incompetent or negligent or otherwise undesirable and then the Contractor shall remove such a person objected to and provide in his place a competent replacement.

32.0 CONTRACTOR'S FIELD OPERATION

The Contractor shall keep the Engineer informed in advance regarding his field activity plans and schedules for carrying-out each part of the works. Any review of such plan or schedule or method of work by the Engineer shall not relieve the Contractor of any of his responsibilities towards the field activities. Such reviews shall also not be considered as an assumption of any risk or liability by the Engineer or the Owner or any of his representatives and no claim of the Contractor will be entertained because of the failure or inefficiency of any such plan or schedule or method of work reviewed. The Contractor shall be solely responsible for the safety, adequacy and efficiency of plant and equipment and his erection methods.

The Contractor shall have the complete responsibility for the conditions of the Work-site including the safety of all persons employed by him or his Sub–Contractor and all the properties under his custody during the performance of the work. This requirement shall apply continuously till the completion of the Contract and shall not be limited to normal working hours.

33.0 PROGRESS REPORT

The Contractor shall furnish three (3) copies each to the Engineer of progress including if any, photographs of the work done at Site.

The monthly progress report detailing-out the progress achieved on all erection activities shall highlight comparison to the schedules. The report shall also indicate the reasons for the variance between the scheduled and actual progress and the action proposed for corrective measures, wherever necessary.

34.0 MAN-POWER REPORT

The Contractor shall submit to the Engineer, on the first day of every month, a man hours schedule for the month, detailing the man hours scheduled for the month, skill-wise and area-wise.

35.0 PROTECTION OF WORK

The Contractor shall have total responsibility for protecting his works till it is finally taken over by the Engineer. No claim will be entertained by the Owner or by the Engineer for any damage or loss to the Contractor's works and the Contractor shall be responsible for complete restoration of the damaged works to original conditions to comply with the specification and drawings.

36.0 EMPLOYMENT OF LABOUR

The Contractor will be expected to employ on the work only his regular skilled employees with experience of his particular work. No person below the age of eighteen years shall be employed.

All traveling expenses including provisions of necessary transport to and from Site, lodging, allowances and other payments to the Contractor's employees shall be the sole responsibility of the Contractor.

In case the Owner becomes liable to pay any wages or dues to Labour or any Government agency under any of the provisions of the Minimum Wages Act, Workmen Compensation Act, Contract Labour Regulation Abolition Act or any other law due to act of omission of the Contractor, the Owner may make such payment and shall recover the same from the Contractor's bills.

37.0 FACILITIES TO BE PROVIDED BY THE CONTRACTOR

Tools, tackles and scaffoldings

The Contractor shall provide all the construction equipment's; tools, tackles and scaffoldings required for pre-assembly, erection, of the Breaker, Bus-bar Gantry etc, covered under the Contract. He shall submit a list of all such materials to the Engineer before the commencement of work at Site. These tools and tackles shall not be removed from the Site without the written permission of the Engineer.

First-aid

The Contractor shall provide necessary first-aid facilities for all his employees, representatives and workmen working at the Site. Enough number of Contractor's personals shall be trained in administering first-aid.

Cleanliness

The Contractor shall be responsible for keeping the entire area allotted to him clean and free from rubbish, debris etc. during the period of Contract. The Contractor shall employ enough number of personnel to keep the work area clean. Materials and stores shall be so arranged to permit easy cleaning of the area. In areas where equipment might drip oil and cause damage to the floor surface, a suitable protective cover of a flame resistant, oil proof sheet shall be provided to protect the floor from such damage.

LINES AND GRADES

All the works shall be performed to the lines, grades and elevations indicated on the drawings. The Contractor shall be responsible to locate and lay-out the works. Basic horizontal and vertical control points will be established and marked by the Engineer at site at suitable points. These points shall be used as datum for the works under the Contract. The Contractor shall inform the Engineer well in advance of the times and places at which he wishes to do work in the area allotted to him so that suitable datum points may be established and checked by the Engineer to enable the Contractor to proceed with his works. Any work done without being properly located may be removed and/or dismantled by the Engineer at Contractor's expense.

FIRE PROTECTION

The work procedures that are to be used during the erection shall be those, which minimize fire hazards to the extent practicable. Combustible materials, combustible waste and rubbish shall be collected and removed from the Site at least once each day. Fuels, oils and volatile or inflammable materials shall be stored away from the construction and equipment and materials storage areas.

All the Contractor's supervisory personnel and select number of workers shall be trained for firefighting. Enough of such trained personnel must be available at the Site during the entire period of the Contract.

SECURITY

The Contractor shall have total responsibility for all equipment and materials in his custody/stores, loose, semi-assembled and/or erected by him at Site. The Contractor shall make suitable security arrangements ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss.

39.0 PRE-COMMISSIONING TRIALS AND INITIAL OPERATIONS

The pre-commissioning trials and initial operations of the equipment erected by the Contractor shall be carried out in presence of contractor and is deemed considered as part of the work completion. If it is anticipated that the above test may prolong for a long time, the Contractor's workmen required for the above test shall always be present at Site during such tests and trials.

39.0 MATERIALS HANDLING AND STORAGE

All the equipment furnished under the Contract and arriving at Site shall be promptly received, unloaded, transported and stored in the storage spaces by the Contractor.

