



**SUPPLY OF GRID CONNECTED
SOLAR PV INVERTERS for 11MWp
KSEB**

No: 11MWp-RFQ-SPLY-PCU

Rev. No: 01

Date: 01.12.2022

NOTICE INVITING QUOTATIONS

***Name of Work:* SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS**



Creating Infrastructure
A PPP INITIATIVE OF GOVERNMENT OF KERALA

Deadline for submission of Bids : 20/12/2022 up to 5.00 PM

Date and time of Bid opening : 21/12/2022 at 03.00 PM

INKEL Ltd.
7/473ZA – 5 & 6, 1st and 2nd Floor, Ajiyal
Complex, Kakkanad, Cochin, Pin: 682030
(Kerala) Phone: 0484 2978101
Email: tenders@inkel.in



SUPPLY OF GRID CONNECTED
SOLAR PV INVERTERS for 11MWp
KSEB

No: 11MWp-RFQ-SPLY-PCU

Rev. No: 01

Date: 01.12.2022

NOTICE INVITING QUOTATIONS

Tender No –11MWp-RFQ-SPLY-PCU dated 01/12/2022

INKEL Limited invites offers from reputed companies for manufacture, supply (including packing and transportation to site) of GRID CONNECTED SOLAR PV INVERTERS.

Name of work	Supply of grid connected solar pv inverters.
Location of Supply	Different Districts in Kerala.
Date of publishing bid documents	01/12/2022
Last Date of receiving queries	09/12/2022
Date of publication of clarification on queries	14/12/2022
Last date & Time of submission of Bid documents	20/12/2022 up to 5.00 PM
Mode of bid submission	Offline Only
Nature of the contract	Supply
Period of completion	04 months
Earnest Money Deposit	INR 5,00,000/-
Date and time of opening of tender	21/12/2022 at 3.00 pm

The detailed bid document can be obtained by sending a request mail to tenders@inkel.in, manju.kb@inkel.in

Prospective bidders shall submit their offers in a sealed cover before the deadline mentioned above addressed to **The Managing Director,**

INKEL Limited
1st Floor Ajiyal Complex,
Kakkanad, Cochin Pin :- 682030
Phone: 0484-2978101, 0484-2978103

The bids shall be opened on 21/12/2022 at 3.00 pm at the office of INKEL Limited, Kakkanad. If the tender opening date happens to be on a holiday or non-working day due to any other valid reason, the tender opening process will be done on the next working day at same time and place.



SUPPLY OF GRID CONNECTED
SOLAR PV INVERTERS for 11MWp
KSEB

No: 11MWp-RFQ-SPLY-PCU

Rev. No: 01


Date: 01.12.2022

Tenders/ bids received without the details mentioned in Instructions to the Bidders will not be considered valid and shall be summarily rejected.

More details or queries if any may be addressed to the following email addresses: can be had from the Office of INKEL Limited during working hours from tenders@inkel.in , manju.kb@inkel.in

All subsequent Government orders connected to tenders and any revision in the rates of taxes would also be applicable to this tender.

INKEL Limited reserves the right to accept or reject any or all tenders without assigning any reason thereof.

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

1. INSTRUCTIONS TO BIDDERS

The Bid submitted by the bidders shall be strictly in accordance with these instructions and the provisions of the Documents below.

Non-compliance with the same may result in the Purchaser not considering the submitted bid.

1.1. BIDDING PROCESS

The bid in response to this NIQ shall be submitted in hardcopy as follows:

Cover 1 – Technical Bid

All documents as per list of enclosures mentioned in the bid submission checklist (Section 5.5) as well as all other relevant documents except the Price Bid.

Cover 2 – Price Bid

The Bidder shall inter-alia take into account the following while preparing and submitting the Price Bid in the format given in clause 5.2 hereto, duly signed by the Bidder's authorized signatory.

- a. The quoted price shall be deemed inclusive of all taxes and duties.
- b. The price shall be deemed inclusive of loading, freight, and transit insurance for delivery of materials as per purchase order to site.
- c. The price shall be deemed inclusive of mandatory spares and consumables (as recommended by the Manufacturer) for 5 years of operation.
- d. The price shall be deemed inclusive of expenses for conducting factory acceptance tests (including air travel, local conveyance and accommodation for five officials of Purchaser/End client from Kerala to bidder's manufacturing & testing location and return).

Cover 1 and Cover 2 shall be enclosed in a single cover. The tender name, number and due date shall be super scribed on all the covers.


1.2. PRICE BREAK UP

The bidder shall quote the prices on FOR Site as per the Price Bid Format of this document. The currency of this tender and ensuing Purchase Order is Indian Rupees and all payments shall be in the same currency. The quantity of item to be purchased may vary from quantity enquired according to the actual requirement at the time of placing the purchase order.

1.3. DELIVERY PERIOD

The bidder shall abide by the delivery schedule and deliver the On Grid solar inverters at the location as specified by the purchaser in the purchase order at any site in Kerala. Delivery shall be made by the Bidder / Supplier in compliance with staggered delivery schedules stated in the PO or as informed by the Client. The proposed site locations are identified in clause 5.7 herein.

1.4. VALIDITY PERIOD FOR BIDDER'S QUOTATION

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

Validity of the quotation shall be for 4 months from the date of opening of the bid. Bidder shall extend the bid validity by another 2 months, if so desired by the Purchaser.

1.5. ADDRESS FOR BID SUBMISSION

The Bidder shall submit their complete Commercial and Technical Quotation (separate) at the following address:

**The Managing Director
INKEL Limited
Door No 7/473ZA, 1st Floor Ajiyal Complex
Kakkanad Cochin Pin: - 682030**

The tender name, number and due date shall be super scribed on the cover.

1.6. MODIFICATION OF TENDER CONDITIONS

- 1.6.1. Purchaser reserves the right to modify, amend, delete, add, and / or clarify any part of this Bid Document at any time prior to the Bid Closing Date & Time. Purchaser shall issue such modifications, amendments, and / or clarifications in writing. All such written communication shall be deemed to become part of the Bid Package. Clarifications or answers provided by Purchaser, in response to Bidder’s queries, shall not be construed as an amendment to Bid Document unless these are issued by Purchaser in writing as corrigendum.
- 1.6.2. Bidder’s questions, requests for clarifications, etc., if any, may be submitted through the email stated in the NIQ and shall reach the Purchaser no later than seven (7) calendar days prior to the Bid Closing Date. Questions raised thereafter by Bidder may remain unanswered.

1.7. PREVIOUS EXPERIENCE

Bidders shall submit details of facilities/capabilities proposed to be deployed to execute the work, together with details of past experience and performance track record of meeting the requirements/specifications.


1.8. COSTS & EXPENSES

All costs involved in the preparation and submission of Bid shall be borne by the Bidder. INKEL will in no case be responsible or liable for any loss to the bidders in this regard. This is applicable in the case of extension or annulment of bidding also.

1.9. PRE-QUALIFICATION REQUIREMENTS

The Bidder shall meet the qualification criteria given below to be eligible for participating in the bid. Bids submitted by ineligible bidders will be rejected

- a. Bids shall be submitted only by the original On-grid Solar Inverter manufacturer (OEM) or OEM authorized distributor or OEM authorized

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

dealer. Authorized dealer should submit a manufacturer authorization letter/certificate.

- b. The OEM should have in-house manufacturing facility with minimum manufacturing capacity of 11 MW per annum for Solar Grid Connected Inverters
- c. Bidders should have supplied minimum 5 MW of Solar Grid Connected Inverters per annum to reputed customers in the last 3 financial years. These Solar Grid Connected Inverters should have been IEC certified.
- d. The bidder should arrange a testing facility for testing of On-grid inverters during Pre Dispatch inspection in India as per client requirements mentioned in this tender document.
- e. Average minimum annual financial turnover of the bidder, during the last 3 (three) years, ending on 31-03-2022 should be more than rupees Ten Crores. Vendor shall submit audited balance sheet and profit & loss account for last 3 (three) years, ending on 31-03-2022.
- f. Bidders shall not be black-listed or banned by INKEL/KSEBL or any other government agencies.