Contractor shall be responsible for examining all the shipment and notify the Engineer immediately of any damages, storage, discrepancy etc, for the purpose of Engineer's information only. The Contractor shall submit to the Engineer every week a report detailing all the receipts during the week. However, the Contractor shall be solely responsible for any shortages or damages in transit, handling and / or in storage and erection of the equipment at Site. Any demurrage, wharf age and other such charges claimed by the transporters, railways etc, shall be to the account of the Contractor.

The Contractor shall maintain an accurate and exhaustive record detailing out the list of all equipment materials received by him for the purpose of erection and keep such record open for the inspection of the Engineer in-charge.

All equipment shall be handled very carefully to prevent any damage or loss. The equipment stored shall be properly protected to prevent damage either to the equipment or to the floor

where they are stored. The equipment from the store shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at Site.

All electrical panels, control gears, motors and such other devices shall be properly dried by heating before they are installed and energized. Motor bearings, slip ring, commutators and other exposed parts shall be protected against moisture ingress and corrosion during storage and periodically inspected.

All the electrical equipment such as motors, generators, etc. shall be tested for insulation resistance at least once in three months from the date of receipt till the date of commissioning and a record of such measured insulation values maintained by the Contractor. Such records shall be opened for inspection by the Engineer.

The consumable and other supplies likely to deteriorate due to storage must be thoroughly protected and stored in a suitable manner to prevent damage or deterioration in quality by storage.

All the materials stored in the open or dusty location must be covered with suitable weatherproof and flame proof covering material wherever applicable.

If the materials belonging to the Contractor are stored in areas other than those earmarked for him, the Engineer will have the right to get it moved to the area earmarked for the Contractor at the Contractor's cost.

The Contractor shall be responsible for making suitable indoor storage facilities to store all equipment, which require indoor storage. Normally, all the electrical equipment such as motors, control gears, generators, exciters and consumables like electrodes, lubricants etc. shall be stored in the closed storage space. The Engineer, in addition, may direct the Contractor to move certain other materials, which in his opinion will require indoor storage, to indoor storage areas, which the Contractor shall strictly comply with.

40.0 CONSTRUCTION MANAGEMENT

The field activities of the Contractors working at Site, will be coordinated by the Engineer and the Engineer's decision shall be final in resolving any disputes or conflicts between the Contractor and other Contractors and the tradesmen of the Owner regarding scheduling and coordination of work. Such decision by the Engineer shall not be a cause for extra compensation or extension of time for the Contractor.

The Engineer shall hold weekly meetings of the Contractor at Site, at a time and place to be designated by the Engineer. The Contractor shall attend such meetings and take notes of discussions during the meeting and the decision of the Engineer and shall strictly adhere to those decisions in performing his works. In addition to the above weekly meeting, the Engineer may call for other meetings either with individual Contractors or with selected number of Contractors and in such a case the Contractors if called, will also attend such meetings.

Time is the essence of the Contract and the Contractor shall be responsible for performance of his works in accordance with the specified construction schedule. If at any time, the Contractor is falling behind the schedule, he shall take necessary action to make good for such delays by increasing his work force or by working overtime or otherwise accelerate the progress of the work to comply with the schedule and shall communicate such actions in writing to the Engineer, satisfying that his action will compensate for the delay. The Contractor shall not be allowed any extra compensation for such action.

The Engineer shall, however, not be responsible for provision of additional labour and/or materials or supply or any other services to the Contractor except for the coordination work between various Contractors if any at site.

41.0 FIELD OFFICE RECORDS

The Contractor shall maintain up to date copies of all drawings, specifications and other Contract Documents and any other supplementary data complete with all the latest revisions thereto. The Contractor shall also maintain in addition the continuous record of all changes to the above Contract Documents, drawings, specifications, and supplementary data, etc. effected at the field and on completion of his total assignment under the Contract shall incorporate all such changes on the drawings and other Engineering data to indicate as installed conditions of the equipment furnished and erected under the Contract. Such drawings and Engineering data shall be submitted to the Engineer in required number of copies.

42.0 CONTRACTOR'S MATERIALS BROUGHT TO SITE

The Contractor shall bring to Site all equipment, components, parts, materials, including construction equipment, tools and tackles for the purpose of the works under intimation to the Engineer. All such goods shall, from the time of their being brought vest in the Owner, but may be used for the purpose of the works only and shall not on any account be removed or taken away by the Contractor without the written permission of the Engineer. The Contractor shall nevertheless be solely liable and responsible for any loss or destruction thereof and damage thereto.

The Owner shall have a lien on such goods for any sum or sums which may at any time be due or owing to him by the Contractor, under, in respect of or by reasons of the Contract. After giving a fifteen (15) days' notice in writing of his intention to do so, the Owner shall be at liberty to sell and dispose of any such goods, in such manner as he shall think fit and to apply the proceeds in or towards the satisfaction of such sum or sums due as aforesaid.

After the completion of the Works, the Contractor shall remove from the Site under the direction of the Engineer the materials such as construction equipment, erection tools and tackles, scaffolding etc. with the written permission of the Engineer.

43.0 PROTECTION OF PROPERTY AND CONTRACTOR'S LIABILITY

The Contractor shall be responsible for any damage resulting from his operations. He shall also be responsible for protection of all persons including members of public and employees of the Owner and the employees of other Contractors and Sub-Contractors and all public and private property.