1.10. EVALUATION OF PROPOSAL

Purchaser reserves the right to reject at his absolute discretion any or all of the proposals without assigning reasons to the relevant Bidder.

1.11. LANGUAGE

The bids shall be submitted in English language only. The Bidder shall ensure that all communication and agreements are in English language only. All documents, drawings, installation & maintenance manual etc. shall be in English language only.

1.12. SUBMISSION OF TENDER

The Bid Closing Time and Date shall be as mentioned in the Notice inviting tender. Offers received after this time will not be considered.

1.13. EARNEST MONEY DEPOSIT (EMD)

- 1.13.1. The Bidder shall furnish Earnest Money Deposit (EMD) in the form of a Demand Draft drawn in favor of "INKEL Limited", payable at Ernakulam.
- 1.13.2. The EMD of unsuccessful bidders shall be returned within 30 days from the date of issuance of Purchase Order to the successful Bidder.
- 1.13.3. EMD shall be denominated in Indian Rupees and shall be in the form of a Demand Draft from a Nationalized Schedule Bank to be submitted in its original form; copies will not be accepted and remain valid for the period stated in clause 1.4 hereto
- 1.13.4. The EMD shall be forfeited without prejudice to the Bidder being liable for any further consequential loss or damage incurred to INKEL under

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

following circumstances:

- 1.13.4.1. Hundred Percent (100%) of EMD amount, if a Bidder withdraws/revoked or cancels or unilaterally varies his bid in any manner during the period of Bid Validity specified in the bid document.
- 1.13.4.2. Hundred Percent (100%) of EMD amount, if the Successful Bidder fails to unconditionally accept the Purchase Order within 08 days from the date of its issuance.
- 1.13.4.3. Hundred Percent (100%) of EMD, if the Successful Bidder fails to execute the agreement as per Purchase Order.
- 1.13.5. The EMD of the Successful Bidder(s) will be retained as security deposit till the successful delivery of all materials as per LOA at site and be returned, without any interest upon completion of delivery of all materials as per LOA. In case where the non-financial Bid of any Bidders are not found acceptable due to any reason as specified in the tender document, the bids of such Bidders shall be returned unopened. This shall mean return of Earnest Money Deposit (EMD).

2. GENERAL PURCHASE CONDITIONS

2.1. DEFINITIONS

In these General Conditions, the following words and expressions shall have the meaning hereby assigned to them unless otherwise specified.

- 2.1.1. 'Company' or 'Client' shall mean Kerala State Electricity Board Limited (KSEBL) who has awarded the EPC contract for execution of Project on Purchaser and includes its consultant.
- 2.1.2. 'Equipment' or 'Material' or 'Goods' shall mean all machinery, equipment, materials and supplies which shall be supplied including incidental services to be provided therein, by the Bidder as specified in the Purchase Order.
- 2.1.3. 'Effective Date' shall mean the date as specified in Purchase Order, from which date Bidder is responsible for commencing and performing the Scope of Works in accordance with this Purchase Order.
- 2.1.4. 'Purchaser' shall mean INKEL Limited (INKEL), having registered office at Door No. 7/473 ZA-5&6, 2nd Floor, Ajiyal Complex, Kakkanad, Cochin Ernakulam Kerala, India 682030 and includes its personnel, legal representatives, successors, and permitted assignees.
- 2.1.5. 'Purchase Order' or 'Order' or PO shall mean the document issued by the Purchaser to Bidder and accepted by the Bidder, along with its Annexure I (Item wise Price and Delivery Schedule) forming part of the Purchase Order document and shall include following attachments as listed below:

- a) Appendix I: Special Purchase Conditions (SPC)

b) Appendix II: General Purchase Conditions (GPC)
c) Appendix III A: Technical Queries no. ..Minutes of Meeting dated.....

Appendix III B: Material Requisition including Scope of Works, Data Sheets, Drawings and Specifications, Inspection Requirement Table (IRT) as per RFQ dated

d) Appendix IV: Integrity pact (proforma for Integrity pact is attached in Clause 5.6 in this document)

2.1.6. 'Bidder' shall mean person or persons, firm or company who manufacture and/ or supply Equipment, Material and provide services to the Purchaser under this Purchase Order and shall include their legal representatives, successors, and permitted assignees.

2.1.7. 'Sub-Bidder' or 'Sub-vendor' shall mean a person or persons, firm or company, who is supplying material or services to the Bidder in relation to this Purchase Order.

2.1.8. 'Scope of Works' shall mean all the work including design, manufacturing of the Goods in accordance with technical specifications and scope of works mentioned in section 4 and other activities such as inspection etc. to be performed by Bidder in accordance with this tender document.

2.2. PURCHASE ORDER DOCUMENTS AND ENTIRE AGREEMENT

2.2.1. The Bidder's scope of supply of Equipment and/or Material and/or services and/or other obligations shall be in accordance with the provisions of the following documents, which form an integral part of the Purchase Order.

2.2.2. Request for Quotation including Instructions to Bidders and all other documents attached therein such as SPC, GPC, technical specifications and scope of works etc. as incorporated in the Purchase Order.

2.2.3. All Drawings, Specifications, Data Sheets, Standard and other Technical Documents (Inspection Plan, if any) of the Equipment and/ or Material to be supplied under the Order and record notes of discussions duly agreed.

2.2.4. The Purchase Order constitutes the sole and entire agreement between the Purchaser and the Bidder and supersedes all prior representations, arrangements and understandings between Bidder and Purchaser, and except as expressly provided herein, is intended by the Parties to be the complete and exclusive statement of the terms and conditions of this Purchase Order. It is agreed that no change or amendment to this Purchase Order shall be made except in writing and with due signature by the authorized signatories of the Parties. In case of ambiguities or conflicts, Bidder shall intimate the same immediately upon noticing such ambiguities or conflicts for Purchaser's determination. Purchaser shall determine such conflicts or ambiguities between documents by following the order of precedence in which the documents are listed



SUPPLY OF GRID CONNECTED SOLAR
PV INVERTERS for 11MWp KSEB

Doc No: 11MWp-RFQ-SPLY-PCU

Rev. No : 01

Date : 01.12.2022

below, which determination shall be final and binding on Bidder:

- a) Top sheet of Purchase Order along with its Annexure I
- b) Appendix I: Special Purchase Conditions (SPC)
- c) Appendix II: General Purchase Conditions (GPC)
- d) Appendix III A: Technical Queries no.and Minutes of Meeting dated.....,

Appendix III B: Scope of Works, Data Sheets, Drawings and Specifications, Inspection Requirement Table (IRT) as per RFQ dated

- e) Appendix IV: Integrity pact (proforma for Integrity pact is attached in Clause 5.6 in this document)

In the event of any ambiguity, conflict or discrepancies within the document under Appendix III A and Appendix III B Bidder shall inform Purchaser of such ambiguity, conflict or discrepancies as soon as possible after discovery. Purchaser's determination in line with Company's requirements shall be final and binding on Bidder.

- 2.2.5. A legal and binding Purchase Order shall be deemed to have been entered into, between the Bidder and the Purchaser, when the Purchaser issues Purchase Order in writing to the Bidder and the Bidder acknowledges the acceptance of the Purchase Order.

2.3. ACCEPTANCE OF PURCHASE ORDER

Purchase Order shall be acknowledged by email or fax immediately, on receipt. One copy of the Purchase Order duly signed, dated and stamped signifying Bidder's unconditional acceptance of Order shall be returned to the Purchaser within eight (8) days from the date of receipt of Order. If the Bidder fails to give written acceptance within 08 days of receipt of the Purchase Order, Purchase Order shall be considered duly accepted by the Bidder.

2.4. NON-WAIVER

Nothing herein shall be construed as limiting the Purchaser's right, otherwise provided by law. The Purchaser's delay or failure to enforce any of its rights shall not be considered a waiver of such rights by the Purchaser, unless the Purchaser expressly stipulates such waiver in writing.

2.5. PRICE

All rates, sums, and prices mentioned in the Purchase Order are deemed to cover any and all costs and expenses to be incurred by the Bidder in fulfillment of his obligation under the Order. All rates, sums, and prices mentioned herein will remain firm until the Order is executed and shall not be subject to escalation for any reason whatsoever. No adjustment to the Price shall be made as a result of changes in the values of any currencies,

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

change in raw material or labor prices, changes in law or any other reason whatsoever.

All rates, sums, and prices mentioned herein shall include the cost of facilities to be provided to Purchaser pursuant to Clause 2.7 of GPC during all Site Visits for whatsoever reason.

2.6. DELIVERY TIME

The delivery dates stipulated in the Purchase Order is the essence of the Order. Delivery of the Equipment/ Material along with necessary documents shall be made at the place/s and at the time and manner specified in the Purchase Order. Purchaser reserves the right to take any remedial action for default in delivery by Bidder at Bidder’s risk and cost.

2.7. VISIT OF PURCHASER / CLIENT / COMPANY’S REPRESENTATIVES:

Purchaser / Client / Company may decide to depute its representative to the works of the Bidder for the purpose of drawing approval, expediting or inspection. The Bidder shall provide a suitable place for the Purchaser / Client / Company’s representative to sit in his office or works and provide him with facilities such as internet connectivity and conveyance between his place of stay & Bidder’s workplace etc. .

2.8. LIQUIDATED DAMAGES FOR DELAY

- 2.8.1. In case the Bidder fails to deliver the Equipment/ Materials in accordance with the delivery date as specified in the delivery schedule in Purchase Order, the Purchaser shall recover liquidated damages (LD) @ 0.5% of Purchase Order Value for the part delivery delayed, calculated for each week of delay or part thereof subject to a maximum of 5% of total Purchase Order Value. Any fractional week of delay shall be counted as a complete week. such LD shall be calculated and applied cumulatively for all part delivery schedules not fulfilled by the Bidder
- 2.8.2. For the purpose of liquidated damages calculations, the delay shall mean the period from scheduled delivery date of the Equipment/Goods to site as specified in the purchase order till actual date of delivery date of Equipment/Goods to the project site location stated in the Purchase Order.
- 2.8.3. The Parties agree that the amount of LD provided herein is a genuine pre- estimate of the loss and damages which will be suffered on account of delay on the part of the Bidder and the said amount shall be payable on demand without there being any proof of the actual loss or damage caused by such delay / breach.

2.9. FORCE MAJEURE


- 2.9.1. The term "Force Majeure" as employed herein shall mean act of God, fire, flood, war, typhoon and Acts and Regulations of respective Governments of the two parties, namely the Purchaser and Vendor

directly affecting the performance of Purchase Order. Force Majeure will not be applicable for the delays due to labour problems, strike at Bidder / sub Bidder's work places.

- 2.9.2. In the event of either party being rendered unable by Force Majeure to perform any obligation required to be performed by them under the Purchase Order, (other than the obligation to make payments due and payable under this Purchase Order except when the Purchaser is physically prevented by a Force Majeure event from making payment, in which case) the obligation of the party affected by such Force Majeure shall upon notification to the other party be suspended for the period during which such cause lasts.
- 2.9.3. Upon the occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid thereby, shall notify the other party in writing within (48) hours of the alleged beginning and ending thereof giving full particulars and satisfactory evidence in support of its claim.
- 2.9.4. Time for performance of the relative obligation suspended by the Force Majeure shall then stand extended by the period of delay which is directly caused by Force Majeure event. The party who has given such notice shall be excused from the performance or timely performance of its obligations under the Purchase Order, for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed, provided the party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its performance of the Contract and to fulfill its obligation under the Purchase Order.
- 2.9.5. If deliveries of bought out items and/or Works to be executed by the Bidder are suspended by Force Majeure conditions lasting for more than (2) two months, the Purchaser and Bidder shall each have the option of terminating this Purchase Order in whole or part thereof. Upon such termination, Purchaser shall compensate in accordance with the clause 2.11 herein.
- 2.9.6. Delay or non-performance by a party hereto caused by the occurrence of any event of Force Majeure shall not:
- 2.9.6.1. Constitute a default or breach of the Purchase Order,
OR
- 2.9.6.2. Give rise to any claim for damages or additional cost or expense occasioned thereby, if such delay or non-performance is caused by the occurrence of an event of Force Majeure. Force Majeure conditions are not payable under any circumstances.

2.10. MODIFICATIONS AND VARIATIONS

Unless authorized in writing by the Purchaser, Bidder shall be bound to execute the Order strictly in accordance with the Scope of Works, drawings, specifications, standards, other technical documents and terms and conditions of the Order.

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022


2.11. TERMINATION / CANCELLATION

- 2.11.1. The purchaser may at any time terminate the Order in whole or part by giving 15 days written notice thereof and without assigning any reasons. Bidder shall on receipt of notice of termination discontinue all further activities connected with the execution of the Order and inform the Purchaser of details of work carried out as on date. In the event of such termination, other than default of Bidder, Purchaser shall compensate Bidder towards the cost of materials delivered at site in good condition and accepted by the Purchaser.
- 2.11.2. Purchaser shall also be entitled to terminate the part or whole of Purchase Order in case of any default by Bidder, including but not limited to, following:
- 2.11.2.1. Bidder becomes bankrupt or has a receiving order made against him or presents his petition in Bankruptcy or makes an arrangement with or assignment in favour of his creditors or agrees to carry out the Contract under a committee of inspection of his creditors or (being a corporation) goes into liquidation (other than a voluntary liquidation for the purposes of amalgamation or reconstruction),
OR
- 2.11.2.2. has an execution levied on his Goods,
OR
- 2.11.2.3. assigns the Purchase Order without the previous written consent of the Purchaser,
OR
- 2.11.2.4. Bidder has to the detriment of good workmanship or in defiance of the Purchaser's Representative's instruction to the contrary, sub-contracted for any part of the Purchase Order,
OR
- 2.11.2.5. Bidder repudiates or abandons the Purchase Order,
OR
- 2.11.2.6. Bidder without reasonable excuse fails to commence the Works or suspends the progress of the Work and substantially delays the delivery
OR
- 2.11.2.7. Bidder, despite previous notice in writing by the Purchaser's Representative, is not executing the Scope of Works in accordance with the Purchase Order to the satisfaction of the Purchaser's representative or is persistently or flagrantly neglecting to carry out his obligations under the Purchase Order.
OR
- 2.11.2.8. Bidder commits material breach under the Purchase Order
- 2.11.3. In such an event, Purchaser shall issue 10 days' notice to Bidder for remedying the default. In the event, the Bidder does not remedy the default within the notice period, Purchaser is entitled to terminate the

Order, either in whole or part. Purchaser shall withhold all the payments due to Bidder and shall get the work carried out from a third party at the risk and cost of Bidder. Bidder shall be fully liable to the Purchaser for all the costs incurred by Purchaser over and above the Purchase Order price of the terminated Goods to meet the Purchaser's schedule requirements.