44.0 Workmen's Compensation Insurance

This insurance shall protect the Contractor against all claims applicable under the Workmen's Compensation Act, 1948 (Government of India). This policy shall also cover the Contractor against claims for injury, disability, disease or death of his or his Sub-Contractor's employee, which for any reason are not covered under the Workmen's Compensation Act, 1948. The liabilities shall not be less than:

Workmen's Compensation	:	As per statutory Provisions
Employee's Compensation	:	As per statutory Liability Provisions

45.0 Comprehensive General Liability Insurance

The insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of members of public or damage to property of others, due to any act of omission on the part of the Contractor, his agents, his employees, his representatives and Sub-Contractors or from riots, strikes and civil commotion.

The hazards to be covered will pertain to all the works and areas where the Contractor, his Sub-Contractors, his agents and his employees have to perform work pursuant to the Contract.

The above are only illustrative list of insurance covers normally required and it will be the responsibility of the Contractors to maintain all necessary insurance coverage to the extent both in time and amount to take care of all his liabilities either direct or indirect, in pursuance of the Contract.

46.0 UNFAVOURABLE WORKING CONDITIONS

The Contractor shall confine all his field operations to those works, which can be performed without subjecting the equipment and materials to adverse effects during inclement weather conditions, like monsoon, storms etc. and during other unfavorable construction conditions. No field activities shall be performed by the Contractor under conditions, which might adversely affect the quality and efficiency thereof, unless special precautions or measures are taken by the Contractor in a proper and satisfactory manner in the performance of such Works and with the concurrence of the Engineer. Such unfavorable construction conditions will in no way relieve the Contractor of his responsibility to perform the Works as per the schedule.

47.0 PROTECTION OF MONUMENTS AND REFERENCE POINTS

The Contractor shall ensure that any finds such as relic, antiquity, coins, fossils, etc. which he may come across during the course of performance of his Works either during excavation or elsewhere, are properly protected and handed over to the Engineer. Similarly, the Contractor shall ensure that the bench marks, reference points, etc, which are marked either with the help of Engineer or by the Engineer shall not be disturbed in any way during the performance of his Works. If any work is to be performed which disturbs such reference the same shall be done only after these are transferred to other suitable locations under the direction of the Engineer. The Contractor shall provide all necessary materials and assistance for such relocation of reference points etc.

48.0 WORK & SAFETY REGULATIONS

The Contractor shall ensure proper safety of all the workmen, materials, plant and equipment belonging to him or to others, working at the Site. The Contractor shall also be responsible for provision of all safety notices and safety equipment required both by the relevant legislations and the Engineer, as he may deem necessary.

All equipment used in construction and erection by Contractor shall meet Indian/International Standards and where such standards do not exist, the Contractor shall ensure these to be absolutely safe. All equipment shall be strictly operated and maintained by the Contractor in accordance with manufacturer's Operation Manual and safety instructions and as per Guidelines/rules of in this regard.

Periodical examinations and all tests for all lifting/hoisting equipment & tackles shall be carried-out in accordance with the relevant provisions of Factories Act 1948, Indian Electricity Act 1910 and associated Laws/Rules in force from time to time. A register of such

examinations and tests shall be properly maintained by the Contractor and will be promptly produced as and when desired by the Engineer or by the person authorized by him.

The Contractor shall provide suitable safety equipment of prescribed standard to all employees and workmen according to the need.

The Contractor shall provide safe working conditions to all workmen and employees at the Site including safe means of access, railings, stairs, ladders, scaffoldings etc. The scaffoldings shall be erected under the control and supervision of an experienced and competent person. For erection, good and standard quality of material only shall be used by the Contractor.

The Contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to the Owner or other Contractors under any circumstances, whatsoever, unless expressly permitted in writing by to handle such fuses, wiring or electrical equipment

Before the Contractor connects any electrical appliances to any plug or socket belonging to the other Contractor or Owner, he shall:

a. Satisfy the Engineer that the appliance is in good working condition;
b. Inform the Engineer of the maximum current rating, voltage and phases of the appliances;
c. Obtain permission of the Engineer detailing the sockets to which the appliances may be connected.

The Engineer will not grant permission to connect until he is satisfied that;

a. The appliance is in good condition and is fitted with suitable plug;
b. The appliance is fitted with a suitable cable having two earth conductors, one of which shall be an earthed metal sheath surrounding the cores.

No electric cable in use by the Contractor/Owner will be disturbed without prior permission. No weight of any description will be imposed on any cable and no ladder or similar equipment will rest against or attached to it.

No repair work shall be carried out on any live equipment. The equipment must be declared safe by the Engineer and a permit to work shall be issued by the Engineer before any repair work is carried out by the Contractor. While working on electric lines/equipment, whether live or dead, suitable type and sufficient quantity of tools will have to he provided by the Contractor to electricians/workmen/officers.

In case any accident occurs during the construction/ erection or other associated activities undertaken by the Contractor thereby causing any minor or major or fatal injury to his employees due to any reason, whatsoever, it shall be the responsibility of the Contractor to promptly inform the same to the Engineer in prescribed form and also to all the authorities envisaged under the applicable laws.

The Engineer shall have the right at his sole discretion to stop the work, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and/or property, and/or equipment. In such cases, the Contractor shall be informed in writing about the nature of hazards and possible injury/accident and he shall comply to remove shortcomings promptly. The Contractor after stopping the specific work

can, if felt necessary, appeal against the order of stoppage of work to the Engineer within 3 days of such stoppage of work and decision of the Engineer in this respect shall be conclusive and binding on the Contractor.

The Contractor shall not be entitled for any damages/compensation for stoppage of work due to safety reasons as provided in Para 31.18 above and the period of such stoppage of work will not be taken as an extension of time for completion of work and will not be the ground for waiver of levy of liquidated damages.

It is mandatory for the Contractor to observe during the execution of the works, requirements of Safety Rules which would generally include but not limited to following

a) Each employee shall be provided with initial indoctrination regarding safety by the Contractor, so as to enable him to conduct his work in a safe manner.
b) No employee shall be given a new assignment of work unfamiliar to him without proper introduction as to the hazards incident thereto, both to himself and his fellow employees.
c) Employees must not leave naked fires unattended. Smoking shall not be permitted around fire prone areas and adequate firefighting equipment shall be provided at crucial location.
d) There shall be a suitable arrangement at every work site for rendering prompt and sufficient first aid to the injured.
j) Requirements of ventilation in underwater working to licensed and experienced divers, use of gum boots for working in slushy or in inundated conditions are essential requirements to be fulfilled.

The Contractor shall follow and comply with all Safety Rules, relevant provisions of applicable laws pertaining to the safety of workmen, employees, plant and equipment as may be prescribed from time to time without any demur, protest or contest or reservations. In case of any discrepancy between statutory requirement and Safety Rules referred above, the latter shall be binding on the Contractor unless the statutory provisions are more stringent.

a. Fatal injury or accident Causing death	Rs. 1,00,000/- per person	: These are applicable for death
b. Major injuries or accident causing 25% or more permanent disablement to Workmen or employees	Rs. 20,000/- per person	: injury to any person, whosoever.

Permanent disablement shall have same meaning as indicated in Workmen's Compensation Act. The compensation mentioned above shall be in addition to the compensation payable to the workmen/employees under the relevant provisions of the Workmen's Compensation Act and rules framed there under or any other applicable laws as applicable from time to time. In case the Owner is made to pay such compensation then the Contractor is liable to reimburse the Owner such amount in addition to the compensation indicated above.

49.0 CODE REQUIREMENTS

The erection requirements and procedures to be followed during the installation of the equipment shall be in accordance with the relevant Codes and accepted good engineering practice, the Engineer's drawings and other applicable Indian recognized codes and laws and regulation of the Government of India.

50.0 WORK & SAFETY REGULATIONS

1. The contractor shall ensure proper safety of all the workmen, materials, equipment & plant & belonging to him or to GETCO or to others, working at the site. The contractor shall also be

responsible for provision of all safety notices and safety equipment required both by the relevant legislations and Engineer, as he may deem necessary.

2. Contractor has to provide ISI marked ELCB / MCB having sufficient capacity of standard make at point of supply.
3. All equipment used in construction and erection by contractor shall meet Indian/International Standards and where such standards do not exist, the contractor shall ensure these to be absolutely safe. All equipment shall be strictly operated and maintained by the contractor in accordance with manufacturer's operation manual and safety instructions and as per guidelines/ rules of GETCO in this regard.
4. Periodical examinations and all tests for all lifting/ hoisting equipment & tackles shall be carried – out in accordance with the relevant provisions of Factories Act 1948, Indian Electricity Act 1910 and associated Laws/Rules in force from time to time. A register of such examinations and tests shall be property maintained by the contractor and will be promptly produces as and when desired by Engineer or by the person authorized.
5. The contractor shall provide suitable safety equipment of prescribed standard to all employees and workmen according to the need.
6. The contractor shall provide safe working conditions to all workmen and employees at the site including safe means of access, railings, stairs, ladders, scaffoldings etc. the scaffoldings shall be erected under the control and supervision of an experienced and competent person. The contractor only shall use good and standard quality of material.
7. The contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to the owner / other contractors under any circumstances, whatsoever, unless expressly permitted in writing to handle such fuses, wiring or electrical equipment.
8. Before the contractor connects any electrical appliances to any plug or socket belonging to the other contractor or owner, he shall:

a. Satisfy the Engineer that the appliance is in good working condition;
b. Inform the Engineer of the max. current rating & voltage of the appliances;
c. Obtain permission of the Engineer detailing the sockets to which the appliances may be connected.

9. The Engineer will not grant permission to connect until he is satisfied that;

a. The appliance is in good condition and is fitted with suitable plug
b. The appliance is fitted with a suitable cable having two earth conductors, ones of which shall be an earthed metal sheath surrounding the cores.

10. No electric cable in use by the contractor/ Owner will be disturbed without prior permission. No weight of any description will be imposed on any cable and no ladder or similar equipment will rest against or attached to it.
11. No repair work shall be carried out on any live equipment. The equipment must be declared safe by the Engineer and a permit to work shall be issued by the Engineer before any repair work is carried out by the contractor. While working on electric lines/ equipment, whether live or dead, suitable type and sufficiently quantity of tools will have to he provided by the contractor to electricians/ workmen/ officers.
12. In case any accident occurs during the construction/ erection or other associated activities undertaken by the contractor thereby causing any minor or major fatal injury to his employees due to any reason, whatsoever, it shall be the responsibility of the contractor provide medical facility / treatment & to promptly inform the same to the Engineer in prescribed form and to also to all the authorities envisaged under the applicable laws.