2.12. GUARANTEE AND WARRANTY

- 2.12.1. The Bidder guarantees that the Equipment / Materials including spare parts, and consumables, if any, supplied under the Order shall be genuine, new and unused or not reconditioned.
- 2.12.2. Bidder guarantees that the Equipment/Material procured from his Sub-Bidder/Vendor are genuine, new and unused or not reconditioned.
- 2.12.3. The Bidder guarantees that the Equipment/Materials are of the best quality and free from defects in design, material and workmanship and are suitable for the operating conditions and purpose as specified in the Order. The guarantee/warranty for the Equipment/ Materials shall be valid till the period mentioned in the Special Purchase conditions (SPC).
- 2.12.4. Should any defect in the Equipment/ Materials be noticed during the guarantee period, the Purchaser shall notify the Bidder with the details of defects observed and the Bidder at no cost to the Purchaser shall make the defect good at site as promptly as required, by way of repair/modification or replacement of the Equipment/Materials. For any defective work requiring repair or replacement, guarantee/warranty period shall be further extended for an additional period of 6 months from the date of acceptance of any warranty repair or replacement work, if any.
- 2.12.5. If the Bidder does not repair or replace the Equipment / Materials notified as defective within a reasonable period of time as required by the Purchaser / Client / Company, the Purchaser shall have right to remedy the said defect at Bidder's risk and cost but without prejudice to any right the Purchaser may have against the Bidder in respect of any breach of these guarantee conditions.
- 2.12.6. In the event of an emergency, where in the judgment of the Purchaser, delay would cause serious loss or damage, repairs or adjustments may be made by the Purchaser or a third party chosen by the Purchaser without advance notice to the Bidder and the cost of such work shall be paid by the Bidder. In the event of such action taken by the Purchaser, the Bidder will be notified promptly and he shall assist wherever possible in making necessary corrections. This shall not relieve the Bidder from liability under the terms and conditions of the Order.
- 2.12.7. The Bidder shall ensure that all guarantee or warranty certificates issued by the Bidder covering performance of the said Equipment and

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

Materials be issued in the joint names of the Purchaser and Client / Company.

- 2.12.8. The Guarantee Certificate that will be submitted by the Bidder at the time of supply of Equipment and Materials shall reflect all the above requirements.
- 2.12.9. The bidder shall ensure that the spare parts are readily available to reduce the downtime.
- 2.12.10. The bidder shall rectify the damaged inverters under warranty within 7 days from the date of intimation of complaint by INKEL via e-mail. In case the bidder fails to rectify the defects the bidder shall be liable to pay compensation to INKEL for generation loss. The monetary compensation for the plant outage days shall be computed as 4 units per KWp/Day multiplied by the approved average annual energy purchase cost of that year approved by the Kerala state energy regulatory commission and will be deducted from any amount payable to bidder till the same is rectified.

2.13. TECHNICAL DISCUSSION

In an endeavor to expedite the delivery, the Purchaser may instruct the Bidder to depute his competent technical personnel for technical discussions with the Purchaser/ Purchaser’s design and engineering consultant/Company’s Consultants/ Client, in order to expedite the respective activity. The Bidder shall, on receipt of such intimation, depute his technical personnel accordingly. All costs associated with such visits shall be borne by the Bidder.

2.14. NOTIFICATION OF SUITS/ CLAIMS

The Bidder shall give the Purchaser prompt notice in writing of any suit or action filed against the Bidder, the settlement of which could result in a claim against the Bidder. Bidder shall promptly furnish copies of all relevant papers to the Purchaser.

2.15. APPLICABLE LAWS

- 2.15.1. Bidder shall comply with all the laws, rules and regulations including but not limited to those related to security matters, Contract Labour (R&A) Act, Minimum Wages Act etc.
- 2.15.2. Bidder shall fully comply with the Security Provisions governed by rules & regulations formulated from time to time by the Government of India and / or its concerned departments / agencies as well as the requirements of Company and Purchaser.
- 2.15.3. Bidder shall comply with and conform in all respects with the provisions of any statute, ordinance or law as aforesaid and the regulations or by laws of any international, local or other duly constituted authority which may be applicable to the works or to any temporary works and with such rules and regulations of public bodies



SUPPLY OF GRID CONNECTED SOLAR
PV INVERTERS for 11MWp KSEB

Doc No: 11MWp-RFQ-SPLY-PCU

Rev. No : 01

Date : 01.12.2022

and companies as aforesaid and shall be responsible for all costs arising from compliance and/or violation of the same.

- 2.15.4. Bidder shall defend, indemnify and hold Company/Purchaser harmless from and against any and all penalties, liabilities, damages, claims, fines and expenses of whatever nature arising out of or resulting from the violation of such laws or rules or regulation by Bidder.

2.16. ARBITRATION

- 2.16.1. Any dispute arising under the Purchase Order shall be resolved by mutual discussions between the Bidder and the Purchaser.
- 2.16.2. If any dispute, difference or question shall at any time arise between the Purchaser and the Bidder, regarding the rights, liabilities or duties of the said parties, which cannot be mutually resolved by the parties, the same shall be referred to for arbitration to be carried out in accordance with Arbitration and Conciliation Rules 1996 and any subsequent amendments. Arbitration proceedings shall be held in Cochin, India. The language of Arbitration shall be English.
- 2.16.3. Under no circumstances, the Bidder shall hold up production or dispatch of Equipment pending resolution of the disputes.

2.17. ASSIGNMENT / SUBCONTRACTING

Any assignment or sub-contracting of the Purchase Order can only be effected with prior written consent of the Purchaser and shall not relieve the Bidder from any obligation, duty or responsibility under the terms of Purchase Order.

2.18. PASSING OF PROPERTY/TITLE

- 2.18.1. The title to the Equipment and Materials shall be deemed to have been passed to the Purchaser when the Goods are identified for the Purchase Order during manufacturing, or the date on which Goods are delivered in accordance with the Purchase Order or the date of payment by Purchaser to Bidder, whichever event occurs earlier. The transfer of title shall not in any way affect the Purchaser's right under the provisions of the Purchase Order.
- 2.18.2. In case of any non-performance by Bidder due to any cause including Force Majeure or early termination, Purchaser shall be entitled for the IP rights, if any pertaining to the Goods delivered and transfer the Goods else-where for this project.

2.19. TESTING/ INSPECTION

- 2.19.1. Bidder has to conduct a Factory Acceptance Test (FAT) on the material prior to dispatch which will be witnessed by the Purchaser and its end Client. FAT inspection should be intimated at least 10 days ahead of the test date.
- 2.19.2. The Bidder shall include the charges for the inspection by Purchaser/Client as per his proposed QA Plan. (The proposed QAP shall




SUPPLY OF GRID CONNECTED SOLAR
PV INVERTERS for 11MWp KSEB

Doc No: 11MWp-RFQ-SPLY-PCU

Rev. No : 01

Date : 01.12.2022

- meet requirements of the RFQ & Inspection Requirement Table (IRT)).
- 2.19.3. The Bidder shall submit the QA Plan for the approval of the Purchaser. This QA Plan shall demonstrate product conformance with INKEL drawings/Specifications & IRT as applicable.
- 2.19.4. The QA Plan shall indicate all stages of inspection as Review (R) or Witness (W) or Hold (H) or Monitor (M) as defined, for inspection coverage by INKEL or External Inspection Agency and Client/Client's Certifying agency.
- 2.19.5. Purchaser and Client/Client's Certification Agency shall indicate stages of inspection to be witnessed in the QA Plan and approve the same.
- 2.19.6. Finalization of QA Plan is important to ensure timely delivery of Material/Equipment. The Bidder shall therefore, depute his competent QC Engineer to INKEL/ Company office to discuss & finalize the QA Plan within 10 days of receipt of Purchase Order.
- 2.19.7. The Bidder shall obtain confirmation reports from Purchaser for witnessing stages of inspection on behalf of Purchaser as indicated in the QA Plan. The stage inspection reports prepared by the Purchaser or External Inspection Agency shall be forwarded by the Bidder after every visit or once in every fortnight to the Purchaser.
- 2.19.8. Prior to dispatch of Equipment/ Material, the Bidder shall obtain an Inspection Release Note from Purchaser mentioning compliance with the Approved drawings, Approved RFQ, Approved Technical Bid Evaluation and Q.A. Plan and furnish the same prior to dispatch.
- 2.19.9. Material shall be inspected by Company / Certifying agency as applicable as per the approved Quality Control Plan. Prior to dispatch of Equipment/ Material, Bidder shall obtain an Inspection Release Notes from Company / certifying agency.
- 2.19.10. No revision will be allowed except those submitted in form B and approved. INKEL reserves the right to cost / delivery impact if any deviations / concessions are taken post order.
- 2.19.11. Purchaser reserves the right to take remedial action for default in delivery and the same shall be debited to Bidder.
- 2.19.12. The Company/Client, Purchaser and/or their authorized representatives (including their nominated inspection agencies) shall have the right to inspect/witness the processing/testing of the Equipment/ Materials by the Bidder or his Sub-Bidders at stages referred to in the Quality Control Plan approved by the Purchaser. Such inspection/ expediting or waiver thereof by the Company / Client / Purchaser or their representatives shall not absolve the Bidder of the responsibilities with regard to quality assurance and/or delivery commitments. Bidder shall at all reasonable times provide free access to the Company / Client / Purchaser's authorized inspectors to all places where processing /manufacturing is carried out and make available to them all facilities required to carry out their duties.
- 2.19.13. The expenses for conducting factory acceptance tests (including air

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

travel and accommodation for five officials from Kerala to vendor works and return) shall be included in the price quoted by the bidder.