13. The Engineer shall have the right at his sole discretion to stop the work, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and/or property and/or equipment. In such cases, the contractor shall be informed in writing about the nature of hazards and possible injury/ accident and he shall comply to remove shortcomings promptly. The contractor after stopping the specific work can, if felt necessary, appeal against the order of stoppage of work to the Engineer within 3 days of such stoppage of work and decision of the Engineer in this respect shall be conclusive and binding on the contractor.
14. The contractor shall not be entitled for any damages/ compensation for stoppage of work due to safety reasons and the period of such stoppage of work will not be taken as an extension of time for completion of work and will not be the ground for waiver of levy of liquidated damages.
15. it is mandatory for the contractor to observe during the execution of the works, requirements of safety rules which would generally include but not limited to following;

a. Each employee shall be provided with initial indoctrination regarding safety by the contractor, so as to enable him to conduct his work in a safe manner.
b. No employee shall be given a new assignment of work unfamiliar to him without proper introduction as to the hazards incident thereto, both himself & his fellow employees.
c. Employee must not leave naked fires unattended, smoking shall not be permitted around fire prone areas and adequate firefighting equipment shall be provided at crucial location.
d. There shall be a suitable arrangement at every work site for rendering prompt and sufficient first aid to the injured.
e. Requirements of ventilation in underwater working to licensed and experienced divers, use of gumboots for working in slushy or in inundated conditions are essential requirements to be fulfilled.

16. The contractor shall follow and comply with all GETCO safety Rules, relevant provisions of applicable laws pertaining to the safety of workmen, employees, plant and equipment as may be prescribed from time to time without any demur, protest or contest or reservations. In case of any discrepancy between statutory requirement and GETCO safety rules referred above the latter shall be binding on the contractor unless the statutory provisions are more stringent.
    Fatal injury or accident Causing death: Rs. 1,00,000/- per person for death
    Major injuries or accident causing : Rs. 20,000/- per person
    injury to any person 25% or more permanent disablement
    Permanent disablement shall have same meaning as indicated in workmen's compensation Act. The compensation mentioned above shall be in addition to the compensation payable to the workmen/ employees under the relevant provisions of the laws as applicable from time to time. In case the owner is made to pay such compensation then the contractor is liable to reimburse the owner such amount in addition to the compensation indicated above.

BIDDER'S DETAILS OF PERSONNEL

1	Firm Name	
2	Firm Address	
3	Firm Type (Proprietary/ Partnership/Corporate)	
4	Contact Person Name and Designation	
5	Qualification	
6	Professional Experience	
7	PAN No	
8	GST	
9	Contract Details	
	Mobile No	
	Land Line No	
	FAX No	
	E-Mail ID	

Note: All the correspondence, queries etc., will be asked on above E-Mail only. Bidder is responsible to check and operation of e-mail ID.

ANNEXUTURE-1

Sub. : As above Mention

In connection with above subject, I / we confirm the following:

a) I/ we, the undersigned, have read and understand the Tender Specification for Work Complete with the entire tender Terms and Conditions.

b) The price in the bid is firm prices in line with Tender Specifications and shall stand valid till completion of the Contract, if awarded.

c) I/We declare that our bid is strictly in line with Tender Specifications and there is no deviation. Further, I / we also agree that additional conditions / deviations, if any found in bid, the offer shall be out rightly rejected without assigning any reason thereof.

Company / Agency
NAME: _____ STATUS: _____ Name of tendering Company

ANNEXURE – II

(UNDERTAKING IN REGARD TO STOP DEAL/BANNED FOR BUSINESS DEALING /BLACK LIST THEREOF)

SUB: Undertaking in regard to stop deal/Banned for Business dealing /Black list thereof)
Ref: Tender no:

All bidders will have to furnish the following undertaking duly filled in, Signed and stamped for each quoted item of the tender along with the technical bid.

I/We _____

Authorized signatory of M/s _____ here by certified

That M/S_____ and their proprietor/any partner /any director of the firm is not stop deal and/or banned for business dealing and/or black listed by GUVNL and/or their any subsidiary company viz. GSECL/GETCO/DGVCL/GETCO/UGVCL/PGVCL.

Seal of Firm **Signature of renderer**

(Format for Guarantee Card)

FORMAT FOR GUARANTEE CARD TO BE SUPPLIED WITH EACH GRID CONNECTED SOLAR PV SYSTEM

1	Name & Address of the Empanelled Agency	
2	Name & Address of DISCOM	
3	Name & Address of BENEFICIARY CONSUMER NO	
3	Date of Commissioning of the system	
4	Details of PV Module (s) supplied in the System Make (Name of the EOI applicant): Model Serial No(s) Wattage of the PV Module (s) under STC Guarantee valid up to	
5	Details of PCU/Electronics & other BOS items: System Make (Name of the EOI applicant) Model Serial No(s) Guarantee valid up to	
6	Designation & Address of the person to be Contacted for claiming Guarantee obligations	
7	Local Service Centre Address: Mobile no e-mail id :-	

The grid tied solar system is warranted for its performance for a period of five years and the Empanelled Agency/Supplier (undersigned) undertakes to replace the components which do not perform as per specifications, due to manufacturing defect, at no cost to the beneficiary as per EOI Conditions.

(Signature) (SEAL)
Name & Designation, Name & Address of the Agency
Date: Place

(During the guarantee period **GETCO** reserves the right to cross check the performance of the systems with the minimum performance levels specified in the EOI Document specifications).

QUARTERLY MAINTENANCE & SERVICING REPORT

1. DETAILS OF SOLAR PHOTOVOLTAIC SYSTEM INSTALLED

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

2. USER PROFILE

1. Name and address of User:

3. TECHNICAL DETAILS

1. Module Capacity, make and serial numbers:
2. Inverter Capacity, make and serial no.

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. Working of inverter

5. DIFFICULTIES IN OPERATION/ PROBLEM FACED BY USER:

6. DIAGNOSIS DETAILS/ REPAIR ACTION:

7. DATE ON WHICH SYSTEM WAS LAST ATTENDED:

8. IT IS MANDATORY TO SUBMIT INSTALLATION WISE QUARTERLY ENERGY GENERATION DATA TO RESPECTIVE GETCO OFFICE.

9. AS PER SCOPE OF WORK PANEL CLEANING WORK DONE 02 TIMES IN THE MONTHS CARRIED OUT YES / NO ?

10. REMARKS:

User Name & Signature
Date:

Technician's Name & Signature
(with rubber stamp)

Project completion Report for individual Grid connected Solar PV plant

Preform-A (by the installer)

Sr. No.	Component	Observation
1	Sanction No & Date	
2	**Category**: Nodal Agency / Channel partner Name and Complete Address:	
2.1	In case of Nodal Agency, Name and Complete Address of installer:	
3	Site / Location Longitude/ Latitude Type (Bore well / open well etc.)	
4	**Solar PV Array Capacity**:	
4.1	Make of Modules Whether imported or indigenous?	
4.2	IEC certificate : Agency Date of issue Validity (Enclose a copy of IEC certificate)	
4.3	Whether RFID tag is pasted or not? If so, tag is inside or outside. If not, the reason? Type of RFID	
5	**Support Structures/**	
5.1	Indigenous or imported	
5.2	Tracking System/ Fix (No tracking) Manual	
5.3	Seasonal Tilt Angle adjustment provided or not?	
6	**Grid-Tie inverter details**	
6.1	Motor Pump set Capacity (h. p.) (Beneficiary's)	
7	**Electronics / controls**	
7.1	MPPT provided or not? If yes, provide details	
7.2	Details of Inverter	

8	**Monitoring Mechanism for the installed System**	
8.1	Technical Person Trained to maintain the system Name of the person with Mobile no.	
9	**Date of Commissioning** (Enclose test certificate of System as per MNRE requirement)	

Declaration

It is to certify that all the components / sub systems and materials including junction boxes, cables, distribution boards, switches, circuit breakers used in the system are as per GETCO requirement.

Sign With seal

Date:

Place:

Preform -B (By the customer i.e. GETCO)

Sr.	Component	Observation
1	Name of Office With consumer Name , Consumer No, Contracted Load	
2	Location with GPS Lat &Long	
	Capacity(kWp)	
3	Whether training was provided by installer for operation and maintenance	
4	Whether the following documents were provided or not	
	I-V curves of all modules	
	Inverter manual	
	Guarantee card for system	
5	Date of handing over of the system	
6	Cost breakup	Total project cost:

It is to certify that all information given above is true and correct to best of my knowledge

(User signature and stamp)

Date:
Place:

Performa -C Inspection report (by The Engineer In Charge)

Sr. 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	
	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	**Electronics / controls**	
	Whether the information given in part A is same or found any deviation	
6	**Structures:- tracking / fix**	
7	**Cables Make and size**	
8	User Feed Back	
9	Any Specific problem	

1. Signature of inspecting Officer and date

List of enclosures:

1. Copy of invoice billed to user
2. List of serial no. of modules installed in the system
3. Test certificates of the components
4. Statement of expenditure
5. Original Color photographs

Signature of the EOI applicant

Seal of the Firm

SAFETY CUM INDEMNITY BOND

(On Non-Judicial Stamp paper of value not less than Rs. 300.00)

Know All Men By These Presents that we, _____by this SAFETY CUM INDEMNITY BOND Executed on this _____ Day of _____ 2023. I/We Having Registered Office _____ (herein after called "THE CONTRACTOR" which expression shall mean and includes my /our heirs, executors, administrators and legal representatives, successors and permitted assigns) do hereby binds myself/ourselves and also our company/firms after having the power to bind by this promise and undertaking in favor of the Gujarat Energy Transmission Corporation Limited (GETCO), HIMATNAGAR a State Transmission Utility under The Electricity Act, 2003 having its registered office at Sardar Patel Vidyut Bhavan, Race course, HIMATNAGAR.(hereinafter called as GETCO, which expression shall mean and include its legal representative, administrators assigns) has agreed under the terms and conditions of the contract no._____ dated_____made between _____ and _____for the contract of the _____value of Rs. _____ interalia on production of Safety Cum Indemnity Bond.