2.20. SHIPPING/PACKING INSTRUCTIONS

- 2.20.1. Bidders shall comply with the Shipping/ Packing instructions as specified in the Order. In any case the Bidder shall ensure that packing is to the best international standards and adequate to withstand all hazards during shipment and storage. Any loss/ damage from insufficient/ defective packing shall be to Bidder's account.
- 2.20.2. Purchaser right to reject the defective material which shall be replaced by bidder at his own cost. Bidder shall dispatch the materials to site after the receipt of unconditional inspection release note
- 2.20.3. Each package shall have on its outer side the following marking in English in indelible ink.
 - Location of Loading
 - Name of Purchaser
 - Purchase Order Number
 - Address of destination
 - Consignee particulars in brief
- 2.20.4. In addition each package shall carry serial number or other appropriate indelible marking/ identification indicating the Company / Client / Purchaser's representative's certification of quality and inspection. Such marking/identification may be applied in the presence of the Company / Client's representative. This marking shall be correlated in the invoice, packing list and express bill of lading, mailing certificates etc., exactly as they appear on the Equipment/Materials.
- 2.20.5. Immediately upon shipment, the Bidder shall send the following original documents by courier and scan copy via email to the purchaser:
- 2.20.6. Lorry Receipt / GCN (Goods Consignment Note).
- 2.20.7. Commercial Invoice, Packing list.
- 2.20.8. Bidder shall also inform the name, address and telephone / fax nos. of the freight forwarder's agent in Cochin in case the freight forwarder has been arranged by the Bidder.
- 2.20.9. Bidder shall ensure that all items as per Purchase order are included in one invoice & are dispatched as a single consignment. If it is unavoidable to dispatch the items in two consignments, Bidder shall prepare two separate invoices & packing lists for each consignment.
- 2.20.10. Any charges incurred by the Purchaser, on account of the delay in sending the required documents / submission of wrong documents and / or not following shipping instructions shall be charged back to the Bidder.
- 2.20.11. Purchaser may be entitled for certain exemption benefits for which Purchaser shall separately inform Bidder on the documentation requirements, Description of the Items, Line Item Weights, Price break

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

break-ups etc. to be specified as per Purchaser's instructions. Any additional cost incurred by Purchaser due to deficiency in the documentation submitted by Bidder shall be to Bidder's Account.

2.21. PACKING OF MANDATORY SPARE PARTS

All supplied spare parts shall be wrapped and packed, so that they will be preserved in original as new condition under normal conditions in India and shall be properly tagged and coded, so that later identification as to its intended equipment usage will be facilitated. They shall be packed separately and clearly marked "MANDATORY SPARE PARTS" and shipped with the equipment. Separate packing lists for each package shall be furnished so that the parts can be handled without uncrating if desired.

2.22. INVOICING AND TERMS OF PAYMENT

- 2.22.1. Bidder shall raise the Invoices in accordance with the payment terms Specified in SPC.
- 2.22.2. Payment shall be released only after receipt of correct invoice along with all necessary documents including but not limited to following:
 - 2.22.2.1. Packing List
 - 2.22.2.2. Inspection Release Note
 - 2.22.2.3. Material Test Certificates (MTC) as applicable,
 - 2.22.2.4. Copy of Lorry Receipt / GCN (Goods Consignment Note) and any other documents as specified in SPC.


2.23. INTEGRITY

- 2.23.1. The Bidder / Sub-Bidder commits itself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the Purchase Order execution.
 - 2.23.1.1. The Bidder / Bidder will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the Purchase Order or to any third person any material or immaterial benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
 - 2.23.1.2. The Bidder / Sub-Bidder will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. Further, no Bidder should have a conflict of interest that affects the tender / bidding process, in any of the following manner:
 - 2.23.1.2.1. such Bidder (or any constituent thereof) and any other Bidder (or any constituent thereof) have common controlling

- shareholders or other ownership interest; provided that this qualification shall not apply in cases where the direct or indirect shareholding in a Bidder or a constituent thereof in the other Bidder(s) (or any of its constituents) is less than 1 % of its paid up and subscribed capital; or
- 2.23.1.2.2. a constituent of such Bidder is also a constituent of another Bidder ; or
- 2.23.1.2.3. such Bidder receives or has received any direct or indirect subsidy from any other Bidder, or has provided any such subsidy to any other Bidder; or
- 2.23.1.2.4. such Bidder has the same legal representative for purposes of this Bid as any other Bidder; or
- 2.23.1.2.5. such Bidder has a relationship with another Bidder, directly or through common third parties, that puts them, in a position to have access to each other's information about, or to influence the Bid of either or each of the other Bidder, or
- 2.23.1.2.6. such Bidder has participated as a consultant to the authority in the preparation of any documents, design or technical specifications of the project
- 2.23.2. The Bidder / Sub-Bidder will not commit any offence under the relevant Anti-corruption Laws of India; further the Bidder / Sub-Bidder will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.23.3. The Bidder / Sub-Bidder will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Purchase Order.
- 2.23.4. Bidder confirms full compliance with Company's Integrity pact as executed by Purchaser with the Company for this Project. Bidder's authorized representative shall execute this integrity pact in original and send to Purchaser within 7 days of Effective Date. Purchaser reserves the right to withheld Bidder's payment if integrity pact duly executed in original by Bidder is not received by Purchaser.

2.24. CONFIDENTIALITY

- 2.24.1. Neither Bidder nor its Sub-Bidder and their personnel and agents shall divulge to any third party any information designated in writing as confidential and obtained from the disclosing party during the course of the execution of Purchase Order.
- 2.24.2. Upon completion of the Purchase Order or in the event of early termination of the Purchase Order, Bidder shall immediately return to the Purchaser all drawings, plans, specifications and other documents

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

supplied to the Bidder by or on behalf of the Purchaser or prepared by the Bidder solely for the purpose of the performance of the Purchase Order, including all copies made thereof by the Bidder.

2.25. AUDIT RIGHTS

Bidder shall prepare and retain full records relating to the performance of the Scope of Works. Purchaser or its authorized representative(s) or agent(s) shall be granted access to examine and to take copies of all records other than records associated with building up of fixed lump sums prices and rates. Bidder shall preserve all original form and make available for inspection without any additional charge, statutory records for a period of six (6) years after the expiry of Warranty period or earlier termination of the Purchase Order. Any amount by which the total payment by Purchaser to Bidder exceeds the amount due to Bidder as shown by the examination, shall be returned to Purchaser.

2.26. TAXES AND DUTIES

- 2.26.1. All applicable taxes including withholding tax in India, if any, fees, levies, imposts, duties, charges etc. (including all direct and indirect expenses, any and all penalties and fines) during the performance of Works under this Purchase Order shall be included in the Purchase Order price. Bidder remains solely liable in respect of taxes which are indirectly related to the performance of this Purchase Order, in particular taxes which may be levied on the personal income or the personal belongings of his employees.
- 2.26.2. The Bidder shall indemnify the Purchaser against any and all liabilities or claims arising out of the work performed by the Bidder under this Purchase Order for any taxes and duties including interest and penalty, which any Tax Authority may assess or levy against Purchaser and Bidder.

2.27. GOVERNING LAW

The validity, interpretation and performance of this Purchase Order and legal relations between the parties shall be governed by the laws (substantive and procedural, whether national, state, municipal, local or other), rules and regulations of India.

2.28. SAMPLES

Bidders shall provide all samples at no additional cost to Purchaser for his approval upon request from the Purchaser.

2.29. INDEMNITIES

- 2.29.1. The Bidder shall indemnify and keep harmless Purchaser, Company, its other contractors and/ or sub-contractors and its/their employees (hereinafter Purchaser Group) from all actions, proceedings, suits,

claims, demands, liabilities, damages, losses, costs, charges, expenses judgments and fines arising out of or in the course of, or caused by the execution of work under the Purchase Order or other obligations hereunder directly or indirectly associated herewith including but not limited to:

- 2.29.1.1. personal injury, illness or death of:
 - 2.29.1.1.1. any of Bidder's, Sub-Bidder's, their other agents or employees (hereinafter Bidder Group) personnel (even if caused by or contributed to by the negligence or fault of Purchaser); and
 - 2.29.1.1.2. any third party person to the extent the injury, illness or death is caused by the Bidder Group
 - 2.29.1.1.3. and
 - 2.29.1.1.4. loss or damage to:
 - 2.29.1.1.5. any property owned, hired or supplied by Bidder or Sub-Bidder's
 - 2.29.1.1.6. any third party property to the extent the loss or damage is caused by Bidder Group.
- 2.29.2. The Bidder shall indemnify and keep harmless Purchase Group from any claims, demands, costs, actions, proceedings, suits liabilities, damages and fines arising due to infringement of any intellectual property by Bidder Group while carrying out Scope of Works under the Purchase Order. Bidder shall provide perpetual and royalty free right to Purchase and Company for using the Goods if any such rights are embedded therein.
- 2.29.3. Notwithstanding any other provisions, except only in cases of willful misconduct and/or criminal acts, neither the Purchaser (including Purchaser Group) nor the Bidder (including Bidder Group) shall be liable to the other, whether in contract, tort, or otherwise, for any consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided however that this exclusion shall not apply to any obligation of the Bidder to pay Liquidated Damages to Purchaser.

2.30. HSE AND RELATED COMPLIANCES FOR SITE DEPUTATION

- 2.30.1. Bidder shall follow the safety rules and regulations in line with Purchaser's and Company's HSE policy and specifications set out herein. The Bidder shall also be responsible to comply with code requirements of ISO-14000 series, and other international practices. In case of conflict between the requirements of the various specifications and/or the requirements specified in the Purchase documents, the more stringent requirement shall be followed.
- 2.30.2. Bidder shall not dump any material in the vicinity of the existing facilities of COMPANY or the facilities which are being installed under the Contract.
- 2.30.3. None of Bidder's personnel / employees / representatives including

personnel / employees / representatives of his Sub-Bidders carry out any type of cameras nor do any photography in or around any of Company's / Purchaser's installations / facilities and also ensure that they shall hand over all films and photographs to the Purchaser's Representative before leaving site. All employees/representatives of Bidder including employees / representatives of his Sub-Bidders shall sign a declaration as prescribed by Company every time before their departure for/from Site.


2.30.4. Bidder should ensure that all his personnel being deployed at Site are aware of:-

- 2.30.4.1. Elementary First Aid.
- 2.30.4.2. Fire Fighting.
- 2.30.4.3. OHAS

2.31. POST WARRANTY SERVICES

2.31.1. The Bidder shall submit an undertaking that:

- 2.31.1.1. Bidder/ its OEMs shall provide to Company the post warranty service / spares for a period of 2 years from the date of expiry of warranty period of the equipment and that the response time for offering such service /spares from Bidder/its OEM's shall not exceed two weeks from the date of written request from Company/ Purchaser.
- 2.31.1.2. The Bidder/ its OEM undertake to enter into Annual Maintenance Contract for 'lifetime' for all the equipment to be supplied under the Purchase Order, if awarded to Bidder /its OEM by Company.
- 2.31.1.3. In case the Bidder/its OEM declines / fails to honor any of his above commitments, business dealings with such Bidder/its OEM shall be considered for banning from future business dealings.
- 2.31.1.4. On award of Purchase Order, Bidder shall furnish the price list for spare parts pertaining to equipment along with the backup papers:
- 2.31.1.5. The Bidder/its OEM shall provide the maintenance / service / calibration facilities in India, for all the equipment to be supplied under the Purchase Order, if awarded to him by the Company.
- 2.31.1.6. The Bidder/ its OEMs shall guarantee the 'lifetime supply' of spares for all the equipment to be supplied under the contract, if awarded to him by the Company.
- 2.31.1.7. The Bidder/ its OEMs undertake to enter into Annual Maintenance Contract for 'lifetime' (for all the equipment to be supplied under the contract, if awarded to him by COMPANY.
- 2.31.1.8. In case the Bidder/ its OEM declines / fails to honor any of his above commitments, business dealings with such OEM shall be considered for banning from future business dealings.
- 2.31.2. In the event of failure to provide such an undertaking by Bidder /its OEM, the same shall be considered as material breach under the Purchase Order and Purchaser reserves the right to cancel this

	<p align="center">SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB</p>	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

Purchase Order.

3. SPECIAL PURCHASE CONDITIONS

The terms and conditions of this Special Purchase Conditions shall be read in conjunction with General Purchase Conditions and in the event of any conflict arising between SPC and GPC, the terms of SPC shall take precedence.

3.1. DELIVERY PERIOD

The delivery date and delivery schedule for the Material/Equipment / Goods at Site shall be as specified in the Purchase Order. i.e Delivery to the site (locations) must be completed within the delivery schedule stated in the PO, on non-compliance of which Liquidated Damages as specified in the GPC shall apply. In the event the Bidder fails to deliver the whole or part of the Equipment/ material/Goods within the agreed schedule, Purchaser reserves the right to cancel the PO without any liability to the Bidder and to charge the Bidder on any loss incurred as a result of the Bidder's failure to comply with the stipulations of the Purchase Order. Materials shall be ready for inspection/ Factory acceptance test at least 10 days prior to scheduled delivery date as stated in the purchase order.

3.2. PAYMENT TERMS

- 3.2.1. 40% upon delivery of material/Equipment to site and after site inspection and acceptance tests and verification by Client/Purchaser and production of the insurance and warranty certificates for the materials delivered at site.
- 3.2.2. 40% after installation of material/Equipment at site and readying for test charging for commissioning.
- 3.2.3. 20% after satisfactory testing and commissioning and after proving the Performance ratio and upon submission of a performance bank guarantee(PBG) equivalent to five percent(5%) of the value of material/equipment delivered to each site and will remain valid for 5 years from the date of commissioning.


4. SCOPE OF WORK AND TECHNICAL SPECIFICATION

4.1. SCOPE OF SUPPLY

- 4.1.1. Manufacturing, Testing, and delivery to different locations in Kerala as well as commissioning support of Grid Connected Solar Inverters (String or Central or both) mentioned in this document.
- 4.1.2. The estimated cumulative capacity required is 11MWp. Site wise capacity is mentioned in section 5.7. Purchaser shall state the actual quantity to be supplied by the Bidder in the Purchase Order. Purchaser reserves the right to reduce the quantity of purchase as required without change in agreed rate.
- 4.1.3. The total quantity of 11MWp is cumulative of different sites.

4.2. TECHNICAL REQUIREMENTS


Sl No	Item	Specification / Requirement
1	System Configuration	Multiple Inverters
2	Type	String/Central Inverters
3	Technology	Maximum power point Tracking and IGBT based design
4	Max DC Power Capacity	110% rated capacity
5	Efficiency	Greater than 97% (Test report as per IEC 61683 at 75% load shall be considered for verification)
6	Voltage Ripple	Less than 3 %
7	Operating Temperature	5°C to 50°C
8	Relative Humidity	95% non-condensing
9	Enclosure protection	Minimum IP65 for outdoor as per IEC62208 specifications
10	Cooling	Forced Convection
11	Input DC	
11.1	Maximum Input voltage	1500 VDC
12	Output AC	
12.1	Rated Output Power at 50°C	Equal to DC Capacity at each site
12.2	Frequency	50 Hz \pm 10%
12.3	Phases	3 Phase
12.4	Voltage	As per rated inverter output \pm 10%
12.5	Harmonics	Within limits as per IEEE-519 2014
13	Certifications	The Solar inverters supplied shall have valid certifications given below <ol style="list-style-type: none"> 1. IEC 60068 2. IEC 62116 3. IEC 61727 4. IEC 62109 5. IEC 61683 6. IEC 60255
14	Protections/Features	The inverters shall be protected against the following conditions <ol style="list-style-type: none"> 1. Continuous over load 2. Over / Under voltage protection on AC side (+10% / -20%) 3. LVRT and HVRT feature 4. Over / Under frequency (50.5Hz / 47.5Hz) 5. DC reverse polarity 6. Short circuit protection 7. Over voltage protection 8. Over heating

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

		9. Islanding 10. Ground fault and Earth fault 11. Overload capacity 150% for 10 seconds 12. Surges and lightning (with type II MOV surge protection device) 13. DC Switch/DC Isolator on DC Side 14. Night time VAR capability
15	Alarms	Alarms shall be provided for 1. Hardware failures 2. Internal or external auxiliary supplies potential free contacts shall be provided for alarms
16	Data logging & monitoring	<ul style="list-style-type: none"> ➤ Communication/SCADA interface – RS485 Modbus/Modbus TCP IP ➤ LCD Display shall be available for local monitoring ➤ Data logging function shall be provided in the inverters. Following parameters are to be logged <ul style="list-style-type: none"> ▪ Inverter per phase voltage, current, frequency, kW, KVA ▪ Grid Voltage and frequency ▪ MPPT current and Voltage ▪ Ambient temperature ▪ Heat sink and panel temperatures ▪ Inverter KWh Import and export ▪ Inverter status ▪ System settings ▪ Hours of operation ▪ Event logs Vendor shall not limit the data to the data mentioned above. Vendor can provide additional data in case, the data benefits the end user in operation, improving safety and performance. Any additional features such as string current monitoring shall be indicated separately.
17	.OND File	.OND file for each inverter shall be provided for carrying out PV Syst calculations before supply.

4.3. QUALITY ASSURANCE

- 4.3.1. Quality Plan and Datasheet shall be subject to Purchaser's approval. Inverters shall be subject to pre-dispatch inspection by Purchaser, Client or any third party designated by Purchaser.
- 4.3.2. Pre-shipment inspection by Purchaser/Client (Factory Acceptance Test) at Bidder's works will include:-
- Dimensional and Visual Check
 - Electrical Tests for functionality and protection features
 - MPPT tracker test
 - AC under / over voltage test
 - Under / Over frequency test

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

- THD measurement
- Efficiency measurement
- Hi Pot Test
- Any other test as required by customer

4.3.3. Successful bidder has to prepare and submit the Quality assurance plan to INKEL for Customer approval.

4.4. WARRANTY

4.4.1. Inverter shall be warranted for minimum of 5 years and 6 months against all material or manufacturing defects and workmanship from the date of invoice.

4.4.2. All costs for repair including transportation shall be paid by the vendor.

4.4.3. Inverters that do not meet the above criteria shall be replaced/ repaired on site free of cost by Bidder/Supplier.

4.5. PACKING AND IDENTIFICATION

The inverters shall be packed in carton boxes in road worthy packing. Inverters found damaged at the time of opening of the cartons in the project site shall be replaced by the vendor, free of cost at site within 07 days intimation by Purchaser in the absence of which provisions of LD as per clause 2.8 of GPC shall apply.

4.6. GENERAL CONDITIONS

4.6.1. Inverters shall be manufactured at the factory of OEM for which PO is placed.

4.6.2. Any additional tests / Type tests / Certification required by INKEL /Client shall be compiled.

4.7. MANUFACTURING CLEARANCE APPROVAL PROCEDURE

4.7.1. The successful Bidder shall submit the Guaranteed technical Particular (GTP), Datasheet, Bill of Materials (BOM), General Arrangement Drawing and Quality assurance plan of the solar inverters for approval

4.7.2. Bidder shall provide test certificates corresponding to standards mentioned above along with complete test reports for proposed model of solar inverters from MNRE approved Laboratories

4.7.3. The Bidder shall submit a detailed manufacturing quality plan for Inverter with list of checks / tests performed during incoming material inspection, production, pre- dispatch and package.

4.8. MANUFACTURING AND INSPECTION

4.8.1. The manufacturing shall start only after clearance by the Purchaser after approval.

4.8.2. The Bidder shall inform the inspection date to INKEL at least 05

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

working days before the proposed schedule of inspection.

- 4.8.3. Inspection of inverters shall be performed as per the inspection procedure mentioned in the inspection requirement table (IRT).
- 4.8.4. Tests mentioned in the IRT are minimum test requirements. Bidder shall make all arrangements for testing without any additional costs.

4.9. INSPECTION REQUIREMENTS TABLE (SOLAR ON GRID INVERTERS)

A c t i v i t y N o	Inspection by CLIENT			
	Inspection by INKEL/PURCHASER			
	Certificates /Compliance to be submitted by Vendor for Review / Approval			
	Stages of Inspection			
1	A	R	X	Quality Assurance Plan/ Inspection and Test Plan & FAT Procedure
2	R	R	X	Report of Tests: Routine Test, Type Test, Test certificate
3	W	W	X	Visual inspection, Dimensional check, Name plate, Workmanship
4	R	R	X	Electrical Tests and Functionality tests
5	W	W	X	Dielectric Withstand (Hi pot) test
6	R	R	X	Insulation Resistance
7	R	R	X	Ground Continuity Test
8	Is	R	X	Issue and documentation at Vendor place (Inspection release Note)
9	W	W	H	Verification of Components as per Inspection release note (IRN)
10	R	R	X	Inward Material Inspection Report as per IRN

LEGENDS & NOTES:

RW – Random witness Inspection - Sampling percentage specified as minimum 1%

W – Witness Inspection – 100% inspection

A – Approval

R – Review

X – Submission of supporting documents during review at any stage

Is – Issue

H- Hold

	<p align="center">SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB</p>	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

5. ANNEXURES AND FORMATS

5.1. COVERING LETTER

(On the Letterhead of the bidder)

From,
(Insert address of the bidder)

To,
Managing Director
INKEL Limited
Kakkanad,Kochi,Kerala-682030


Sub: Supply of Grid Connected Solar PV String/Central Inverters.

Dear Sir,

We, the undersigned.....[insert name of the ‘Bidder’] having read, examined and understood in detail the tender document for Supply of Grid Connected Solar PV String/Central Inverters, hereby submit our bid comprising of price bid and non-financial Bid.

1. We give our unconditional acceptance to the tender, dated.....and tender documents attached thereto, issued by INKEL Limited, as amended. This shall also be construed as a token of our acceptance to the tender documents including all its amendments and clarifications. We shall ensure that we execute such tender documents as per the provisions of the tender and all provisions of such tender documents shall be binding on us.
2. We have submitted our Price Bid strictly as per terms of this tender, without any deviations, conditions and without mentioning any assumptions or notes for the Price Bid in the said format(s).
3. **Acceptance**

We hereby unconditionally and irrevocably agree and accept that the decision made by INKEL LTD. in respect of any matter regarding or arising out of the tender shall be binding on us. We

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022


confirm that there are no litigations or disputes against us, which materially affect our ability to fulfill our obligations with regard to execution of projects of capacity offered by us.

4. We are enclosing herewith the Cover-I (Non-Financial bid documents) and Cover II (Price Bids) containing duly signed formats, each one duly sealed separately as desired by you in the tender for your consideration.
5. We confirm that the models offered by us have valid certificates of compliance to IEC 60068, IEC 61727, IEC 62109, IEC 60255, IEC 62116 and IEC 61683 obtained from National/International labs.
6. It is confirmed that our Bid is consistent with all the requirements of submissions stated in the tender and subsequent communications from INKEL Limited. The information submitted in our Bid is complete, strictly as per the requirements stipulated in the tender and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid. We confirm that all the terms and conditions of our Bid are valid for acceptance for a period as stated in the clause 1.4 of Instruction to Bidders. We confirm that we have not taken any deviation so as to be deemed non responsive.

Thanking you,

Yours faithfully,

(Authorised Signatory of the Bidder)

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

5.2. PRICE BID FORMAT

Notes :

1. Note: Bidder may submit a bid for Category I alone or Category II and III or for Category I, II and III.
2. The quoted prices for each category shall be evaluated separately and L1 bidder will be identified for each category.
3. Price to be inclusive of all duties, taxes and transportation to site.
4. Price to be inclusive of expenses for conducting FAT (as per QAP) at Manufacturer's factory.
5. The material shall be delivered within 10 days after issuing of dispatch clearance from INKEL LTD.



SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS
for 11MWp KSEB

Doc No: 11MWp-RFQ-SPLY-PCU

Rev. No : 01

Date : 01.12.2022

Category -I - Central Inverters

Sl No	Site Name	Site Capacity (kVA)	Make & Model of PCU	Capacity of inverter	No of Inverters	Price of one inverter	Total Rate (Basic)	GST	Total price (All inclusive)
1	Mylatty, Kasaragod	4000							
2	Mananthavady	2000							
3	Kanjikode	2000							
Total Cost in words (All inclusive in Rupees)									

Signature of Bidder with Stamp



SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS
for 11MWp KSEB

Doc No: 11MWp-RFQ-SPLY-PCU

Rev. No : 01

Date : 01.12.2022

Category -II - String Inverters									
Sl No	Site Name	Capacity (kVA)	Make& Model of PCU	Capacity of inverter	No of Inverters	Price of one inverter	Total Rate (Basic)	GST	Total price (All Inclusive)
1	Mylatty, Kasaragod	4000							
2	Mananthavady	2000							
3	Kanjikode	2000							
Total Cost in words (All Inclusive in Rupees)									

Signature of Bidder with Stamp



SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS
for 11MWp KSEB

Doc No: 11MWp-RFQ-SPLY-PCU

Rev. No : 01

Date : 01.12.2022

Category - III - String Inverters

Sl No	Site Name	Capacity (kVA)	Make& Model of PCU	Capacity of inverter	No of Inverters	Price of one inverter	Total Rate (Basic)	GST	Total price (All inclusive)
1	Payangadi	100							
2	Manjeshwaram	400							
3	Pudukad	100							
4	Kattoor	100							
5	Balaramapuram	100							
6	Thalakkulathur	250							
7	Kuttiyady	100							
8	Kozhikode	200							

Signature of Bidder with Stamp



SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS
for 11MWp KSEB

Doc No: 11MWp-RFQ-SPLY-PCU

Rev. No : 01

Date : 01.12.2022

Sl No	Site Name	Capacity (kVA)	Make& Model of PCU	Capacity of inverter	No of Inverters	Price of one inverter	Total Rate (Basic)	GST	Total price (All inclusive)
9	Kozhinjampara	300							
10	Neyyatinkara	50							
11	Cherpulassery	500							
12	Others	800							
Total price (in Words)									

Signature of Bidder with Stamp



**SUPPLY OF GRID CONNECTED SOLAR
PV INVERTERS for 11MWp KSEB**


Doc No: 11MWp-RFQ-SPLY-PCU

Rev. No : 01

Date : 01.12.2022

5.3. GUARANTEED TECHNICAL PARTICULARS

Guaranteed Technical Particular Data Sheet (To be submitted separately for each model offered)			
Sl .	Particulars	Required	Offered
1	Manufacturer		
2	Model name/No.		
3	Type of Inverter	String/Central	
4	Nominal AC power (at 50 deg)		
5	Nominal AC voltage		
6	Nominal AC Current		
7	AC grid Frequency range	47.5 Hz to 50.5Hz	
8	AC grid voltage range	-20% to +10%	
9	Power Factor (+ and -)		
10	Total Harmonic Distortion	as per IEEE-519 2014	
11	AC over / under voltage over / under frequency protection		
12	LVRT/HVRT setting option	Yes	
13	Max PV input power		
14	Maximum DC voltage	1500V	
15	MPPT voltage range		
16	Maximum DC current		
17	No. of DC input ports		
18	Maximum Efficiency	Greater than 97% as per IEC61683	
19	DC voltage ripple		
20	Ambient temperature range		
21	Humidity (non-condensing)	95%, non-condensing	


	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

22	Degree of protection		
23	Dimensions(HxWxD)		
24	Weight		
25	Protective functions AC over/under voltage, AC over/under frequency, over-temperature, AC and DC over-current, DC over-voltage, against Islanding		
26	Communication Interface	RS232/RS485MPI ProfiBus/ Telephone Modem/WiFi	
27	User-display standard	LCD panel with membrane keypad	
28	Enclosure Environment Rating		
29	Safety and EMC		
30	Anti Islanding Feature	IEEE1547/UL1741/IEC62 116	
31	Additional Features	String monitoring, String fuses, SPDs, etc. if any.	

Note:

GTP shall be submitted for each model offered by the vendor.


Signature of Bidder with Stamp

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

5.4. CONFIRMATIONS BY BIDDER

S1 No	Item	Acceptance by Vendor (Yes / No)
1	Max DC Power Capacity higher than 110% rated capacity	
2	Harmonics within limits as per IEEE-519 2014	
3	Facility to conduct Factory acceptance tests as per IRT	
4	Efficiency greater than 97% (Test report as per IEC 61683 at 75% load shall be considered for verification)	
5	Type Test Certificate availability as per Technical Requirements	

Signature of Bidder with Stamp

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

5.5. BID SUBMISSION CHECKLIST

Cover 1
Covering Letter
EMD as per clause 1.13
The entire tender document signed and sealed by the bidder as a token of acceptance of all the terms and conditions of this tender.
Proof of pre-qualification requirements as per clause 1.9
Copy of accreditations and certifications
Previous Experience details as per clause 1.7
PCU catalogue and datasheet
Copy of IEC 60068, IEC 61727 , IEC 62109, IEC 60255,IEC61683,IEC 62116
Duly filled General technical particulars with sign and seal of the bidder
Confirmations by Vendor
Power of Attorney(If Applicable)
Cover 2
Price Bid

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

5.6. PROFORMA FOR INTEGRITY PACT


(Certificate to be furnished by the bidder with the tender document downloaded from INKEL LTD Web-site)

CERTIFICATE

I/We undertake that the tender submitted by us is downloaded from INKEL Website (www.inkel.in) and is same in content and form (verbatim), and any deviation, if detected, at any stage, would entitle the Employer to reject our bidding/ offer without assigning any reason or recourse to any penal action and would be legally binding on us.

Signature of tenderer

Seal

	SUPPLY OF GRID CONNECTED SOLAR PV INVERTERS for 11MWp KSEB	Doc No: 11MWp-RFQ-SPLY-PCU	
		Rev. No : 01	Date : 01.12.2022

5.7. SITE / LOCATION WISE CAPACITY DETAILS

Sl No	Name of Location	Capacity(kWp)
1	Mananthavady	2000
2	110KV Substation,Payangadi	100
3	110KV Substation,Manjeshwaram	400
4	110KV Substation,Pudukad	100
5	110KV Substation,Kattoor	100
6	Balaramapuram Substation	100
7	Thalakkulathur	250
8	KSHEP Power House	100
9	KDPP Premises	200
10	Decommissioned 66KV Substation,Kozhinjampara	300
11	220KV Substation,Mylatty	4000
12	Neyyattinkara 110KV Substation	50
13	220KV Substation,Kanjikode	2000
14	110KV Substation,Cherppulassery	500
15	New Location *	800

***Site will be finalized later.**

Note: DC:AC ratio shall be 1:1.