We do hereby undertake and agree to Indemnify and keep Indemnified GETCO from time to time to the extent of Rs._____ Rupees_____only against any losses or damages, costs, charges and expenses caused to or suffered by reason of the CONTRACTOR while Project, R&M, O&M work including work carried out by outsourcing agency, failing to take proper care or not complying the guidelines given hereunder as per Annexure-A and instructions which may be given from time to time during the continuance of the contract and we further undertake to unconditionally pay the amount claimed by the GETCO on demand and without demur to the extent aforesaid.

Whereas the CONTRACTOR has/have been awarded to execute the job/works under order no.____, dated for _____ issued by the GETCO after having observing necessary formalities, the details of which is described in the order no._____ dated _____ and whereas the said job/works will be /likely to be done in places covered under Employees' State Insurance Act,1948 (ESI) and /or the Workmen Compensation Act,1923 and /or other laws relating to the Labour Management and Welfare Act. (Respective Amendments)

And whereas according to the condition of the Contract the CONTRACTOR is under obligation to execute this Safety cum Indemnity Bond before the commencement of actual execution of work

Now the indenture witnesses that I/We the CONTRACTOR do hereby undertake to follow the guidelines as per Annexure-A prepared by the GETCO.

Further we the CONTRACTOR agree that the GETCO shall be sole judge of and as to whether there has been any breach of the guidelines as per Annexure-A of this bond and as to the extent of the loss, damages, costs, charges and expenses caused to or suffered by the GETCO.

We the CONTRACTOR further agree that our liability under this bond shall not be discharged because of the change in the constitution of the GETCO or for the extension of the time limit or for any other reason.

We the CONTRACTOR further agrees to the given terms and conditions:

a. That the CONTRACTOR undertakes /undertake to indemnify and keep harmless the GETCO from all claims, actions, proceedings and risk, damage danger to any person whether belonging or not belonging to the. CONTRACTOR.

b. That the CONTRACTOR shall keep harmless the GETCO from all claims, compensation, damages any proceedings in respect of any of its employee / workmen under the Workmen Compensation Act or any other laws for the time being in force.

c. That, if during the course of execution of work as stated in the contract order mentioned hereinabove issued by the OBLIGEE, it is found that the CONTRACTOR has not complied with guidelines as per Annexure-A or terms and conditions / formalities within the meaning of Employees' State Insurance Act,1948 (ESI) or Workmen Compensation Act 1923 or any other laws relating to the Labour Welfare for the time being in force, and also has not observed the safety norms in accordance with the law

prevailing at the place of work/job to the satisfaction of the GETCO, the GETCO shall have the right to stop the execution of work/job and the period of such stoppage shall not be taken into account for the calculation of the total period of completion of work for which the CONTRACTOR is responsible to complete the work/job and it will be deemed that discontinuance was due to default of the CONTRACTOR .

d. That, if any time, due to exigency, GETCO as the Principle Employer, becomes liable to pay any such compensation mentioned hereinabove, whether on
failure of the CONTRACTOR or for any other reason, the GETCO shall have the right to recover the said amount from any amount receivable by GETCO or any bank guarantee deposited or anything payable whether in connection with this contract or other contract by the CONTRACTOR to the OBLIGEE.

e. That the CONTRACTOR is/are aware and accept that for the persistent or
repeated violation of any guidelines as per Annexure-A and terms and conditions mentioned in this Safety cum Indemnity Bond, GETCO shall have right to terminate the contract of work issued to the CONTRACTOR .

. In case if any safety related fatal Electrical / Mechanical accident occurred to any employee of agency or outsider due to negligence or non-compliance of GETCO safety norms then in addition to the compensation and liability as per statutory requirement, contractor / agency is hereby agreed to pay the penalty amount as given below:

Sr. No	Amount of Contract in Rs.	Penalty amount
1	Up to -1 Lac	Rs.5000/-
2	Above1 Lac to - 10 Lacs	Rs.40000/-
3	10 to --- 100 Lacs	Rs.100,000/-
4	> 100 Lacs	1.0 % of contract value

g. I/We the CONTRACTOR hereby confirm that in case of any dispute/difference for settlement of claims under this Safety Cum Indemnity bond the courts in Gujarat State wherever job/work is performed or as per GETCO norms shall have the jurisdiction to decide the rights & liabilities of the parties while adjudicating the matter of claims under this Safety Cum Indemnity Bond.

h. This Safety cum Indemnity Bond shall continue and hold good until it is released by the GETCO in Writing on the Contractor's application after the
Contractor has discharged all his obligations under the order mentioned hereinabove and submitted a "NO DEMAND CERTIFICATE" from the GETCO under the said order. The Safety cum Indemnity Bond shall be valid for a CONTRACT PERIOD and renewable thereof (Claim Period).

i. This Safety cum Indemnity Bond and the guidelines as per Annexure-A herein
contained are in addition to And not by way of limitation or substitution for any other guarantee, indemnities Hereto before given to the GETCO by the CONTRACTOR and this indemnity does not Revoke or limit such indemnities or guarantees. IN WITNESS WHEREOF the Parties hereto have executed this indenture the day the year First hereinabove written.

(Signature with seal of The CONTRACTOR)

In the presence of:
1.
2.

CONTRACT AGREEMENT (to be submit after Awarding of Contract)

(Non-judicial stamp paper of Rs. 300/-)

This agreement is made at Vadodara, the _____day of _____in the Christian year Two Thousand Five between _____ (herein after referred to as "THE CONTRACTOR" which expression shall unless excluded by or repugnant to context include its successors or permitted assigns) of the one part and the Gujarat Energy Transmission Corporation Limited, having their Corporate Office at ----------, (hereinafter called "Corporation" which expression shall unless excluded by or repugnant to the context include its successors or assigns) of the other part.

"WHEREAS" the aforesaid Corporation has accepted the tender of the aforesaid contractors for _____ _____ as per Corporation's Order No. _____ hereinafter called "The works" and more particularly described enumerated or referred to in the specification, terms and conditions prescribed in the order letter, covering letter arid other letters and schedule of price which for the purpose of identification have been signed by Shri _____ on behalf of the Contractors and by _____on behalf of the Corporation, a list where of is made out in the schedule hereunder written and all of which said documents are deemed to form part of this contract and included in the expression 'The Works" wherever herein used, upon the terms and subject to the conditions hereinafter mentioned. AND WHEREAS THE GETCO has accepted the tender of the contractor for the work of _____. of Gujarat State for the sum of Rs._____(Rupees_____) upon the terms and subject to the conditions herein mentioned.

NOW THIS AGREEMENT WITNESSES AND IT IS HEREBY AGREED AND DECLARED THAT:

1. The contractors shall do and perform all works and things in this contract mentioned and described or which are implied therein or there from respectively or are reasonably necessary for the completion of the works as mentioned and at the times, in the manner and subject to the terms conditions and stipulations contained in this contract, and in consideration of the due provision, executions, construction and completion of the works agreed to by the contractors as aforesaid, the Corporation doth hereby covenant with the contractor to pay all the sums of money as and when they become due and payable to the contractors under the provisions of the contract. Such payment to be made at such times and in such manner as is provided by the contract.

2. The conditions and covenants stipulated hereinbefore in this contract, are subject to and without prejudice to the rights of the Corporation to enforce penalty for delays and / or any other rights whatsoever including the right to reject and cancel on default or breach by the contractors of the conditions and the covenants as stipulated in the general conditions, specifications, forms, or tender schedule, drawing, etc. attached with Corporation's Order No._____.

The contract value, extent of works / supply, completion / delivery dates, specifications and other relevant matters may be altered by mutual agreement and if so altered shall not be deemed or construed to mean or apply to affect or alter other terms and conditions of the contract and the general conditions and the contract so altered or revised shall be and shall always be deemed to have been subject to and without prejudice to said stipulation.

In witness whereof the parties hereto have set their hands and seals this day and month year first above written.

Signed, Sealed and Delivered by

_____

for and on behalf of M/s. _____

In the presence of, signature with names and

Address: _____

_____

_____

1) _____

2) _____

Signed, Sealed and Delivered by

_____

for and on behalf of Gujarat Energy Transmission Corporation Limited,

In the presence of, signature with names and

Address: _____

1) _____
_____

2) _____
_____

FORM OF BANKER'S UNDERTAKING
(Non-judicial stamp paper of Rs. 300/-)

[For Performance Guarantee (PBG) towards Guarantee/ Warranty Period
as per commercial terms and conditions of tender]

We, _____ (Name of Bank) a company incorporated under the Companies Act, 1956 and licensed as a bank under the Banking Regulation Act, 1949 and having registered address at _____ and one of its branch address at _____ (Name of the Bank and Address of the Branch giving the Bank Guarantee) hereby give this Bank Guarantee No. _____dated _____ and hereby agree Unequivocally and Unconditionally to pay immediately on demand in writing from the Beneficiary Company GUJARAT ENERGY TRANSMISSION CORPORATION LIMITED, MEHSANA (subsidiary Company of Gujarat Urja Vikas Nigam Ltd.) or any officer authorized by it in this behalf any amount up to not exceeding Rs. _____/- (Amount of Performance Guarantee towards Guarantee/ Warranty period) (Rs. _____(in words) to the said GUJARAT ENERGY TRANSMISSION CORPORATION LIMITED (GUVNU subsidiary Company) on behalf of M/s _____ _____(Name of Agency with Detail address) who have entered into a contract for the supply/works specified below:

Name of Work- Survey, Design, Supply, Installation, Testing, commissioning with Comprehensive Maintenance contract of 5 years for Solar Rooftop projects _____under Mehsana Tr. Circle

PO/WO No.- _____Dated _____

This agreement shall be valid and binding no this Bank up to and inclusive of _____(Date of validity of the Bank Guarantee) (here period of 5 years from Date of commissioning of System) and shall not be terminable by notice or by change in the constitution of the Bank other firm of Contractors/ Suppliers or by any other reasons whatsoever and our liability hereunder shall not be impaired discharged by any extension of time or variations or alterations made, given conceded or agreed, with or without our knowledge or consent, by or between parties to the said within written contract.

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

NOTWITHSTANDING anything contained herein before, our liability under this guarantee is restricted to exceeding Rs. _____/- (Rs. _____ In Words).

Our guarantee shall remain in force until _____ (Date of validity of the Bank Guarantee). Unless demands or claims under this Bank Guarantee are made to us in writing on or before _____ (Date of validity of the Bank Guarantee), all rights of Beneficiary under this Bank Guarantee shall be forfeited and we shall be released and discharged from all liabilities there under.

Place:
Date: