

**IREL(INDIA)LIMITED**

(भारत सरकार का उपक्रम / A Govt. of India Undertaking)
ऑसकॉम, माटिखालो (डाक) / **OSCOM**, Matikhalo (PO) 761045
छत्रपुर, गंजाम, ओडिशा / Chatrapur, Ganjam, **Odisha**
फोन/ Phone : 06811-257890 - 257895, फैक्स/ Fax : 06811 - 257988
ई-मेल/ e-mail : purchase-os@irel.co.in वेब साईट/Website : <http://irel.co.in>
An ISO 9001, ISO 14001, OSHAS 18001 Certified Unit

Schedule Of Tender

Tender No.	OSCOM/SOP/24/A/00163 Dated: 13/02/2020
Item/ Job Description	Roof-Top Solar Plant 100 kWp
E tender Ref	IREL /GANJAM/20-21/ET/09
Tendering Mode E-Procurement System of MSTC Ltd http://www.mstcecommerce.com/eprochome/irel	Public Tender invited in two parts
Date of Starting of e-Tender	25/04/2020 11.30 AM
Date of starting of Online Pre-Bid Meeting	06/05/2020 10:00 AM
Date of closing of Online Pre-Bid Meeting	07/05/2020 10:00 AM
Estimated Value of Service	Rs.52,00,000/-
Date of closing of online e-tender for submission of Techno-Commercial Bid & Price Bid	20/05/2020 14:00 Hrs
Date & time of opening of Part-I (i.e. Techno-Commercial Bid)	20/05/2020 14:30 Hrs
Date & time of opening of Part-II (i.e. Price Bid)	Shall be informed Separately
Transaction Fee (Payable to MSTC). Bidders may pl. note that transaction fee is to be paid by them but the same shall be reimbursed back to them after finalization of tender	Rs 3068/- inclusive of Tax.
Earnest Money Deposit (EMD) : Refundable & Payable to IREL(INDIA)LIMITED	Rs.52,000/-
Validity of Tender	120 days from date of opening of Techno Commercial bid.
Delivery/Completion Period	2 months from date of issue of Order
List of Annexure Annexure – I Annexure – II Annexure – III Annexure – IV Annexure – V Annexure – VI Annexure – VII Annexure – VII	General Instruction to Bidders Pre Qualification Criteria General Conditions of Contract Special Conditions of Contract Technical Specification Techno Commercial Response Price Bid Formats

GENERAL INSTRUCTION TO BIDDERS W.R.T PARTICIPATION IN E-TENDERING EVENT

We **OSCOM unit of IREL(India)Limited** shall be utilising the e-procurement service of **MSTC Limited**, A Government of India Company having its registered office at 225-C, AJC Bose Road, Kolkata- 700 020 for enabling us to procure goods, services and works. We shall be utilising their portal for e-tendering which means sending requests for information and prices to suppliers and receiving the responses of suppliers using Internet Technology.

IREL(INDIA)LIMITED invites online tenders from the prospective bidders of repute to participate in our tender the mode of which happens to e-Procurement System (Online Part I - Techno-Commercial Bid and Part II - Price Bid through <http://www.mstcecommerce.com/eprochome/irel> of MSTC Ltd.).

Part I (Techno-Commercial bid) will be opened electronically on specified date and time as given in page no.1. Bidder(s) can witness electronic opening of bid.


Part II (Price bid) will be opened electronically of only those bidder(s) whose Part I (Techno-Commercial Bid) is found to be Techno-Commercially acceptable by IREL(INDIA)LIMITED, OSCOM.

Bidders are requested to read the terms & conditions of this tender before submitting their bids.

1.0 Process of E-tender :

A) Registration: The process involves vendor's registration with MSTC e-procurement portal which is free of cost. Only after registration, the vendor(s) can submit his/their bids electronically. Electronic Bidding for submission of Technical Bid as well as Commercial Bid will be done over the internet. The Vendor should possess Class III signing type digital certificate. Vendors are to make their own arrangement for bidding from a P.C. connected with Internet. MSTC is not responsible for making such arrangement. (Bids will not be recorded without Digital Signature).

SPECIAL NOTE: THE TECHNICAL BID AND THE COMMERCIAL BID HAS TO BE SUBMITTED ON-LINE AT www.mstcecommerce.com/eprochome/irel

- 1). Vendors are required to register themselves online with www.mstcecommerce.com → e-Procurement →PSU/Govt depts. → Select  Logo->Register as Vendor -- Filling up details and creating own user id and password → Submit.
 - 2). Vendors will receive a system generated mail confirming their registration in their email which has been provided during filling the registration form.
- In case of any clarification, please contact/MSTC, (before the scheduled time of the e- tender).

**Contact person of Tendering Authority
(IREL(India)Limited, OSCOM Unit)**

<u>N A M E</u>	<u>email-id</u>	<u>Landline No.</u>	<u>Mobile No.</u>
Shri K V Ramakrishna, I/C(Purchase)	purchase-os@irel.co.in	06811-257890 - 95 Extn 150	+91 8763345230
Shri Aron Smith .R SM(Purchase)	aronsmith@irel.co.in	06811-257890 - 95 Extn 150	+91 8300101975

Contact details of MSTC Bhubaneswar Officials:

<u>N A M E</u>	<u>email-id</u>	<u>Landline No.</u>	<u>Mobile No.</u>
Keshav Arora, MT	keshavarora@mstcindia.co.in	0674-2571699(D)	+91 9830430434

Address:

**MSTC Limited,
Toshali Plaza, 3rd Floor, Room No.TP-B/1-03&08,
Satya Nagar, Bhubaneswar - 751 007**

2.0 System Requirement:

- i) Windows 7 or above Operating System
- ii) IE-7 and above Internet browser.
- iii) Signing type digital signature
- iv) Latest updated JRE 8 (x86 Offline) software to be downloaded and installed in the system.

To disable “Protected Mode” for DSC to appear in The signer box following settings may be applied.

- Tools => Internet Options =>Security => Disable protected Mode If enabled- i.e, Remove the tick from the tick box mentioning “Enable Protected Mode”.
- Other Settings:

Tools => Internet Options => General => Click On Settings under “browsing history/ Delete Browsing History” => Temporary Internet Files => Activate “Every time I Visit the Webpage”.

To enable ALL active X controls and disable ‘use pop up blocker’ under Tools→Internet Options→ custom level (Please run IE settings from the page www.mstcecommerce.com once)

The Techno-commercial Bid and the Price Bid shall have to be submitted online at www.mstcecommerce.com/eprochome/irel. Tenders will be opened electronically on specified date and time as given in the Tender.

All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.

3.0 Special Note towards Transaction fee:

- i. **Transaction fees :**

MSTC shall collect **non-refundable** transaction fees @ **0.05% of the estimated value of Supply/ Works/ Services per event** from all the participating vendors subject to **minimum of Rs 1000/-** and **maximum of Rs 15,000/- per event per vendor**. GST is to be paid extra as applicable on the transaction fees by the vendors.
- ii. An event shall be construed as an e-tender irrespective of the nos. of items / jobs being procured through the same.
- iii. The bidders should submit the transaction fee well in advance before the last date of submission of tender as they will be activated for bid submission only after receipt of transaction fee by MSTC.
- iv. The vendors shall pay the transaction fee using “Transaction Fee Payment” Link under “My Menu” in the vendor login. The vendors have to select the particular tender from the event dropdown box. The vendor shall have the facility of making the payment either through NEFT or Online Payment. On selecting NEFT, the vendor shall generate a challan by filling up a form. The vendor shall remit the transaction fee amount as per the details printed on the challan without making change in the same. On selecting Online Payment, the vendor shall have the provision of making payment using its Credit/ Debit Card/ Net Banking. Once the payment gets credited to MSTC’s designated bank account, the transaction fee shall be auto authorized and the vendor shall be receiving a system generated mail.
- v. **Transaction fee will be refunded to the bidders by IREL(INDIA)LIMITED excluding Tax.**
- vi. A vendor will not have the access to online e-tender without making the payment towards transaction fee.
- vii. Bidders are advised to remit the transaction fee well in advance before the closing time of the event so as to give themselves sufficient time to submit the bid.
- viii Information about tenders /corrigendum uploaded shall be sent by email only during the process till finalization of tender. Hence the vendors are required to ensure that their corporate email I.D. provided is valid and updated at the time of registration of vendor with MSTC. Vendors are also requested to ensure validity of their DSC (Digital Signature Certificate).
- ix E-tender cannot be accessed after the due date and time mentioned in NIT.

4.0 **Bidding in e-tender :**

- a) Vendor(s) need to submit necessary EMD, Tender fees and Transaction fees (If ANY) to be eligible to bid online in the e-tender. No interest will be paid on EMD and transaction fee. EMD & transaction fee of the unsuccessful vendor(s) will be refunded by the tender inviting authority.
- b) The process involves Electronic Bidding for submission of Technical and Commercial Bid.
- c) The vendor(s) who have submitted transaction fee can only submit their Technical Bid and Commercial Bid through internet in MSTC website www.mstcecommerce.com → e-procurement →PSU/Govt depts→ Login



under →My menu→ Auction Floor Manager→ live event →Selection of the live event

- d) The vendor should allow running JAVA application. This exercise has to be done immediately after opening of Bid floor. Then they have to fill up Common terms/Commercial specification and save the same. After that click on the Technical bid. If this application is not run then the vendor will not be able to save/submit his Technical bid.
- e) After filling the Technical Bid, vendor should click 'save' for recording their Technical bid. Once the same is done, the Commercial Bid link becomes active and the same has to be filled up and then vendor should click on "save" to record their Commercial bid. Then once both the Technical bid & Commercial bid has been saved, the vendor can click on the "Final submission" button to register their bid
- f) Vendors are instructed to use *Attach Doc button* to upload documents. Multiple documents can be uploaded.
- g) In all cases, vendor should use their own ID and Password along with Digital Signature at the time of submission of their bid.
- h) During the entire e-tender process, the vendors will remain completely anonymous to one another and also to everybody else.
- i) The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above.
- j) All electronic bids submitted during the e-tender process shall be legally binding on the vendor. Any bid will be considered as the valid bid offered by that vendor and acceptance of the same by the Buyer will form a binding contract between Buyer and the Vendor for execution of supply.
- k) It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system.
- l) Buyer reserves the right to cancel or reject or accept or withdraw or extend the tender in full or part as the case may be without assigning any reason thereof.
- m) No deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any vendor confirms his acceptance of terms & conditions of the tender.
- n) Any order resulting from this tender shall be governed by the terms and conditions mentioned therein.
- o) No deviation to the technical and commercial terms & conditions are allowed.
- p) The tender inviting authority has the right to cancel this e-tender or extend the due date of receipt of bid(s) without assigning any reason thereof.

Vendors are requested to read the vendor guide and see the video in the page www.mstcecommerce.com/eprochome to familiarize them with the system before bidding.

- 5.0 Bidders may please note that payment of **Earnest money deposit (EMD)** is to be made to IREL(INDIA)LIMITED **separately** through RTGS / NEFT as per details given below:

Account Name : IREL(India)Limited
Name of the Bank : State Bank of India
Branch : Matikhalo Branch, IRE Ltd Campus
Account No. : 10546942016
IFSC : SBIN0006086
MICR Code : 761002521

The bidders are requested to communicate the UTR No. and E-tender No and Name of the remitter by Fax or Email to IREL(INDIA)LIMITED in Email ID : purchase-os@irel.co.in

6.0 **Additional information for bidders:**

- (i) E-tender cannot be accessed after the due date and time mentioned in Page No.1. All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity. All notices and correspondence to the bidder(s) shall be sent by email only during the process till finalization of tender by IREL(INDIA)LIMITED as well as by MSTC. Hence, the bidders are required to ensure that their corporate email I.D provided is valid and updated at the stage of registration of vendor with MSTC. Bidders are also requested to ensure validity of their DSC's during the entire e-tender process; the bidders will remain completely anonymous to one another and also to everybody else.
- (ii) All electronic bids submitted during the e-tender process shall be legally binding on the bidder. The bid will be evaluated based on the filled-in technical & commercial formats. Any bid will be considered as the valid bid offered by that bidder and acceptance of the same by the Buyer will form a binding contract between Buyer and the Bidder for execution of supply. After submitting online bid, the bidder cannot access the tender, once it has been submitted with digital signature.
- (iii) No deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any bidder confirms his acceptance of terms & conditions for the tender.
- (iv) Any order resulting from this open e-tender shall be governed by the terms and conditions mentioned therein. No deviation to the technical and commercial terms & conditions are allowed. The online tender should be submitted strictly as per the terms and conditions and procedures laid down in the website www.mstcecommerce.com/eprochome/irel of MSTC Ltd.
- (v) The documents uploaded by bidder(s) will be scrutinized. In case any of the information furnished by the bidder is found to be false during scrutiny, EMD of defaulting bidder(s) will be forfeited. Punitive action including suspension and banning of business can also be taken against defaulting bidders.
- (vi) **AMENDMENTS/ ISSUE OF CORRIGENDUM(s)**
At any time, prior to the last date for submission of tenders, IREL(INDIA)LIMITED reserves the right to amend and modify the tender document. The amendment so carried out shall form part of the main tender and shall be binding upon the Tenderers. IREL(INDIA)LIMITED may at their discretion, extend the last date for submission of the Bid, to enable the Bidders to have reasonable time to submit their Bid after taking into consideration such amendments. **The responsibility of downloading the related corrigenda, if any, will be that of the downloading parties.** No separate intimation in respect of corrigendum will be sent to tenderer (s) who have downloaded the documents from web site. The website www.mstcecommerce.com/eprochome/irel of MSTC Ltd. may please be referred to.
- (vii) **Bidders to note the following :**
The bidders shall quote from their own offices/ place of their choice. Internet connectivity shall have to be ensured by bidders themselves. Bidding in the last minutes and seconds should be avoided in the bidders own interest. Neither the Service Provider nor IREL(INDIA)LIMITED will be responsible for any lapses /failure on the part of the vendor, in such cases.

If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, IREL(INDIA)LIMITED at its own discretion shall debar the bidder from the e-Tender and future participation also.

IREL(INDIA)LIMITED shall not have any liability to bidders for any interruption or delay in access to the MSTC portal irrespective of the cause. In such cases, the decision of IREL(INDIA)LIMITED shall be binding on the bidders.

In case of any clarification w.r.t registration / usage of portal for e-tendering, vendor's manual for guidance can be downloaded from the following link:

<http://www.mstcecommerce.com/eprochome/UserManualVendor.pdf>

or

MSTC/ IREL(INDIA)LIMITED officials may please be contacted:

8.0 Earnest Money Deposit:

8.1 Earnest Money Deposit (EMD) is a deposit received from the tenderers in token of their earnestness in submitting their offer to undertake the supplies/ works/ services/ consultancy contracts and conclude a contract if entrusted to them on the basis of their tender.

8.2 For the present tender the amount of EMD to be submitted is mentioned in the schedule of tender. No interest shall be paid on EMD.

8.3 Offers received without EMD shall be summarily rejected except for the bidders for whom provision for exemption is provided in the tender.

8.4 EMD is to be submitted as per 1 (vii) above. EMD can also be remitted by way of Demand Draft/ Bankers cheque drawn in favor of IREL(India)Limited payable on SBI, IRE Ltd Campus Branch, Matikhalo (Branch code 6086)/ Indian Bank, Konamana Branch, OSCOM Complex , Matikhalo-761045, Dist-Ganjam (Branch code 1830).

8.5 EMD can also be submitted in the form of an irrevocable and confirmed Bank Guarantee valid for **120 days** from the date of opening of the bid. The Bank Guarantee shall be from State Bank of India including its subsidiaries or any Nationalized Bank or a Scheduled Bank authorized by Reserve Bank of India to issue such Bank Guarantee on a non-judicial stamp paper of value of Rs.200/- (Rupees Two Hundred Only). The stamp paper shall be purchased in the name of the Bank. In case of Foreign Bidder, the same shall be from reputed commercial bank of the bidder's country acceptable to IREL(INDIA)LIMITED/ Reserve Bank of India which has to be confirmed by State Bank of India including its subsidiaries or any Nationalized Bank in India. BG issued from Co-operative banks shall not be accepted. The BG is to be submitted strictly as per Format-I of Annexure enclosed with this tender document. The Bank Guarantee for EMD shall also have provision for extension by the banker upon request by the bidder. The bidder shall arrange for extension of validity upon request from IREL(INDIA)LIMITED. Further, the genuineness of the BG's shall be checked from the issuing bank by us.

8.6 Exemption from payment of EMD:

Public Sector Undertakings, State Government Undertakings are exempted from payment of EMD subject to approval of our Competent Authority. MSME/Small Scale Industries (SSI) with current valid registration with State or Central Govt. are also exempted from payment of EMD (after ensuring that the registration in case of SSI) pertains to the class of items/ stores/ works for which the tender is floated) subject to approval of our Competent Authority.

In case bidder seeks exemption from payment of the EMD as per tender provision, necessary valid documents shall be uploaded, failing which IREL(INDIA)LIMITED reserves the right to reject the tender.

8.7 The earnest money shall be dealt with as follows:

- 1) In case of unsuccessful tenderer it shall be returned without any interest within 30 days after finalization of order or such extended time as mutually agreed upon, on production of original Money Receipt, if any, issued by IREL(INDIA)LIMITED.
- 2) In case of successful bidder (successful tenderer), it shall be adjusted without interest as Security Deposit if EMD is deposited by way of demand draft. If EMD is submitted by way of bank guarantee the same cannot be as such converted to BG for Security Deposit. It shall be returned on submission of fresh BG towards security deposit.

8.8 EMD is liable to be forfeited if:

- i) The tenderer indulges himself in any undesirable practice or malpractice.
- ii. The tenderer during the tender validity period resiled from his offer or modifies the terms and conditions thereof in a manner not acceptable to M/s. IREL(India)Limited.
- iii. The tenderer does not convey his written acceptance within a maximum period of 15 days of the purchase/work order placed on him by M/s. IREL(India)Limited.
- iv. The successful tenderer does not deposit the security deposit within the stipulated period.
- v. The successful tenderer does not execute an agreement in stamp paper as per law for due fulfillment of the contract before the date specified for the purpose in the Letter of Intent or in the Work Order.

9.0 SECURITY DEPOSIT, PERFORMANCE BANK GUARANTEE & RETENTION MONEY

9.1 The successful tenderer (referred as successful bidder) is required to furnish Demand draft/ Bankers Cheque or Bank Guarantee as per Format-II of Annexure, in favour of IREL(India)Limited, OSCOM, for an amount equivalent to five (5) per cent of the contract value towards Security Deposit (after adjusting EMD amount, if EMD is deposited by way of demand draft/ Bankers Cheque) towards the satisfactory performance of the contract, within 30 (Thirty) days of the receipt of letter of acceptance or commencement of work at site, whichever is earlier. The same is to be forwarded to SM(Materials), I/C Purchase Department. However, if EMD is submitted in the form of Bank Guarantee, the same shall not be converted to SD BG and as such fresh Bank Guarantee towards Security Deposit is to be submitted. The SD shall not bear any interest, and is liable to be forfeited for unsatisfactory completion or on abandonment of the supply/ work order. Additional amount of SD due to enhancement in scope of work is to be submitted by the successful tenderer.

9.2 Exemption from payment of SD:

Public Sector Undertakings, State Government undertakings, may be exempted from payment of SD at sole discretion if IREL(INDIA)LIMITED.

9.3 FORFEITURE OF SECURITY DEPOSIT

The SD money shall stand forfeited in favour of IREL(INDIA)LIMITED, without any further notice to the contractor in the following circumstances:

- (i) In case of any failure whatsoever on the part of the Supplier/ contractor at any time during performance of his part of the contract including the extended periods of contract, where notice is given and time for rectification allowed.
- (ii) If the Supplier/ contractor indulges at any time in any subletting/ sub-contracting of any portion of the supplies/ works without approval of IREL(INDIA)LIMITED.
- (iii) If the Supplier/ contractor abandons the supply /order.

10.0 PRICE PREFERENCE CLAUSES

10.1 Benefits to Micro & Small Enterprises (MSE's) & Startup's:

The MSE's registered with National Small Industries Corporation (NSIC) / startup's as defined by relevant rules are eligible for the following benefits:

- (a) Issue of tender document free of cost
- (b) Exemption from payment of Earnest Money Deposit

The MSE's / Startups are required to **submit valid Registration Certificate** issued by NSIC along with tender. MSE's / Startup claiming the above benefits have to exclusively mention in their offer for consideration by IREL(INDIA)LIMITED.

10.2 Price preference: :

1 Benefits to Micro & Small Enterprises (MSE's) & Startup's:

The MSE's registered with National Small Industries Corporation (NSIC) / startup's as defined by relevant rules are eligible for the following benefits:

- (c) Issue of tender document free of cost
- (d) Exemption from payment of Earnest Money Deposit

The MSE's / Startups are required to **submit valid Registration Certificate** issued by NSIC along with tender. MSE's / Startup claiming the above benefits have to exclusively mention in their offer for consideration by IREL(INDIA)LIMITED.

10.3 CONDITIONS FOR START-UP COMPANIES

1. Subject to meeting of Quality and Technical specifications, IREL(INDIA)LIMITED (India) Limited may consider allowing the participation of "Start up" companies with capability to execute the services, as per technical specifications/ perform the job as per scope of work specified in the tender and subject to meeting extant & relevant guidelines of Government of India. This should be confirmed and substantiated in the technical bid.
2. The bidder who intends to participate as "Start up" company should enclose the Certificate of Recognition issued by Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Govt. of India during submission of Technical bid.
3. Prequalification Criteria with respect to Prior Turnover and Prior Experience may be relaxed for Startups as per the GOI guidelines.
4. However, there may be circumstances like procurement of items/services related to public safety, health, critical security operations and equipment, etc wherein IREL(INDIA)LIMITED (India) Limited reserves the right to not consider relaxation of Prior Turnover and Prior Experience for Startup Companies as per GOI guidelines.
5. Startup Companies, who are also registered as MSEs and wish to avail the benefits as applicable to MSE, shall submit relevant documents covered under Conditions for Micro and Small Enterprises elsewhere in this tender.

10.4 DECLARATION IN CASE OF MSE BIDDERS/ START-UP COMPANIES

In terms of Tender Conditions applicable for Micro & Small Enterprises (MSEs)/ Startups, we hereby declare as under

- a) We are a Micro / Small Enterprise, as on bid closing date of this tender.
- b) We are a service provider for quoted services and valid documentary evidence for same is submitted.
- c) MSE certificate submitted by us is authentic & valid as on bid closing date of this tender.
- d) We are a 'Start-up' company and we are enclosing copy of certificate of recognition issued by Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Govt. of India.
- e) We declare the above details are true. In case any of the details are found to be false/untrue, our offer will be liable for rejection /cancellation of order/ subjected to appropriate actions as per tender Terms & Conditions.

Authorized Signatory
(With Company Seal & Signature)

10.5 PUBLIC PROCUREMENT POLICY FOR MICRO AND SMALL ENTERPRISES

Following provision has been incorporated in tender for MSEs, in line with notification of Government of India, vide Gazette of India No. 503 dated 26.03.2012 proclaiming the Public Procurement Policy on procurement of goods, works and services from Micro and Small Enterprises

- i) Issue of tender document to MSEs free of cost.
- ii) Exemption to MSEs from payment of EMD/Bid Security.
- iii) In Tender participating Micro and Small Enterprises quoting price within the price band of L1 + 15% shall also be allowed to supply/execute a portion of requirement by bringing down their prices to L1 price in a situation where L1 price is from someone other than a micro and small enterprise and such micro and small enterprises shall be allowed to supply upto 25% of the total tendered value.

In case of more than one such Micro and Small Enterprises, the supply/services shall be shared proportionately (to tendered quantity). Further, out of above 25%, 5% (20% of 25%) shall be reserved for MSEs owned by SC/ST entrepreneurs. Further, 3% shall be reserved for MSEs owned by women within above 25% reservation. The respective quota(s) shall be transferred to other MSEs in case of non-availability of MSEs owned by SC/ST entrepreneurs/MSEs owned by women. Further, the definition of MSEs owned by Women shall be as per the definition for MSEs owned by SC/ST entrepreneurs. The quoted prices against various items shall remain valid in case of splitting of quantities of the items above.

In case tendered item/job is non-splitable or non-dividable (specified in Bid Data Sheet) , MSE quoting lowest price within price band L1 (other than MSE) + 15% , may be awarded for full/ complete supply of total tendered value subject to matching of L1 price.

The MSEs owned by SC/ST entrepreneurs shall mean:-

- a) In case of proprietary MSE, Proprietor(s) shall be SC/ST.
- b) In case of partnership MSE, the SC/ST partners shall be holding atleast 51% share in the unit c) In case of private Limited Companies, at least 51%share is held by SC/ST. If the MSE is owned by SC/ST entrepreneurs, the bidder shall furnish appropriate documentary evidence in this regard.

In case bidder is a Micro or Small Enterprise under the Micro, Small and Medium Enterprises Development Act, 2006, the bidder shall submit the following :

- a) Documentary evidence that the bidder is a Micro or Small Enterprises registered with District Industries Centers or Khadi and Village Industries National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of Micro, Small and Medium Enterprises or Udyog Aadhaar Memorandum.
- b) If the MSE is owned by SC/ST Entrepreneurs, the bidder shall furnish appropriate documentary evidence in this regard. The above documents submitted by the bidder shall be duly certified by the Chartered Accountant (not being an employee or a Director or not having any interest in the bidder's company/firm) and notary public with legible stamp. If the bidder does not provide the above confirmation or appropriate document or any evidence, then it will be presumed that they do not qualify for any preference admissible in the Public Procurement Policy (PPP) 2012.

Further, MSEs who are availing the benefits of the Public Procurement Policy (PPP) 2012 get themselves registered with MSME Data Bank being operated by NSIC, under SME Division, M/o MSME, in order to create proper data base of MSEs which are making supplies to CPSUs. It may be noted that Government of India has implemented Trade Receivable Discounting System (TReDS) to address challenges faced by MSMEs in delayed payments (after receipt/acceptance of Material/Services) from Government buyers leading to shortfall of Working Capital. TReDS is an online electronic institutional mechanism for facilitating the financing of trade receivables of MSMEs through multiple financiers. IREL(INDIA)LIMITED (INDIA) LTD is already registered on the TReDS platform. You are requested to kindly register on the TReDS platform. The MSME vendors can avail the TReDS facility if they want to.

If against an order placed by IREL(INDIA)LIMITED (INDIA) LTD, successful bidder(s) (other than Micro/Small Enterprise) is procuring material/services from their sub-vendor who is a Micro or Small Enterprise registered with District Industries Centers or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of Micro, Small and Medium Enterprises with prior consent in writing of the purchasing authority/Engineer-in-charge, the details like Name, Registration No., Address, Contact No. details of material &

value of procurement made, etc. of such Enterprises shall be furnished by the successful bidder at the time of submission of invoice/Bill.

The benefit of policy are not extended to the traders/dealers/ Distributors /Stockiest/Wholesalers.

11.0 EFFECT AND VALIDITY OF BID:

- (i) The submission of any bid connected with these documents and specifications shall constitute an agreement that the bidder shall have no cause of action or claim against IREL(INDIA)LIMITED for rejection of his bid.
- (ii) The bid shall be valid for a period of **120 (one hundred twenty days) from the date of opening of techno-commercial bids.**

12.0 RIGHT TO REJECT THE TENDER:

- (a) IREL(INDIA)LIMITED reserves the right to reject any tenders whatsoever without assigning any reason thereof.
- (b) IREL(India)Limited. reserves the right to modify/ add/ reduce the scope, either in whole or in part any of the clauses mentioned herein without assigning any reason thereof. This right includes right of division of the work / bill of quantities among various tenderers to the advantages of IREL(India)Limited. The tenderers on their part shall accept such part offered by IREL(INDIA)LIMITED. The splitting of the quantity amongst more than one tenderer can be in the ratio of 70:30/ 60:40 with the rates offered by the overall lowest bidder.

13.0 GST COMPLIANCE

The supplier of goods or services or both shall indicate all the particulars/contents as required under CGST/SGST/IGST/UTGST provisions read with rules made there under including the following.

- I. Correct Name, Address and GSTIN of the supplier / Recipient
- II. Invoice should be raised as per the GSTIN format.
- III. Correct classification of supply of goods or service or both according to the provision as required in the statute.
- IV. The supplier / Contractor shall issue Original Copy of Tax Invoice to IREL(INDIA)LIMITED based on which ITC can be claimed.
- V. Supplier / Contractor shall declare that supply date as mentioned in the invoice shall be disclosed in the concerned relevant month return.
- VI. Bidder shall declare that Supplier / Contractor will compensate the ITC if not allowed to IREL(INDIA)LIMITED due to Non Disclosure or improper disclosure or wrong filing of GST returns.
- VII. The supplier of goods has to issue waybill as and when required as per the provisions of GST law for supply of goods.
- VIII. IREL(INDIA)LIMITED reserves the right to deduct / withhold taxes as per prevailing provisions of GST Law.

14.0 INSPECTION OF SITE AND OTHER CONDITIONS:

Once the tenderer submits his bid, the following are fully understood by both the parties (i.e. IREL(INDIA)LIMITED and the Tenderer) binding on them:

- (a) Before the tenderer submits his offer, the tenderer is deemed to have carefully examined the Technical Specification, General and Special Conditions of Contract and other details relating to tender requirement and fully acquaint himself as to all conditions and matters which may in any way affect the work or the cost thereof. The bidder shall be deemed to have obtained on his own and independently all necessary information for the purpose of preparing the bid and his bid as accepted shall be deemed to have taken into account all contingencies as may arise due to such information or lack of the same.
- (b) IREL(INDIA)LIMITED shall not entertain any request for clarifications from the bidders regarding such local conditions. Any neglect or omission or failure on the part of the bidder in obtaining necessary and reliable information as stated above or on any other matter affecting the bidder shall not relieve him from

any risks or liabilities or the entire responsibility for completion of the work in accordance with the tender document.

- (c) The bidder shall be deemed to have acquainted himself with the Indian Income Tax Act, 1961, Indian Companies Act, 1956, Indian Customs Act, 1962, Indian Electricity Act 2003, Factories Act 1948, Indian Mines Act 1952, Pollution Control Regulation and other related Acts & Laws prevalent in India and as amended from time to time.

15.0 NO CLAIM FOR COMPENSATION FOR SUBMISSION OF TENDER:

The tenderer whose tender is not accepted shall not be entitled to claim any costs, charges, expenses of and incidental to or incurred by him through or in connection with his submission of tender, even though IREL(INDIA)LIMITED may elect to withdraw the invitation to tender.

16.0 RISK PURCHASE CLAUSE

After award of the contract, if the tenderer fails to execute the supply as per tender or at any time repudiates the order, IREL(INDIA)LIMITED have the right to forfeit the EMD and invoke the security deposit and execute the order from other agencies at the risk and cost of the tenderer. The cost difference between the alternative arrangements and total contract value will be recovered from the tenderer along with other incidental charges. In case of execution of order through alternative sources and if price is lower, no benefit on this account will be passed on to the tenderer.

17.0 RELATED PARTY:

Bids submitted by related parties in which there seems to be collusion are liable to be rejected. Parties are considered to be related if one party has the ability to control the other party or exercise significant influence over the other party in making financial and /or operating decision.

18.0 LEGAL JURISDICTION:

Without prejudice Civil court of Chatrapur, Dist-Ganjam (Orissa-761020) shall have jurisdiction to deal with or to decide any legal issue or dispute whatsoever arising out of this tender.

In case of any clarifications w.r.t the tender, Email may please be forwarded vide Email to purchase-os@irel.co.in.

19.0 **ETHICS IN TENDERING & OTHER BUSINESS DEALINGS**

IREL(India)Limited, a Government of India Undertaking, under the administrative control of Department of Atomic Energy is doing its business as per the rules and regulation of the Public Sector Undertaking and other statutory agencies. The business is done in an ethical, rational & impartial manner with good Corporate Governance.

In our Endeavour to be more transparent in our dealings and to support our ideology all Vendors, Customers and Business Partners are requested not to provide any gift and /or inducement to any of our employees for securing/being granted favour in dealings with our Company. In assurance of your commitment to the aforesaid, it will be highly appreciated if you fill up, sign and abide by the attached undertaking.

Report of any gifts and /or inducements sought by any employee of the company (IREL(INDIA)LIMITED) should be immediately reported to any one of the following:

Sri D Singh, Chairman & MD IREL(India)Limited 1207 VS Marg,Prabhadevi Mumbai 400 028 Ph.022-24225778 Email: cmd@irel.gov.in	Chief Vigilance Officer IREL(India)Limited 1207 VS Marg,Prabhadevi Mumbai 400 028 Ph.022-24221068 Email: cvo@irel.gov.in
OR Sri A J Janarthanan, CGM & Head, OSCOM, IREL(India)Limited, OSCOM, PO-Matikhalo, Dist-Ganjam, Orissa-761045. Ph: 06811-257890-95 Email: headireo@sanchamet.in	

We assure you those complaints, if any, made by you on the subject will be kept confidential and fair investigation will be conducted and appropriate action will be taken. Similarly, we expect your commitment to the under taking and its violation will have consequences as per prevailing rule of the company.

Thanking you,
For IREL(India)Limited,

**S/d-
DGM (Materials)**

DETAILS TO BE UPLOADED BY BIDDER

Sl no	Description	To be filled by Tenderer & relevant supporting documents to be uploaded.				
General Information						
A	Name of the organization participating in tender					
B	Name & Designation of the Contact person					
C	GSTIN No of the Organization					
D	Bank account details of the Organization					
E	Official correspondence Address					
F	Contact Details (Phone number & Email ID)					
G	MSME details of the Organization (if applicable)					
H	Vendor Code in case Bidder is registered with IREL(INDIA)LIMITED,OSCOM					
Pre qualification Documents : Technical Competence – execution of similar works						
	Work Order No	Name of Client	Date of work order	Value of work	Completion certificate	Documents uploaded
1						
2						
3						
Pre qualification Documents : Financial Competence						
	Profit & Loss Account or Published Annual Account	2016-17	2017-18	2018-19	Documents uploaded	
1	Turnover in Rs					
Details of Other documents uploaded						
1						
2						

PRE-QUALIFICATION CRITERIA

Tenderer should meet the following minimum pre-qualification criteria:

1. TECHNICAL:

The bidder must have successfully commissioned projects/systems atleast one project in a **single contract** in last 7 years as on date of opening of the bid having installation of at least 80 kWp capacity and must be in satisfactory operation for at least one (1) year as on date of opening of bid,

Or

The bidder must have successfully commissioned projects/systems at least two project in last 7 years as on date of opening of the bid having installation of at least 50 kWp capacity and must be in satisfactory operation for at least one (1) year as on date of opening of bid,

Or

The bidder must have successfully commissioned projects/systems at least three project in last 7 years as on date of opening of the bid having installation of at least 40 kWp capacity and must be in satisfactory operation for at least one (1) year as on date of opening of bid,

2. FINANCIAL:

Minimum Average Annual Turnover for the last three years (2018-19,2017-18,2016-17) should not be less than 16.5 Lakhs.

OTHER ELIGIBILITY CRITERIA:

- a. The bidder must be manufacturer /or their authorised dealer
- b. **The bidder should have been in the business of supply of solar power generation panels in the last 5 years from the date of tender.**
- c. The bidder must be in possession of the valid test certificates of Solar PV module and Power Conditioning Unit/Inverter from MNRE authorized test laboratory.
- d. The bidder must not have been debarred / blacklisted by any Govt.Dept., agency, PSUs / institution / agencies / autonomous organisations. The bidder shall submit a self-certification by an authorized person duly notarized to this effect.

Documents against the Pre-qualification criteria as above complete in all respect must be uploaded. Failure to compliance of above shall make the bid incomplete and as such it shall be rejected. In the absence of receipt of Pre-qualification criteria, the offer will not be considered under any circumstances.

The offers of the bidders who have defaulted in the past in execution of the contracts or in complying with the obligations as per the contract shall not be considered.

EVALUATION BASIS FOR TENDER:

- Evaluation of the technically qualified offers as per pre-qualification criteria shall be done based on the total landed price at IREL (INDIA)LIMITED, OSCOM.
- Evaluation shall be done on overall L-1 basis after taking net of Tax Credit.
- Parties who have defaulted in execution of contracts in previous instances at IREL (INDIA)LIMITED, OSCOM shall not be considered.
- MSME and startup enterprises shall be allowed relaxation on prior experience and turnover as per policy circular 1(2)(1) 2016-MA dated:10th March 2016. Provided they can prove that they are technically capable to deliver as per quality Specification.

GENERAL CONDITIONS OF CONTRACT (GCOC)

1. DEFINITIONS AND INTERPRETATIONS

- 1.0 Unless inconsistent with or otherwise indicated by the context, the following terms stipulated in this CONTRACT shall have the meaning as defined hereunder.
- 1.1 **CONTRACT**
Shall mean a written CONTRACT signed between IREL(INDIA)LIMITED and the CONTRACTOR (the successful bidder) including subsequent amendments to the CONTRACT in writing thereto.
- 1.2 **IREL(INDIA)LIMITED / Indian Rare Earths:**
Shall mean IREL(India)Limited. and shall include its legal representatives, successors and permitted assignees.
- 1.3 **SITE**
Shall mean the place in which the operations/services are to be carried out or places approved by IREL(INDIA)LIMITED for the purposes of the CONTRACT together with any other places designated in the CONTRACT as forming part of the site.
- 1.4 **IREL(INDIA)LIMITED'S SITE REPRESENTATIVE/ ENGINEER**
Shall mean the person or the persons appointed by IREL(INDIA)LIMITED from time to time to act on its behalf at the site for overall co-ordination, supervision and project management at site.
- 1.5 **CONTRACTOR:**
Shall mean any person/ persons/ firm/ company etc. to whom work has been awarded and whose bid has been accepted by IREL(INDIA)LIMITED and shall include its authorized representatives, successors and permitted assignees.
- 1.6 **SUB-CONTRACT:**
Shall mean order/ contract placed by the CONTRACTOR for any portion of the CONTRACT or work sublet with necessary written consent of IREL(INDIA)LIMITED on third party. Such sub-letting shall not relieve the CONTRACTOR from any obligation, duty or responsibility under the CONTRACT.
- 1.7 **SUB-CONTRACTOR:**
Shall mean any person or persons or firm or their legal representatives, successors, assignees to whom part of CONTRACT has been sublet by the CONTRACTOR after necessary consent of IREL(INDIA)LIMITED.
- 1.8 **CONTRACTOR'S REPRESENTATIVE**
Shall mean such person/or persons duly appointed representative at the site and base as the CONTRACTOR may designate in writing to the IREL(INDIA)LIMITED as having authority to act for the CONTRACTOR in matters affecting the work and to provide the requisite services.
- 1.9 **CONTRACT PRICE**
Shall mean the sum accepted or the sum calculated in accordance with the rates accepted by IREL(INDIA)LIMITED and amendments thereof, and shall include all fees, registration and other charges paid to statutory authorities without any liability on IREL(INDIA)LIMITED for any of these charges. The prices will remain firm during currency of the CONTRACT unless specifically agreed to in writing by IREL(INDIA)LIMITED.

- 1.10 **DAY**
Shall mean a calendar day of twenty-four (24) consecutive hours beginning at 0000 hours with reference to local time at the site.
- 1.11 **EQUIPMENT/MATERIALS/GOODS:**
Shall mean and include any equipment, machinery, instruments, stores, goods which CONTRACTOR is required to provide to the IREL(INDIA)LIMITED for/under the CONTRACT and amendments thereto.
- 1.12 **WORKS / OPERATIONS:**
Shall mean all work to be performed by the CONTRACTOR as specified in the Scope of Work under this CONTRACT.
- 1.13 **GUARANTEE:**
Shall mean the period and other conditions governing the warranty/ guarantee of the works as provided in the CONTRACT.
- 1.14 **MOBILISATION:**
Shall mean rendering the resources as per CONTRACT and ready to begin work at site designated by IREL(INDIA)LIMITED and IREL(INDIA)LIMITED's acceptance in this regard. The date and time of IREL(INDIA)LIMITED's acceptance will be treated as the date and time of mobilisation.
- 1.15 **DEMOBILISATION:**
Shall mean the removal of all things forming part of the mobilisation from the site of IREL(INDIA)LIMITED. The date and time of above shall be treated as the date and time of de-mobilisation.
- 1.16 **FACILITY:**
Shall mean all property of the IREL(INDIA)LIMITED owned or hired by IREL(INDIA)LIMITED.
- 1.17 **SINGULAR/ PLURAL WORDS:**
Save where the context otherwise requires, words imparting singular number shall include the plural and vice versa and words imparting neutral gender shall include masculine or feminine gender and vice versa.
- 1.18 **GROSS NEGLIGENCE**
Shall mean any act or failure to act (whether sole, joint or concurrent) by a person or entity which was intended to cause, or which was in reckless disregard of or wanton indifference to, avoidable and harmful consequences such person or entity knew, or should have known, would result from such act or failure to act. Notwithstanding the foregoing, Gross negligence shall not include any action taken in good faith for the safeguard of life or property,
- 1.19 **WILLFUL MISCONDUCT**
Shall mean intentional disregard of good and prudent standards of performance or proper conduct under the CONTRACT with knowledge that it is likely to result in any injury to any person or persons or loss or damage of property.

2.0 **ENGINEER-IN-CHARGE(EIC)/ OFFICER-IN-CHARGE(OIC):**

The Engineer-in-charge/ Officer-in-Charge shall have authority for General supervision, Follow up of supply and direction of the work direction to stop the work whenever such stoppage may be necessary to ensure the proper execution of the Contract to reject all works/ materials/services which do not conform to the contract.

The EIC/OIC shall have no authority to relieve the successful tenderer of any of his duties or obligations under this contract nor except as expressly provided here-in-under or elsewhere in the contract to order any work involving delay or any extra payment by the company or to make any variation of or in the work.

3.0 **Singular and Plural**

Words imparting the singular only also include the plural and vice versa where the context requires; words imparting persons include firms or corporations and vice versa where the context requires. Word imparting masculine gender includes the feminine gender and vice versa where the context so requires.

4.0 **CONFLICT AND INTERPRETATION OF DOCUMENTS:**

4.1 The several documents forming the contract are to be taken as mutually explanatory of one another.

4.2 In case conflicting statements or directives should occur among the contract documents, it shall be the responsibility of the successful bidder to notify the contractee, with a copy sent concurrently to the EIC/OIC, immediately in writing and obtain instructions from the contractee to eliminate the conflict.

4.3 The successful bidder shall notify the contractee, with a copy sent concurrently to EIC/OIC, promptly of any discrepancies, omissions or doubts it may have, regarding drawings, specifications or other documents. Noted or calculated dimensions shall always be followed

4.4 In the event of conflict between various documents forming the contract, the relevant terms and conditions of the work order shall prevail over those of all such other documents forming the contract and binding on the Parties.

5.0 **CORRESPONDENCE:**

5.1 All correspondence among the contractee, the engineer and the successful bidder and the titles and written notations on drawings etc. shall be in **English** language only

5.2 The contractee /engineer/ inspector designates the following address:

**IREL(India)Limited,
(Orissa Sands Complex)
P.O. Matikhalo-761045,
Dist-Ganjam, Orissa, INDIA**

6.0 **Standards**

The Machinery and Services supplied under this Contract shall conform to the standards mentioned in the Technical Specifications and, when no applicable standard is mentioned, the latest current edition or revision of the relevant Indian Standards and Codes shall be considered.

7.0 **Scope of Order and Specifications**

Contractor shall supply the material or execute the work/ provide service according to the specifications enclosed and in accordance with all conditions both general and specific enclosed with order, unless any or all of them have been modified or cancelled in writing either as a whole or in part by IREL(INDIA)LIMITED.

8.0 Inspection of site

The bidder or his representative shall be deemed to have inspected and examined the site and surroundings before submitting his tender and shall obtain the necessary information as to risks and other circumstances which may influence or affect his tender.

9.0 DEATH, BANKRUPTCY ETC.:

If the Contractor dies or dissolve or go into bankruptcy, or being a corporation cause to be wound up except for reconstruction purposes or carry on its business under a receiver, the executors, successors or other representatives in law of the estate of the Contractor or any such receiver, liquidator, or any person in whom the contract may become vested, shall forthwith give notice thereof in writing to IREL(INDIA)LIMITED and shall remain liable for the successful performance of the contract, and nothing aforesaid shall be deemed to relieve the Contractor or his successors of his or their obligations under the contract under any circumstances. IREL(INDIA)LIMITED may terminate the Contract by notice in writing to the Contractor.

10.0 ASSIGNMENT AND SUBLETTING:

- (i) The contractor shall not assign, sublet or transfer the contract or any part thereof or any benefit or interest therein or there under without the written consent of company.
- (ii) The contractor shall not sublet the whole or any part of the work without the written consent of the company and such consent, if given, shall not establish any contractual relationship between the sub-contractor (s) and the company and shall not relieve the contractor of any responsibility, liability, or obligations under the contract and the contractor shall be responsible for the acts, defaults or neglects of any sub-contractor or his agent or workmen.

11.0 FORCE MAJEURE:

- (i) Force majeure is an event beyond the control of supplier/contractor and not involving the supplier's fault or negligence and which is not foreseeable. Such events may include, but are not restricted to acts of the IREL(INDIA)LIMITED/ Supplier either in its sovereign or contractual capacity, wars or revolution, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lockouts, and freight embargoes. The decision about force majeure shall rest with IREL(INDIA)LIMITED which shall be final and binding.
- (ii) If there is delay in performance or other failures by the supplier to perform obligations under its contract due to event of a Force Majeure, the supplier/contractor shall not be held responsible for such delays/failures.
- (iii) If a Force Majeure situation arises, the supplier shall promptly notify IREL(INDIA)LIMITED in writing of such conditions and the cause thereof within fifteen days of occurrence of such event. Unless otherwise directed by IREL(INDIA)LIMITED in writing, the supplier shall continue to perform its obligations under the contract as far as reasonable/practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- (iv) If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period of exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.

12.0 DUTIES AND POWER /AUTHORITY :

12.1 The duties and authorities of the IREL(INDIA)LIMITED's site representative are to act on behalf of the IREL(INDIA)LIMITED for:

- (i) Overall supervision, co-ordination at site
- (ii) Proper utilisation of equipment and services.
- (iii) Monitoring of performance and progress
- (iv) Commenting/ countersigning on reports made by the CONTRACTOR's representative at site in respect of works, receipts, consumption etc. after satisfying himself with the facts of the respective cases.

- (v) He shall have the authority, but not obligation at all times and any time to inspect/ test/ examine/ verify any equipment machinery, instruments, tools, materials, personnel, procedures and reports etc. directly or indirectly pertaining to the execution of the work. However this shall not construe to imply an acceptance by the inspector. Hence, the overall responsibility of quality of work shall rest solely with the CONTRACTOR.
- (vi) Each and every document emerging from site in support of any claim by the contractor has to have the countersignature/ comments of the IREL(INDIA)LIMITED's representative/ engineer without which no claim will be entertained by the IREL(INDIA)LIMITED.

12.2 CONTRACTOR's representative:

- (i) The CONTRACTOR's representative shall have all the powers requisite for the performance of the works.
- (ii) He shall liaise with IREL(INDIA)LIMITED's representative for the proper co-ordination and timely completion of the works and on any matter pertaining to the works.
- (iii) He will extend full co-operation to IREL(INDIA)LIMITED's representative/inspector in the manner required by them for supervision/inspection/observation of equipment, material, procedures, performance, reports and records pertaining to works.
- (iv) To have complete charge of CONTRACTOR's personnel engaged in the performance of the work and to ensure compliance of rules and regulations and safety practice.

13.1 CONTRACT DOCUMENT :

13.1 Governing language:

The governing language for the CONTRACT shall be English. All CONTRACT documents and all correspondence and communication to be given and all other documentation to be prepared and supplied under the CONTRACT shall be written in English and the CONTRACT shall be construed and interpreted in accordance with English language.

13.2 Modification in CONTRACT:

All modifications leading to changes in the CONTRACT with respect to technical and/or commercial aspects, including terms of delivery, shall be considered valid only when accepted in writing by IREL(INDIA)LIMITED by issuing amendment to the **CONTRACT**. IREL(INDIA)LIMITED shall not be bound by any printed conditions, provisions in the CONTRACTOR's BID, forms of acknowledgement of **CONTRACT**, invoice, packing list and other documents which purport to impose any condition at variance with or supplement to **CONTRACT**.

13.3 Waivers:

It is fully understood and agreed that none of the terms and conditions of this CONTRACT shall be deemed waived by either party unless such waiver is executed in writing only by the duly authorised agents or representative of both the parties. The failure of either party to execute any right shall not act as a waiver of such right by such party.

14.0 Alteration of specifications, patterns and drawings:

During the progress of the work, IREL(INDIA)LIMITED may require deviations from, additions to or omission in the drawings, specifications and the scope of work originally agreed upon between the Contractor and IREL(INDIA)LIMITED. Such changes shall not invalidate the Contract. The Contractor shall make such changes of whatever character they may be, as part of the Contract. As from that date the Stores shall be in accordance with the specifications, patterns and drawings so altered which the contractor is bound to comply with.

No change in the scope of the work shall be made without a written instruction issued therefore by IREL(INDIA)LIMITED. Revised drawings, bills of materials or specifications, shall also be considered as written instructions.

In the event of such alteration involving a revision in the cost, the same shall be discussed and mutually agreed to taking into account the unit rates of similar items in the contract. In case of disagreement, the decision of IREL(INDIA)LIMITED, in the cost, shall be final and conclusive.

15.0 Method of Black Listing/ banning Vendors and revocation of ban:

Any failure by the vendor to supply/execute the contract as per order may result in black listing of vendors name from approved list of vendors. The black listed vendor shall not be considered for a minimum period of one year from the date of black listing. However, Our Competent Authority can revoke any black listing order subject to adequate justification for the same.

Further, our Competent Authority may blacklist the bidder, if the bidder changes bid either techno-commercial and / or price or withdraws his bid after receipt of the same and during the validity period of bid.

Further, the vendor shall be banned from doing any business with the company with the approval of Competent Authority in case of:

- a. If security considerations including question of loyalty to the state so warrant.
- b. If the proprietor of the firm, its partner or representative is convicted by a court of law following prosecution for offences relating to business dealings.
- c. If there is strong justification for believing that the proprietor or employee or representative of the firm has been guilty of malpractice such as bribery, corruption, fraud, substitution of tenders, interpolation, misrepresentation, evasion or habitual default in payment of any tax levied by law, etc.

An order for ban / suspension passed for a certain specified period shall be deemed to have been automatically revoked on expiry of that specified period and it will not be necessary to issue a specific formal order of revocation, except that an order of suspension/ban passed on account of doubtful loyalty or security consideration shall continue to remain in force until it is specifically revoked.

An order of ban on grounds of conviction by Court of Law may be revoked if, in respect of the same facts, the accused has been wholly acquitted by a court of law.

16.0 Secrecy

The Contractor shall not at any time during the pendency of the contract or there after disclose any information furnished to them by IREL(INDIA)LIMITED or any drawings, designs, reports and other documents and information prepared by the Contractor for this contract, without the prior written approval of IREL(INDIA)LIMITED except in so far as such disclosure is necessary for the performance of the Contractor's work and service hereunder.

17.0 Indemnity

The contractor shall indemnify IREL(INDIA)LIMITED and keep IREL(INDIA)LIMITED indemnified to the extent of the value of free issue materials to be issued till such time the entire contract is executed and proper account for the free issue materials is rendered and the left over/surplus and scrap items are returned to IREL(INDIA)LIMITED. The contractor shall not utilize IREL(INDIA)LIMITED's free issue materials for any job other than the one contracted out in this case and also not indulge in any act, commission or negligence which will cause/result in any loss/damage to IREL(INDIA)LIMITED and in which case, the Contractor shall be liable to IREL(INDIA)LIMITED to pay compensation to the full extent of damage/loss and undertake to pay the same.

18.0 DISCIPLINE:-

CONTRACTOR shall maintain strict discipline among its employees and shall abide by and conform to all rules and regulations promulgated by the IREL(INDIA)LIMITED governing the operations. Should IREL(INDIA)LIMITED feel that the conduct of any of CONTRACTOR/SUB-CONTRACTOR's employees is

detrimental to IREL(INDIA)LIMITED's interest, the IREL(INDIA)LIMITED shall have the unqualified right to request for the removal of such employee either for incompetence, unreliability, misbehavior, security reasons etc. while on or off the job. The CONTRACTOR shall comply with any such request to remove such personnel at CONTRACTOR's expense unconditionally. The CONTRACTOR will be allowed a maximum of 7 working days to replace the person by competent qualified person at CONTRACTOR's cost.

19.0 SAFETY AND LABOUR LAWS:-

CONTRACTOR shall comply with the provision of all laws including Labour Laws, rules, regulations and notifications issued there under from time to time. All safety and labour laws enforced by statutory agencies and by IREL(INDIA)LIMITED shall be applicable in the performance of this CONTRACT and CONTRACTOR shall abide by these laws.

CONTRACTOR shall take all measures necessary or proper to protect the personnel, work and facilities and shall observe all reasonable safety rules and instructions.

The CONTRACTOR shall report as soon as possible any evidence which may indicate or is likely to lead to an abnormal or dangerous situation and shall take all necessary emergency control steps to avoid such abnormal situations.

During the tenure of this CONTRACT nothing shall be done by the CONTRACTOR in contravention of any law, act and/or rules/regulations, there under or any amendment thereof. Pl. refer Annexure-I for Compliance of all statutory obligations.

20.0 Accident or Injury to Workmen

The Contractor shall be solely liable for any accident or injury that may happen to any of his personnel engaged in the Contract. The company shall not be liable for, or in respect of, any damage or compensation payable at law in respect of, or in consequence of, any accident or injury to any personnel in the employment of the Contractor and the Contractor shall indemnify and keep indemnified the company against all such claims, damages, compensations and proceedings.

The Contractor shall forthwith report to the company all cases of accidents to any of his personnel and shall make every arrangement to render all possible assistance and aid to the victims of the accident.

21.0 INSURANCE:-

CONTRACTOR shall, at his own expense, arrange appropriate insurance to cover all risks assumed by the CONTRACTOR under this CONTRACT in respect of its personnel deputed under this CONTRACT as well as CONTRACTOR's equipment, tools and any other belongings of the CONTRACTOR or their personnel during the entire period of their engagement in connection with this CONTRACT. IREL(INDIA)LIMITED will have no liability on this account.

22.0 TERMINATION

22.1 Termination on expiry of the CONTRACT

This Agreement shall be deemed to have been automatically terminated on the expiry of the CONTRACT period unless the IREL(INDIA)LIMITED has exercised its option to extend this CONTRACT in accordance with the provisions, if any, of this CONTRACT.

22.2 Termination on account of force majeure

Either party shall have the right to terminate this CONTRACT on account of Force Majeure.

22.3 Termination on account of insolvency

In the event the CONTRACTOR or its collaborator at any time during the term of this Agreement becomes insolvent or makes a voluntary assignment of its assets for the benefit of creditors or is adjudged bankrupt, then the IREL(INDIA)LIMITED shall, by a notice in Writing have the right to terminate this CONTRACT and all the CONTRACTOR's rights and privileges hereunder, shall stand terminated forthwith.

22.4 Termination for unsatisfactory performance

If IREL(INDIA)LIMITED considers that the performance of the CONTRACTOR is unsatisfactory or, not up to the expected standard, the IREL(INDIA)LIMITED shall notify the CONTRACTOR in writing and specify in detail the cause of such dissatisfaction. The IREL(INDIA)LIMITED shall have the option to terminate this Agreement by giving 30 days notice in writing to the CONTRACTOR, if, CONTRACTOR fails to comply with the requisitions contained in the said written notice issued by the IREL(INDIA)LIMITED.

22.5 Termination for delay in mobilisation

Successful bidder shall be required to mobilise complete resources for commencement of services at the specified site within a maximum number of 15 days from the date of order. If the CONTRACTOR (successful bidder) fails to mobilise as above, IREL(INDIA)LIMITED shall have, without prejudice to any other clause of the CONTRACT, the right to terminate the contract.

22.6 Consequences of termination

In all cases of termination herein set forth, the obligation of the IREL(INDIA)LIMITED to pay shall be limited to the period upto the date of termination. Notwithstanding the termination of this Agreement, the parties shall continue to be bound by the provisions of this Agreement that reasonably require some action or forbearance after such termination. In case of termination of Contract herein set forth, except under 22.1 and 22.2, and / or annulment of the contract due to non-submission of Security Deposit, following actions shall be taken against the Contractor:

- i. IREL(INDIA)LIMITED shall conduct an inquiry against the Contractor and consequent to the conclusion of the inquiry, if it is found that the fault is on the part of the Contractor, then they shall be put on holiday [i.e neither any tender enquiry will be issued to such a Contractor by IREL(INDIA)LIMITED against any type of tender nor their offer will be considered by IREL(INDIA)LIMITED against any ongoing tender(s) where contract between IREL(INDIA)LIMITED and that particular Contractor (as a bidder) has not been concluded] for a period of two years from the date the order for putting the Contractor on holiday is issued. However, the action taken by IREL(INDIA)LIMITED for putting that Contractor on holiday shall not have any effect on other ongoing contract(s), if any with that Contractor which shall continue till expiry of their term(s).
- ii. Pending completion of the enquiry process for putting the Contractor on holiday, IREL(INDIA)LIMITED shall neither issue any tender enquiry to the defaulting Contractor nor shall consider their offer in any ongoing tender.

23. **CHANGE IN LAW:**

23.1 In the event of introduction of any new legislation or any change or amendment or enforcement of any Act or Law, rules or regulations of Government of India or State Government(s) or Public Body which becomes effective after the date of submission of Bid for this CONTRACT and which results in increased cost of the works under the CONTRACT through increased liability of taxes, duties, the CONTRACTOR shall be indemnified for any such increased cost by the IREL(INDIA)LIMITED subject to the production of documentary proof to the satisfaction of the IREL(INDIA)LIMITED to the extent which directly is attributable to such introduction of new legislation or change or amendment as mentioned above and adjudication by the competent authority & the courts wherever levy of such taxes / duties are disputed by IREL(INDIA)LIMITED.

23.2 Similarly, in the event of introduction of new legislation or any change or amendment or enforcement of any Act or Law, rules or regulations of Government of India or State Government(s) or Public Body which becomes effective after the date of submission of Bid for this CONTRACT and which results in any decrease in the cost of the works through reduced liability of taxes, (other than personnel and Corporate taxes) duties, the CONTRACTOR shall pass on the benefits of such reduced cost, taxes or duties to the IREL(INDIA)LIMITED, to the extent which is directly attributable to such introduction of new legislation or change or amendment as mentioned above.

- 23.3 All duties, taxes (except where otherwise expressly provided in the Contract) as may be levied / imposed in consequences of execution of the Works/Services or in relation thereto or in connection therewith as per the Acts, Laws, Rules, Regulations in force on the date of submission of Price Bid or revised price bid, if any, for the this CONTRACT shall be to CONTRACTOR's account. Any increase / decrease in the net amount of such duties, taxes (i.e. the amount of taxes/duties payable minus eligible credit of taxes / duties paid on input services / input) after the date of submission of bid but within the contractual completion / mobilization date as stipulated in the CONTRACT will be to the account of IREL(INDIA)LIMITED.
- 23.4 Any increase in net amount of the duties and taxes (i.e. the amount of taxes/duties payable minus eligible credit of taxes / duties paid on input services / inputs) after the contractual completion / mobilization date during the extended period will be to the contractor's account, where delay in completion /mobilization period is attributable to the CONTRACTOR. However, any decrease in net amount of the duties and taxes (i.e. the amount of taxes/duties payable minus eligible credit of taxes / duties paid on input services / inputs) after the contractual completion / mobilization date will be to IREL(INDIA)LIMITED's account.
- 23.5 The Contract Price and other prices mentioned in the Schedule of Prices shall be based on the applicable tariff as indicated by the CONTRACTOR in the Schedule of Prices. In case this information subsequently proves to be wrong, incorrect or misleading, IREL(INDIA)LIMITED will have no liability to reimburse/pay to the CONTRACTOR the excess duties, taxes, fees, if any finally levied / imposed by the concerned authorities. However, in such an event, IREL(INDIA)LIMITED will have the right to recover the difference in case the rate of duty/tax finally assessed is on the lower side.
- 24.0 **EMPLOYMENT LIABILITY:**
- i. The Agency shall solely and exclusively be responsible for engaging or employing persons for the execution of this work. All employees engaged by the Agency shall be in its pay roll and be paid by them. IREL(INDIA)LIMITED will have no liability whatsoever concerning the workmen engaged for this service of the Agency. The Agency shall indemnify IREL(INDIA)LIMITED against any loss/damage/liability arising out of in the course of its employing persons or out of relations with its employees. The Agency shall make regular and full payment of wages along with statutory dues in cash in the presence of the representative of IREL(INDIA)LIMITED to the workmen within 7th of the following month irrespective of whether the Agency has raised the bill or not and furnish necessary documents whenever required by the competent authority. The agency shall comply with all Acts, Laws and Regulations applicable to the area with regard to performance of the work and including, Minimum Wages Act, 1948, Contract Labour (R&A) Act, 1970, Workmen's Compensation Act, 1923 Industrial Dispute Act, 1947 and take such steps as may be deemed necessary in this regard. It shall be directly responsible for any dispute arising between them and their personnel and keep IREL(INDIA)LIMITED OSCOM indemnified against losses, damages or claims arising thereof.
 - ii. In case of complaint of non-fulfillment of any obligation under the contract, IREL(INDIA)LIMITED reserves the right to with hold the payments due to them and out of such amount or amount of security held, if any or amounts likely to fall due to them (but with out obligation to do so) to make such payment as it may consider necessary for smooth and unhindered working.
 - iii. There will be no relations of employer and employee between our IREL(INDIA)LIMITED and the personnel so engaged by Agency under the contract and no claims for any employment in IREL(INDIA)LIMITED will be entertained or tenable. It shall be the sole responsibility of the Agency to regulate and effect any terms of employment with the engaged persons without any liability whatsoever to the IREL(INDIA)LIMITED.

25.0 Disputes :

All disputes and differences whatsoever arising between the parties out of or relating to the construction, meaning and operation or effect of this contract or the breach thereof shall be settled by an arbitrator to be appointed by the Chairman & Managing Director of IREL(INDIA)LIMITED. Proceedings as per Arbitration and Conciliation Act will be conducted. No objection shall be raised on the ground that the Arbitrator so appointed is an employee of IREL(INDIA)LIMITED or is one of the parties to the contract himself or that the persons who appointed had to deal with the matters to which the contract relates in his official capacity. The contractor shall not in any way delay or default or cause to delay or default the carrying out of the Works by reasons of the fact that any matter has been agreed to be referred to and/or referred to Arbitration. The seat of arbitration will be at Chatrapur, Ganjam and only the appropriate Court coming under High Court of Orissa will have jurisdiction to entertain all matters of litigation to the exclusion of all other courts.

26.0 Security regulations

The Contractor shall abide by all the security regulations at site promulgated by IREL(INDIA)LIMITED from time to time. The Contractor shall provide identity badges for all his personnel, which must be properly displayed by them at site.

27.0 NOTICES:

27.1 Service of notices on contractor

Any notice to be given to be Contractor under the terms of contract shall be served by sending the same by registered post or leaving the same at the contractor's principal place of business (or in the event of the contractor being a company to or its Registered office) or at the site.

27.2 Service of notices on Company

Any notice to be given to the company under the terms of the Contract shall be served by sending the same by registered post to CGM & HEAD, IREL(INDIA)LIMITED-OSCOM, Matikhalo -761 045 (Ganjam District) Orissa .

SPECIAL CONDITIONS OF CONTRACT

1.0 GENERAL:

The special conditions of contract shall be read in conjunction with the general conditions of Contract, Specifications or other supplementary documents detailing the work. Providing that where any provision of the General Conditions of Contract is repugnant to or at variance unless a different intention appears, the provision of the Special Conditions of Contract shall to the extent of such repugnance or variation prevail.

2.0 TENDER RATES:

- a) The service charges quoted in the price schedule shall be firm throughout the period of Contract including extension of time, if any.

3.0 DURATION OF THE CONTRACT:

3.1 For Installation and commissioning of solar power plant

The solar power plant shall be installed and commissioned **within two months** of commencement of work

3.2 For Operation and Maintenance

10 years from the date of commissioning or extended as per terms and conditions mentioned under heading Operation and Maintenance.

IREL(INDIA)LIMITED reserves the right to terminate the contract at any time before the expiry of the normal tenure in case service is found to be deficient/ unsatisfactory

4.0 PAYMENT TERM

- a. For supply ,erection,testing and commissioning of the project
- i. 90 % of the project cost along with all applicable tax shall be released within 30 days of commissioning of the systems at the location specified and acceptance and joint declaration

The following shall be submitted along with the bill

1. Commissioning report
2. Catalogues of critical components
3. **JCC**
4. Warranty certificate/Warrantee certificates issued for major components by OEMs
5. I-V Curves of Solar modules
6. Operation manual
7. Dos & Don'ts in the form of a booklet
8. Proof of conducting training programme
9. Agreement to undertake Operation and Maintenance for a period of 10 years and submission of Performance Bank Guarantees as required.

- ii. Balance **10%** of the project cost shall be paid after **1 year after commissioning and** satisfactory performance

- b. For Operation and Maintenance:

Payment shall be made progressively on satisfactory execution of the work **at the end of each quarter** and submission of all necessary reports thereon

5.0 LIQUIDATED DAMAGES FOR DELAY IN EXECUTION OF WORK:

For delays attributable to the contractor, LD shall be levied @0.5% per week or part thereof on the value of unfinished supply/work order for each week of delay subject to a maximum of 5% of the total value of contract. However, if separate period of completion is specified for certain item of work, or group of items of work, at the time of issuing the order, the liquidated damage can be levied accordingly for the value of the item of work or group of items of work. The company may without prejudice to any other method of recovery deduct the amount of such damages from any moneys in his hands due or which may become due to the contractor under the contract or any other contract between the contractor and the company. The payment or deduction of such damages shall not relieve the contractor from his obligation to complete the works or from any other obligations and liabilities under the contract.

6.0 OPERATIONS AND MAINTENANCE SECURITY:

To ensure proper operation and maintenance of the system, 10% of cost of the systems has to be submitted by contractor as interest free deposit, 2% of which shall be progressively released at the end of every 2 years. Alternatively they may submit it by way of BG in formats provided by IREL to meet the above requirement

(Say, 5 Nos of Bank Guarantees each equivalent to 2% of the cost of the systems with validities of 2, 4, 6, 8 & 10 years respectively to be submitted each with an additional claim period of 6 months. Following successful operation and maintenance of the systems and settlement of bills, the bank guarantees shall be progressively released at the end of 2nd, 4th, 6th, 8th and 10th year)

Regarding bid security of installation and commissioning of the solar plant, please refer to the relevant clauses in the tender

7.0 GUARANTEES:

- a. The complete system should be warranted against any manufacturing defect or bad workmanship, satisfactory performance **for a period of 10 (ten) years** from the date of commissioning of the systems.
- b. Major system sub-component like SPV modules must be warranted against any manufacturing defect ,bad workmanship and towards satisfactory performance for a period of 10 years or to the period as per the OEMs warrantee/guarantee policy whichever is higher.
- c. Warranty certificate to the above effect must be furnished along with the commissioning reports. Any defect noticed during warranty period should be rectified/replaced by the supplier free of cost upon due intimation by IREL.
- d. As a testimony, the bidder must submit the warranty certificate and service agreement with the OEM for the tendered work.

7.0 MODE OF PAYMENT:

All payment shall be released after deducting the following:

- (a) Compensation recoverable, if any.
- (b) Recoveries on account of IREL(INDIA)LIMITED's facilities and services
- (c) Deduction towards retention money.
- (d) Deduction if any towards re-coupmnt of any amounts forfeited, adjusted, deducted out of security deposit.
- (e) Statutory deductions such as IT(TDS) as per rules in vogue.
- (f) Any other deductions

Technical Specification

1. SCOPE OF THE WORK

- a. The broad scope of the work includes Design, Obtaining No Objection Certificate (NOC) from Distribution Company (DISCOM) for grid connectivity, Supply, storage, civil works, Installation, Commissioning of Grid Connected 100 kWp Solar PV System with net metering facility at the Administrative Building roof top of OSCOM
- b. The Project cost shall include all the costs related to above Scope of Work. Bidder shall submit quote for the entire facilities on a "single responsibility" basis such that the total Bid Price covers all the obligations mentioned in the Bidding Documents in respect of Design, Obtaining No Objection Certificate (NOC) from Distribution Company (DISCOM) for grid connectivity, Supply, storage, civil works, Installation, Commissioning of Grid Connected 100 kWp Solar PV System with net metering facility.
- c. The successful bidder has to take all permits, approvals and licenses, Insurance as applicable etc., provide training and such other items and services required to complete the scope of work mentioned above.
- d. The project cost of installation and commissioning quoted shall be on lump sum turnkey basis and the bidder is responsible for successfully commissioning of the plant.
- e. **The project cost shall remain firm and fixed and shall be binding on the Successful Bidder till installation and commissioning of the solar plant.**
- f. The successful bidder shall also carry out Operation & Maintenance of the system, including supply of spares and consumables required if any during for a period of 10 years after commissioning (and beyond on mutually acceptable conditions)
- g. The operation & maintenance of Solar Photovoltaic Power Plant would include wear, tear, overhauling, machine breakdown, insurance, and replacement of defective modules, invertors / Power Conditioning Unit (PCU), spares, consumables & other parts for a period of **10 years**.

2.1 DESIGN

- a. The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labor. The bidder should submit the array layout drawings along with Shadow Analysis Report to IREL
- b. The bidder is required to design the complete system as per technical specification given as well as connectivity needs using the solar PV modules/Power Conditioning Unit **and BOS**.
- c. The system shall be provided with remote monitoring facility
- d. The Module Mounting Structure (MMS) must be designed to be completely Non-Invasive (without any grouting/chipping) on the roof.
- e. Adequate Protection must be provided as per the requirement of the site by taking lightening and other climatic conditions etc.
- f. Array Junction Box, Module Junction Box, Separate DCDB & ACDB etc must be provided.

2.2 SUPPLY

- a. Supply of complete systems, including all necessary components, sub-components, etc. meeting to the requirement of the tender
- b. The specifications of the components should meet the technical specifications stipulated.
- c. Supply should also include packing, forwarding, loading/unloading, safe storage and handling of all plants and equipments including insurance coverage.
- d. Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule and for efficient and smooth operation and maintenance of the SPV plant.
- e. **The modules should be manufactured in India only (The solar cells may not be).** Rest of the components, **including cells**, can be procured from any source. However these items should meet the Technical specification and standards mentioned in tender.

2.3 PRE- INSTALLATION OBLIGATIONS

- a. The module mounting structure shall have capacities to withstand wind velocities up to **200 KM/hr**.
- b. Successful bidder(s) after site visit are required to submit single Line Diagrams for the plant indicating all wiring details, connectivity details etc. Before commencement of installation work.
- c. Before submission of the Bid, Bidders in their own interest may visit the sites.
- d. The project schedule shall be prepared in project management tools like MS Project and the same shall be kept updated and reports submitted as per the frequencies informed by IREL.
- e. The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc
- f. **The successful bidder shall submit design and STAAD analysis report of the MMS prior to installation of the system**

2.4 INSTALLATION

- a. Installation of all plants and equipments has to be done as per the requirement of the tender and shall be as per relevant standards that are applicable or specified.
- b. There should not be any invasion/damage what so ever to the roof top due to setting up of the mounting structure of the solar power plant so as to avoid any chances of leakage of rain water, etc. from the roof top on a later date.

- c. While cabling the array care must be taken such that no loose cables lie on the rooftops. The roof top should look clean and tidy after installation of the array.
- d. Display boards, danger boards etc. as mentioned in the tender should be prominently fixed in appropriate locations.
- e. Care should be taken such that earthing flats do not touch the roof/walls at any place. Sufficient insulators should be provided for the same.
- f. Provide Remote Monitoring Systems in the inverters of the solar PV power plants.
- g. Providing necessary protection devices to protect the power plant from lightening, sudden surges in voltage and current and to ensure safety of the grid to which the plant is connected.
- h. The bidder should also ensure protection of life and property likely to be endangered due to the installed solar power plant.
- i. The connectivity of all the systems must be as per Latest guidelines/orders as applicable.
- j. The successful bidder shall, on behalf of IREL take necessary actions through IREL for obtaining the Approval/Permission for Net metering from the respective Distribution Utility. The successful bidder should facilitate submission of application by IREL and follow up and liasoning for obtaining NOC for Net Metering and getting the project connected to utility end through Niet meter.
- k. The Application Fees, Cost of Net Meter, Meter Testing Charges etc. shall be borne by IREL.**
- l. The Bidder should ensure installation of Net Meter in coordination with Division/Sub Divisional offices of respective Distribution Utility.
- m. The testing and synchronisation of Net Meter shall be ensured by the Bidder in coordination with **MRT &** Divisional office of respective Distribution Utility before Commissioning of the system. Net-meter must be tested & approved by respective Distribution Utility or other agencies as applicable.

2.5 INSPECTION, COMMISSIONING & TESTING:

- b. All tests and inspections shall normally be made at the place of delivery.
- c. IREL shall have the right to have the tests carried out at its own cost by itself or through other agencies at any point of time. Such inspection will not relieve the executing firm of their obligation in the contract.
- d. After completion of installation work, the plants shall be tested and commissioned in presence of officials of IREL and other agencies/experts IREL may prefer to be present.
- e. The date & time for testing and commissioning must be decided in consultation and under mutual consent. On the date of such testing & commissioning the commissioning certificate has to be signed by the authorised representative of IREL

2.6 OPERATION AND MAINTENANCE

- a. The bidder shall be responsible for Operation and Maintenance of the Roof top Solar PV system for a period of 10 years from the date of commissioning, during which period IREL will monitor the project for effective performance in line with conditions specified in the bid document.
- b. During this period, the bidder shall be responsible for supply of all spare parts as required from time to time for scheduled and preventive maintenance, major overhauling of the plant, replacement of defective modules, inverters, PCU's etc and maintaining records of operation, **deployment of manpower staff as needed** for ensuring continuous operations and qualified engineer for supervision of O&M work, complaint logging & its attending.
- c. During this period the successful bidder shall undertake scheduled maintenance as well as corrective maintenance
- d. Operation & maintenance or Comprehensive maintenance **beyond the above 10 years** may be considered on mutually agreed terms
- e. The broad scope of Maintenance shall cover
 - i. All systems will be maintained for a period of **10 years** from the date of commissioning.
 - ii. During the operations and maintenance period, the contractor shall carry out scheduled maintenance every **three months** and submit report.
 - iii. Scheduled maintenance shall be taken up every quarter as per Standard maintenance protocols.
- f. The person deployed for maintenance shall be competent for the work. Sufficient spares shall be planned and kept so as to attend and rectify any breakdown forthwith.
- e. Necessary records of maintenance shall be maintained
- f. The bidder must adhere to maintenance procedure provided by IREL from time to time.

2. **INSURANCE**

- a. The Bidder shall be responsible and take an Insurance Policy for transit-cum-storage-cum-erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning.
- b. The Bidder shall also take insurance for Third Party Liability covering loss of human life, engineers and workmen and also covering the risks of damage to the third party/material/equipment/properties during execution of the Contract. Before commencement of the work, the Bidder will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. Liquidation, Death, Bankruptcy etc., shall be the responsibility of bidder
- c. **The bidder shall also take appropriate insurance during O&M period as applicable**

3. PLANT PERFORMANCE EVALUATION

The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the GHI levels of the location during the O&M period. **PR should be shown minimum of 75% at the time of inspection for initial commissioning & acceptance. Minimum CUF of 15% should be maintained for a period of 10 years.** The bidder should submit the periodic plant output details to IREL for ensuring the CUF. The PR will be measured at Inverter output level during peak radiation conditions.

4. PENALTY

The Performance Ratio of the plant during the operation and maintenance period shall be evaluated on annual basis. If the plant fails to achieve the minimum requirement of 75% Performance Ratio pro rata reduction in the bills shall be done using the following formulae.

$PR = \text{Actual reading of plant output in kWh} / \text{Calculated nominal plant output in kWh}$

$\text{Nominal plant output} = \text{Solar irradiation at the generator surface} * \text{relative efficiency}$

Odisha State Electricity Boards industrial tariff shall be taken as base for calculating penalty.

If the plant continue to underperform for two consecutive years, IREL(India) Ltd reserves the right to terminate the contract and forfeit the operation and maintenance security & performance guarantees submitted by the bidder

TECHNICAL SPECIFICATION FOR GRID CONNECTED ROOF TOP SOLAR POWER PLANT

The general scope under this contract includes design, testing, inspection, packing and forwarding, transportation up to project site, loading & unloading, storage in safe custody, erection, carrying out preliminary tests at site, commissioning, obtaining necessary permits, performance testing and commissioning

The plant shall also be operated and maintained **for 10 years** (and beyond on mutually acceptable conditions if so required by IREL thereafter).

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

Solar PV system shall consist of following equipments/components:

- a. Solar PV modules consisting of required number of **Mono Crystalline PERC** PV modules.
- b. Grid interactive Power Conditioning Unit with Remote Monitoring System
- c. Mounting structures
- d. Junction Boxes.
- e. Earthing and lightning protections.
- f. IR/UV protected PVC Cables, pipes and accessories,etc

1. SOLAR PHOTOVOLTAIC MODULES:

- a. **The PV modules used should be made in India.**
- b. The solar PV modules shall consist of required number of **Monocrystalline PERC PV Modules having minimum 18 % efficiency (IREL reserves the right to have the modules tested in its presence prior to despatch)**. The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-2- requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.
- c. **The system shall have provisions for module level monitoring**
- d. Since the PV modules is erected in a highly corrosive atmosphere throughout their lifetime, they must qualify to IEC 61701/IS 61701.**The PV modules shall also be capable of resisting heavy wind load of 2400 Pa min.**
- e. **The front module surface shall be impact resistant, low iron, high transmission toughened glass of min thickness 3.5mm**
- f. **The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 300 Wp and above wattage. Module capacity less than minimum 300 watts shall not be accepted**

- g. Protective devices against surges at the PV module shall be provided. Low voltage drop bypass diodes shall be provided.
- h. PV modules must be tested and approved by one of the MNRE/IEC authorized test centers.
- i. The module frame shall be made of corrosion resistant materials, preferably having anodized aluminum.
- j. The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid.
- k. Other general requirement for the PV modules and subsystems shall be the Following:
 - i. The rated output power of any supplied module shall have tolerance of +/-3% max
 - ii. The peak-power point voltage and the peak-power point current of any supplied module and/or any module string (series connected modules) shall not vary by more than 2 (two) per cent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.
 - iii. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.
- l. IV curves at STC should be provided by bidder.
- m. 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).
 - i. Name of the manufacturer of the PV module
 - ii. Name of the manufacturer of Solar Cells.
 - iii. Month & year of the manufacture (separate for solar cells and modules)
 - iv. Country of origin (separately for solar cells and module)
 - v. I-V curve for the module Wattage, I_m , V_m and FF for the module
 - vi. Unique Serial No and Model No of the module
 - vii. Date and year of obtaining IEC PV module qualification certificate.
 - viii. Name of the test lab issuing IEC certificate.
 - ix. Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001

n. Warranties:

Material Warranty:

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

1. Defects and/or failures due to manufacturing
2. Defects and/or failures due to quality of materials
3. 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

Performance Warranty:

The predicted electrical degradation of power generated not to exceed 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/MODULE MOUNTING STRUCTURE:

Module mounting structures shall meet the following specification:

- a. **Hot dip galvanized (120 microns) MS mounting structures** may be used for mounting the modules/panels/arrays.
- b. The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.
- c. Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts.
- d. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.
- e. Special care should be taken while designing all structures for modules to cater to heavy rainfall.
- f. Each structure should have angle of inclination as per the site conditions to take maximum insolation. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.
- g. 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 (**200 km/ hour**). It may be ensured that the design has been certified by a recognized Lab/**Authorised** chartered Engineer/Reputed Institution in this regard and submit wind loading calculation sheet to IREL. **Suitable fastening arrangement should be provided to secure the installation against the specific wind speed.**
- h. PV modules shall be secured to support structure using screw fasteners and/or metal clamps. Screw fasteners shall use existing mounting holes provided by module manufacturer. No additional holes shall be drilled on module frames. Module fasteners/clamps shall be adequately treated to resist corrosion.
- i. **The PV array structure design shall be appropriate with a factor of safety of min. 1.5.**
- j. Adequate spacing shall be provided between any two modules secured on PV array for improved wind resistance.
- k. The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels
- l. Regarding civil structures the bidder need to take care of the load bearing capacity of the roof and need arrange suitable structures based on the quality of roof.

- m. The structures should be laid on the rooftop on weather resistant FRP mountings which should be non-penetrating type and proper drainage of rain water over terrace through the installation area should be maintained.
- n. The structures should be suitably loaded with reinforced concrete blocks of appropriate weight made out of M25 concrete mixture. Waterproofing shall be provided in the areas where RCC blocks are placed on the terrace
- o. The total load of the structure (when installed with PV modules) on the terrace should be less than 60 kg/m². The load shall be well distributed so that point loads are well within the limits.
- p. The minimum clearance of the structure from the roof level should be sufficient to allow ventilation for cooling, also ease of cleaning and maintenance of panels as well as cleaning of terrace.
- q. The array shall be located sufficiently inside the boundary wall of the terrace (parapet wall) and should not be projecting out. PV array shall be installed in the terrace space free from any obstruction and/or shadow. PV array shall be installed utilizing optimum terrace space to minimize effects of shadows due to adjacent PV panel rows.
- r. 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.
- s. Each array may be provided with two bird repellents spikes at a level higher than the upper edge of the array. The location of the spike should be selected for minimum shadow effect.

3. ARRAY/ MAIN JUNCTION BOXES (JBs):

- a. The Junction Boxes (JBs) made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement shall be provided. All wires/cables shall be terminated through Copper cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- b. Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single / double compression cable glands.
- c. Fuse protection should be provided for each string for +ve cables.
- d. Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / SPDs, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- e. Suitable markings should be provided on the bus bar for easy identification and suitable cable glands with ferrules must be fitted at the cable termination points for identification.
- f. Array Junction Box should be IP 65(for outdoor)/ IP 54(for indoor) as per IEC 60529 and should be provided with fuses and Isolators of suitable ratings.
- g. ACDB should have surge protection device of class 2 as per IEC 60947/60364-5-53, to protect inverters from surges in the AC line.

- h. AJBs/MJB may be kept below the modules. In case of need this can be installed on wall or rooftop. ACDB should be put at safe distance from DCDB/AJBs/MJBs to avoid Eddy current interference.

4. DC DISTRIBUTION BOARD:

- a. Dust & vermin proof Enclosures of Polycarbonate/GRP/FRP/Powder coated Aluminium/ Cast Aluminium Alloy & should have IP 65(outdoor)/54(indoor) compliant to IEC 60529.
- b. The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.
- c. Suitable cable entry points with cable glands and ferrules should be provided.
- d. DC SPD of type 2 compliant to IEC 60497 with fuse should be provided.
- e. Design ambient temperature should be 0-60 degC.

5. AC DISTRIBUTION PANEL BOARD:

- a. AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary over current & surge protection.
- b. All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
- c. All the Panel's should 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.
- d. The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- e. Suitable cable entry points with cable glands and ferrules should be provided.
- f. DC SPD of type 2 compliant to IEC 60497 with fuse should be provided.
- g. Design ambient temperature should **be 0-60°C. 80 percent humidity and dusty weather.**
- h. **All panel boards shall be of IP 65 protection.**
- i. Should conform to Indian Electricity Act & rules (till last amendment)
- j. All the 415 V or 230 V 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
 - i. Variation in Supply Voltage +/- 10% max

- ii. Variation in Supply frequency +/- 3 Hz max

6. GRID TIED POWER CONDITIONING UNIT/INVERTER:

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the "Power Conditioning Unit (PCU)" and shall be completely compatible with the SPV array voltage. In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. Inverter output should be compatible with the grid frequency.

- a. Typical technical features of the inverter shall be as follows:
 - i. **Switching devices: IGBT/MOSFET**
 - ii. **Control : Microprocessor :DSP**
 - iii. Nominal AC output voltage and frequency:: 415V, 3 Phase, 50 Hz
 - iv. Grid Frequency Synchronization range : +/- 3 Hz
 - v. Ambient temperature considered : **0°C to 60 °C**
 - vi. Humidity: **95% non-condensing**
 - vii. Protection of enclosure
 - viii. IP 20 (min) for indoor
 - ix. IP 65 (min) for outdoor
 - x. Grid frequency tolerance range: within +/- 3Hz
 - xi. Grid voltage tolerance: -20 % ,+15%
 - xii. Protection of enclosure: IP 65
 - xiii. Grid frequency tolerance range: +/- 3 Hz
 - xiv. Grid voltage tolerance: -20% to +15%
 - xv. No load losses: less than 1% of rated power
 - xvi. **Inverter efficiency: 98% or above**
 - xvii. **MPPT efficiency:98 or above**
 - xviii. THD: < 3%
 - xix. **PF: >0.98 at normal power**
- b. Three phase PCU/ inverter shall be used with the power plant system.
- c. Grid tied inverter with inbuilt PPT shall only be used
- d. PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
- e. 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 sustainable fault in feeder line and against the lightning on feeder.
- f. Built-in meter and data logger to monitor plant performance through external computer shall be provided.
- g. 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.

- h. 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.
- i. The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS /IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

7. INTEGRATION OF PV POWER WITH GRID:

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided

8. PROTECTION:

The SPV power plant should be provided with Lightening and over voltage protection, connected with proper earth pits. The main aim of over voltage protection is to reduce the over voltage to a tolerable level before it reaches the PV or other sub-system components. The source of over voltage can be lightning or other atmospheric disturbance.

LIGHTNING PROTECTION

The lightning Conductors shall be made of 25 mm diameter 4000 mm long GI spike as per provisions of IS 2309-1969. Necessary concrete foundation for holding the lightning conductor in position should be made after giving due consideration to maximum wind speed and maintenance requirement at site in future. The lightning conductor should be earthed through 20 mm X 3 mm thick GI flat earth pits/earth bus with proper Insulation. Height of Lightening Conductors from Array Structure should be minimum 4metres.

- b. Most areas of the State being prone to lightening, Type-II SPDs shall be included as a mandatory requirement.
- c. Similarly Type I+II SPD should also be provided on the grid side in ACDB or PCU to protect the PCU from damage

EARTHING PROTECTION

- a. Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lightning arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of IREL as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly.
- b. Earth resistance shall **not be more than 1 Ohm** . It shall be ensured that all the earthing points are bonded together to make them at the same potential.

SURGE PROTECTION

- a. **Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and –ve terminals to earth (via Y arrangement)**
- b. Surge protection device should be provided on both the DC side and the AC side of the solar PV system. It should have protection voltage of 2.5 kV & Nominal Discharge current of 5 kA (8/20) μ sec.
- b. The DC surge protection devices (SPDs) should be installed in the DC distribution box adjacent to the solar inverter.
- c. The AC SPDs shall be installed in the AC distribution box adjacent to the solar inverter.
- d. The SPD's earthing terminal should be connected to earth through the abovementioned dedicated earthing system.

GRID ISLANDING:

- a. 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.
- b. A manual disconnect 4pole 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

9. CABLES & WIRINGS:

- a. The Cable & Wires should comply to IEC60227 or IS694 & IEC60502 or IS1554 BSEL50618 (for DC cables for PV systems).
- b. All copper flexible cables should comply to IS651 and make should be Polycab, Havells or equivalent.
- c. Colour code should be followed for over all wiring i.e, red for positive, black for negative, green for earth.
- d. All cable should run in suitable PVC Conduits. No cable should be directly exposed to sunlight.
- e. Cable Sizes should be as per the given Current and Voltage ratings.
- f. 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.
- g. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified.

- h. 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%.
- i. 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 %.

10. TOOLS & TACKLES AND SPARES:

- a. After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose. List of tools and tackles to be supplied by the bidder for approval of specifications and make from IREL.
- b. A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver cards etc. Junction Boxes. Fuses, MOVs / arrestors, MCCBs etc along with spare set of PV modules be indicated, which shall be supplied along with the equipment

11. DISPLAY BOARD:

- a. Display board of size 3 ft x 3 ft that gives detailed circuit diagram of the system with its description should be provided.
- b. Danger boards should be provided as and where necessary as per IE Act. /IE rules as amended up to date. Text of the signage may be finalized in consultation with IREL.

12. REMOTE MONITORING SYSTEM:

- i. Data Acquisition System shall be provided for the solar PV plant.
- ii. Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- iii. Solar Irradiance: An integrating Pyranometer / Solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.
- iv. Temperature: Temperature probes for recording the Solar panel temperature and/or ambient temperature to be provided complete with readouts integrated with the data logging system
- v. The following parameters are accessible via the operating interface display in real time separately for solar power plant:
 - a. AC Voltage.
 - b. AC Output current.
 - c. Output Power

- d. Power factor.
 - e. DC Input Voltage.
 - f. DC Input Current.
 - g. Time Active.
 - h. Time disabled.
 - i. Time Idle.
 - j. Power produced
 - k. Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency ground fault, PV starting voltage, PV stopping voltage.
- vi. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time) and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.
 - vii. PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class.
 - viii. Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.
 - ix. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
 - x. Computerized AC energy monitoring shall be in addition to the digital AC energy meter.
 - xi. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
 - xii. All instantaneous data shall be shown on the computer screen.
 - xiii. Software shall be provided for USB download and analysis of DC and AC parametric data for plant.
 - xiv. Provision for Internet monitoring and download of data shall be also incorporated.
 - xv. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.
 - xvi. Ambient / Solar PV module back surface temperature shall be also monitored on continuous basis.

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

Remote Monitoring and data acquisition through Remote Monitoring System software at IREL with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the supplier. Provision for interfacing these data on IREL server and portal in future shall be kept

13. DRAWINGS & MANUALS:

- a. Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes in their bid along with basic design of the power plant and power evacuation, synchronization along with protection equipment.
- b. Approved ISI and reputed makes for equipment be used.
- c. For complete electro-mechanical works, bidders shall supply complete design, details and drawings to be submitted to IREL

14. NET METER

- a) **The bidirectional electronic energy meter (0.5 S class) shall be installed for the measurement of import/Export of energy.**
- b) **The bidder must take approval/NOC from the Concerned DISCOM for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to IREL before commissioning of SPV plant.**
- c) **Reverse power relay shall be provided by bidder (if necessary), as per the local DISCOM requirement.**

The On-grid Solar power plant will be connected to the grid through a net meter as per the single line diagram indicated in this document. The indicative specification of the Net-meter is as follows:

15. GENERATION METER

As suggested by the DESCOM

May be Three Phase Four wire, 3 x 240VAC, 20-100Amps ISI marked Direct current operated Energy Meter, DLMS CatC having calibration LED, AMR compliance & front sealing facility to be used as generation meter up to 20KW with Accuracy : 1.0.

GPRS/GSM Modem with connecting cable & antenna for running smoothly up to 10 year for AMR facility.

Techno- Commercial Terms for response by the participating bidders:

SI No.	Techno- Commercial Terms	Response
1	Bidder should carefully study the Technical specifications and General terms and conditions before participating in the tender. All terms and Conditions of the NIT including Corrigendum if any, shall be applicable.	AGREE
2	Bidder agrees (i) Not to provide any gift and/ or inducement to any employee of the company in connection with securing/ being granted favour(s) in my/our dealings with the company and its field Unit namely OSCOM at Orissa, (ii) To immediately report any gift and / or inducement sought by any employee of the company in exchange of the company and /or its field Units granting favour(s) to me/us in my/our dealings with the company and /or its field units.	AGREE
3	Bidder agrees to execute the work strictly as per the technical specifications and also to comply to the statutory requirements as required for execution of the work.	AGREE
4	Bidder agrees to upload the documents in proof of meeting the Pre-qualification criteria as called for in the tender.	AGREE
5	Bidder agrees to Special Conditions of Contract	AGREE
6	Bidder agrees to upload manufacturer or Valid channel partner certificate	AGREE
7	Bidder agrees to upload proof that they are in the business of solar power plant installation for the past 5 years from date of tender.	AGREE
8	Bidder agrees to upload valid test certificates of Solar PV module and Power Conditioning Unit/Inverter from MNRE authorized test laboratory.	AGREE
9	Bidder agrees to certify that they are not debarred / blacklisted by any Govt.Dept., agency, PSUs / institution / agencies / autonomous organizations. The bidder shall upload self-certification by an authorized person duly notarized..	AGREE
10	Bidder agrees towards both supply installation and commissioning of the solarplant and carry out operation and maintenance of the plant for a minimum period of 10 years as per the technical specification.	AGREE
11	Bidder agrees that the price quoted by the bidder is inclusive of of Design, Obtaining No Objection Certificate (NOC) from Distribution Company (DISCOM) for grid connectivity, Supply, storage, civil works, Installation, Commissioning of Grid Connected 100 kWp Solar PV System with net metering facility.	AGREE
12	Bidder agrees to upload details of EMD and TDC (if applicable) paid (or) In case Bidder happens to be Central / State PSU or happens to be MSE registered with NSIC and are interested in waiver from EMD submission, relevant self attested scanned copy of certificates like Udyogaadhar , NSIC Registration Certificates etc. are to be uploaded.	AGREE

13	Bidder agrees to submit the signed scanned copy of the Undertaking and details of bidder as per Annexure – I (points 20 & 21)	AGREE
14	Contact details i.e. Name & Designation of the Contact person Address, Phone no.& Email	Remarks

PRICE SCHEDULE

Lot No	Description / Scope of work	UOM	Qty.	Rate per unit a	GST in % b	Total $a+(a*b/100)$
1	Supply, installation and commissioning of solar Power Plant as per technical specification	LS	01			
2	AMC for solar power plant	months	120			

- Tax should be mentioned in % only.
- If bidder leaves any column blank then the bid is liable to be treated as unresponsive and shall not be considered as a valid price bid. Any request for change in values after opening of the price bid shall be considered as unresponsive and EMD shall be forfeited.
- If bidder is unable to provide workability of the rates quoted to the satisfaction of IREL(India)Ltd the bid shall be considered as unresponsive
- Evaluation shall be done on overall L-1 basis after taking net of Tax Credit.
- In case a tie exist between two bidders on quoted price preference will be given to bidder who is a MSME, who has already executed similar order with IREL(INDIA)LIMITED, GST registration within the state in that order. However the selection of EIC will be final and binding.

SAFETY CODE

1. Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration work which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made either of wood or steel. The steps shall have a minimum width of 450 mm and a maximum rise of 300 mm. Suitable hand holds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 (1/4 horizontal and 1 vertical).
2. Scaffolding or staging more than 4m above the ground floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly
3. Working platform, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform, gangway or stairway is more than 4m above ground levels or floor level, they shall be closely boarded and shall have adequate width and be suitably fenced as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1mtr wherever there are open excavations in ground, the shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.
5. Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m in length while the width between side rails in rung ladder shall in no case, be less than 290 mm for ladder upto and including 3 m in length. For longer ladder this width shall be increased at least 20 mm for each additional metre of length.
6. A sketch of the ladder and scaffolds proposed to be used shall be prepared and approval of the company obtained prior to construction.
7. All personnel of the contractor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
8. Adequate precautions shall be taken to prevent danger from electrical equipment .No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.
9. All trenches, 1.25m or more in depth shall at all times be supplied with at least one ladder for each 30m in length or fraction thereof. The ladder shall be extended from the bottom of the trench to at least 1m above the surface of the ground. Sides of trenches which are 1.5 m or more in depth shall be stepped back to give suitable slope of securely held by timber bracing so as to avoid the danger of sides collapsing. The excavated material shall not be placed with 1.5 m of edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.
10. The contractor shall take all measures on the site of the work to protect the public from accidents and shall be bound to bear the expenses of defense of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay such persons or which may with the consent of the contractor, be paid to compromise any claim by any such person.
11. All necessary personnel safety equipment as considered adequate by the Company shall be kept available for the use of his persons employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned.
12. Before any demolition work is commenced and also during the process of the work:-
13. All roads and open areas adjacent to the work site shall either be closed or suitably protected.
14. No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.

15. All practical steps shall be taken to prevent danger to persons employed from the risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
- I. Workers employed on mixing alphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
 - II. Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eye shall be provided with protective goggles.
 - III. Those engaged in welding works shall be provided with welder's protective eyesight lids.
 - IV. Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
16. When workers are employed in sewers and manholes, which are in use, the contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into manholes and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.
17. Use of hoisting machines and tackle including their attachments, anchorage and support shall conform to the following standards or conditions.
- I. These shall be of good mechanical construction, sound material and adequate strength and free from patent defect and shall be kept in good repair and in good working order.
 - II. Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.
 - III. Every crane drive or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in charge of any hoisting including any scaffolding which or give signals to operator.
 - IV. In case of every hoisting machine and of every chain ring hook, shackle shovel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated.
18. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
19. 13.5 In case of departmental machines, the safe working load shall be notified by the company. As regards contractor's machines, the contractor shall notify the safe working load of the machine to the Company whenever he brings any machinery to site of work and get it verified by the company.
20. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards, hoisting appliances should be provided with such means as will reduce to the minimum the risk of any part of suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary shall be provided. The workers shall not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

21. All scaffolds, ladders and other safety device mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places of work.
22. These safety provisions shall be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
23. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the labour officer or the company or its representatives.
24. Notwithstanding the above clause from (1) to (18), there is nothing in these to exempt the contractor from the operations of any other Act or Rules in force in the Republic of India.

SAFETY RULES

1. The contractor shall follow the safety regulations as prescribed in the tender and Indian standards. He shall provide necessary safety appliances to his employees as instructed by the Engineer –in-charge/ safety officer deputed by the Company depending upon the nature of work.
2. In case of an accident resulting in any rest of disability to the workmen the same should be immediately reported to the safety officer/Engineer-in-charge.
3. Any person found smoking in the non-restricted area work site /company premises or under the influence or alcoholic or any intoxicating drugs on duty is unfit for duty and shall not be allowed to work. His work permit should be confiscated and he should be sent out of the premises of the work.
4. Drums or other make shifts must not be used in place of ladders or work benches or supports on any job.
5. First aid kits or boxes and stretchers should be readily assessable at all times with the contractors.
6. For all work that cannot be done from the ground level or from part of any permanent structure or from other available means of support, soundly constructed scaffoldings of adequate strength shall be used as a safe means of access of places of work.
7. All scaffolding shall be securely supported or suspended and wherever necessary be properly braced to ensure stability.
8. Defective scaffolding or make shift must not be provided All scaffolds must be inspected by a competent person in charge before commencement of work.
9. Chains, ropes or other lifting materials used for the suspension of scaffolds must be of adequate strength and be tested by competent authority.
10. The platforms of suspended scaffolding shall be sufficiently wide. Suspended scaffoldings shall have hand rail of about 1 mtr, height from the floor of the platform. Such scaffolding or staging shall be fastened to prevent it from swaying away from the structure.
11. All sides of the platform from which a person is liable to fall shall be provided with guard rails to a height of at least 1 meter with the toe boards of at least 15cms high so placed as to prevent the fall of material and tools from the platforms.
12. Every ladder shall be securely fixed at top and bottom. A ladder more than 5 metres long shall have a prop.

13. Spacing between the side rails of the ladder shall not be less than 45 cms and uniform step spacing shall not exceed 30 cms.
14. Whenever it is necessary to work at elevated places above 4 meter not adequately protected by railing, safety belts with life lines securely tied to some firm structure or other support which is independent of the equipment on which the person is working must be worn.
15. Nobody should be allowed to work at elevated places above 4 meter without wearing safety belts. As an additional precaution, safety nets made of coir rope or nylon or any other suitable material should be hung at suitable elevation to prevent people and equipment falling below.
16. Dropping or throwing materials from roof structure or other elevated position is prohibited.
17. Where work is going overhead, the area below should be cordoned. If it is not possible to cordon the area caution sign caution, Men working above should be placed.
18. Helmets (made of fibre glass or any other suitable material conforming to IS specification) must be used by all employees working in shuttering or staging jobs, material handling, erection jobs or where the chances of falling objects are present or where there is a possibility of a person striking against projecting objects, etc.
19. All necessary personnel safety equipment such as face masks, safety helmets, safety boots, safety belts, gloves safety goggles etc. as considered adequate by the company have to be kept available for the use for persons employed at the site of work and maintained in a condition suitable for immediate use and the contractor shall take steps to ensure proper use of equipment by the workers.
20. The contractor shall furnish along with the tender the type of staging from work type of access for men, materials and the construction technique he proposes to use for the work.
21. The areas where painting work is being done shall be kept adequately ventilated by the agency executing the work and shall meet the approval of the Company.
22. The erection of structurals shall only be allowed with the help of crane having sufficient boom height and safe load carrying capacity. Before starting erection work the contractor shall submit an erection procedure which shall be vetted by E.I.C. All lifting equipments/devices shall have valid test certificates.

INSTRUCTIONS TO CONTRACTOR FOR STATUTORY COMPLIANCES FOR JOB / WORK / LABOUR CONTRACT

1.0 Statutory registrations and clearances – Pre-Requisites

Contractor shall commence the work only after obtaining the following:

- 1.1) Labour License.
- 1.2) Provident fund code no.
- 1.3) ESI code no.
- 1.4) Notice of commencement in Form 6-A & Maintain Register of workers Form-13.

2.0 Contractor shall ensure following while executing contract.

- 2.1) Employment card as per Contract Labour (Regulation & Abolition) Act.
- 2.2) Annual leave with wages including National Holiday & Festival holiday.
- 2.3) Leave record register.
- 2.4) Shall engage only adult workers who have attained the age of 18.
- 2.5) Work to be done on second/third shift, overtime, Sundays or on other declared holidays with written permission.

- 2.6) Obtain insurance cover for his employees/equipments, tools etc & third party insurance coverage at his own cost.
- 2.7) Remit Provident fund contributions in prescribed 3A & 6A forms.
- 2.8) ESI contributions in Form 6.
- 2.9) Submit challans of PF & ESI contributions every month.
- 2.10) Provide Personal protective equipments for his employees.
- 2.11) Distribute wage slip each month to his employees
- 2.12) Ensure payment as per minimum wages act, 1948 in presence of HRM and concerned dept representative.
- 2.13) Uniform to labours if provided by the Contractor, it must be different from IREL(INDIA)LIMITED employees.

3.0 Appointment and termination of workers by contractor

- 3.1 Contractor shall make appointment of his Employees only for a specific period and same shall be recorded in employment card.
- 3.2 Contractor shall have the sole discretion to decide on employing, rewarding or terminating the services etc. of his employees. However, his employees must possess such qualifications, experience, age requirement and medical and physical standards as required for the work awarded to the contractor.
- 3.3 In case of termination of services of any employee of contractor, the contractor will ensure that wage payment and other dues to his employee is made within 48 hours of termination of services of such employee. While termination of the services of any of his employee, the contractor will discharge all formalities as per the Industrial Dispute Act such as payment of retrenchment compensation and gratuity as due and admissible.

4.0 Leave with wages

- 4.1 Contractor shall allow Annual leave with wages as under Mines Act.
- 4.2 One-day leave for every 20 days of work performed during preceding calendar year after completing 240 days of service in preceding calendar year.
- 4.3 Un-availed leave can be carried forward to next Calendar year but carry forward should not exceed 30 days. Leave should not be taken more than 3 times in a Calendar year and for which application before 15 days should be made.
- 4.4 In addition, festival and National Holidays shall also be availed by employee of contractor during the Calendar year as per the holidays declared by the IREL(INDIA)LIMITED.
- 4.5 Contractor shall maintain leave record register.

5.0 Attendance Card

- 5.1 Contractor has to provide attendance card to his employee who will obtain endorsement of time of arrival at the work place and time of leaving the work place. The contractor shall maintain Attendance card which will be retained by his employee and will be handed over to the contractor after the end of each wage month.

6.0 Statutory obligations

- 6.1 Contractor shall engage only adult workers who have attained the age of 18 years and female workers shall not be employed between 7 PM to 6 Am on all days including Sundays and Holidays.
- 6.2 Contractor shall observe local laws. As far as possible unskilled workers shall be engaged from the local areas only in which work is being executed.
- 6.3 Contractor shall not employ any inter-state migrant workmen as defined in the Inter-State Migrant Workmen Act in the establishment except by prior permission of the Principal Employer.
- 6.4 Contractor shall observe Provisions of the Mines Act in respect of working hours, holidays, rest intervals, leave and overtime to his employee.

- 6.5 In case a contractor employs women as his employee, he will discharge his obligation under law in respect of such women workers such as prohibition of engaging them during night-hours, prohibition of employing them for more than 9 hours per day, provision of creche facility, grant of maternity leave as per rules etc.
- 6.6 Payment of bonus under the Payment of Bonus Act, Payment of gratuity under the payment of Gratuity Act, will be the sole responsibility of the contractor.

7.0 PF & ESI Contribution & Returns

- 7.1 Contractor shall remit Provident fund contribution of employee's together with Employer's within 15 days from the date of disbursement of wages to his employee. Monthly and annual returns in 3A & 6A prescribed forms should be submitted to the RPFC office. Present rate of employer share of PF is 13.61% and employee share is 12%.
- 7.2 Contractor shall remit ESI contributions of employee's together with employer's within 21 days of the last day of the calendar month in which the contribution falls due and shall send a return of contribution in Form 6 before 12th May and 12th November of every year along with receipted challans to ESI office. Present rate of employer share is ESI 4.75% and employee is 1.75%
- 7.3 Contractor shall submit a copy of latest PF& ESI returns and inspection reports from statutory authorities alongwith a copy of challans for having deposited PF & ESI contributions every month.
- 7.4 Contractor shall submit following Certificate for each contract separately every month.

" It is certified that PF challans of the amount ----- pertains to my workers whose names are appearing in the wage sheet of the month ----- and these workers are engaged in -----
---- (type of work) against work Work order no. ----- in ----- (name of department).

Signature of Contractor

Note : - Similar certificate shall be submitted for ESI also.

- 7.5 Contractor shall fully comply all other formalities as per the PF & ESI statutory provisions and submit a copy of the same for replying to Statutory authorities in case of any complaints.

8.0 Medical care in case of accident

- 8.1 It is the responsibility of contractor to undertake necessary care and make arrangement for transportation and treatment of his employee at ESI Hospital or any tie up hospitals of ESIC.
- 8.2 Contractor should assist and guide his employees for claiming lawful benefits from ESI.

9.0 Supervision

Contractor shall employ adequate number of competent and qualified supervisors to supervise and control his employee at the work spot during execution of work for effective supervision. They will also identify their employee and regulate entry at gate at the time of entering and leaving the factory. Name and address of the Supervisor shall be submitted to the concerned department by the contractor.

10.0 Payment of wages

- 10.1 Payment shall be made by the contractor to his employees as per their category & nature of work, which shall not be less than the rates declared from time to time under Minimum Wages Act, by Govt. of India.
- 10.2 Over and above the daily wage rate, payment shall be made for leave with wages.
- 10.3 Contractor shall be responsible for making payment of wages before expiry of 7 days from the last day of wage period and to ensure disbursement of wages in the presence of the authorised representative of

contract operating division who shall record under his signature at the end of entries in the Register of wages in the following form

“Certified that the amount shown in column no. has been paid to the workers concerned in my presence on date at time.....”

Signature of representative

10.4 Contractor shall distribute wage slip to his employee one day before the monthly wage payment date.

11.0 Safety and disciplinary action

11.1 Contractor shall ensure that his employee does not indulge in any unsafe or hazardous practices. They use safety equipment such as safety belts, safety shoes, goggles, helmet and masks where use of such equipment is required in day-to-day operations. All such safety gadgets will be provided by the contractor failing which the contract operating division will provide safety equipment to such employee of the contractor at the cost of the contractor to be recovered from his bills. Contractor shall fully indemnify IREL(INDIA)LIMITED against any claim for damages for injury to person or property resulting from such accidents.

11.2 Contractor to ensure that employee deployed in the premises is physically and mentally fit and do not have any criminal record.

11.3 Contractor will be responsible for good conduct of his employees. In case of misconduct, contractor shall take prompt disciplinary action as per "Model Standing Orders" on the advise of Contracting officer.

11.4 Contract awarded is liable for termination for any contravention of statutory provisions or any other reasons without assigning any explanation or notice to the contractor.

11.5 Contractor shall fully comply provisions of various applicable labour laws.

12.0 Records & information to be furnished by contractor

12.1 Contractor shall maintain neatly, completely and legibly registers, records, reports and returns for inspection by various authorities at short notice.

12.2 Contractor shall submit the details of work awarded to him by other departments indicating work order No., nature of work and maximum number of workers employed etc.

12.3 Contractor shall provide information as required in respect of all of his employees employed by him to enable the Contract operating division to monitor compliance of P.F./ESI and also to enable him to furnish information to Ministry and Labour deptt. as may be required.

12.4 Contractor shall provide full particulars of each employee employed by him before start of the work and from time to time. He will also endorse a copy of returns furnished by him to the Labour Department under the Contract Labour (Regulation and Abolition) Act 1970 .

13.0 Compliance of Statutory provisions

Contractor shall fully comply provisions of the following enactments and other enactments as applicable for such contracts.

- Contract Labour (R&A) Act 1970 and rules 1971.
- Payment of Wages Act.
- Minimum Wages act 1948, M.P. Rules 1958.
- Employees State Insurance Act 1948, Rules and Regulations 1950.
- Employees Provident Fund Act 1952 and Pension Scheme 1995.
- Workmen’s Compensation Act 1923.
- Maternity Benefit Act 1961.
- Equal Emolument Act 1976.
- Payment of Bonus Act 1963,
- Inter State Migrant Workmen Act
- . Industrial Disputes Act,1947

GUIDE LINES IN CASE OF ACCIDENT

A) Steps to be followed

- 1) Locate the contractor & also inform Welfare Department with the full details of the injured person and accident.
- 2) Take the injured person immediately to OHC for first aid
- 3) The contractor should report the accident in form 16 to Manager (ESI), Berhampur within 24 hours of accident.
- 4) After First aid treatment, the contractor should immediately take his employee for further treatment & admission at ESI Hospital, if required.
- 5) Contractor should inform the concern deptt. & Welfare Department in case where absence is more than 48 hours.
- 6) Contractor should inform the date of joining to the Welfare Department of IREL(INDIA)LIMITED for informing the statutory authority.

Additional clauses to be complied by as per Recommendations of 10th National Conference on Safety in Mines, 2007.

Responsibilities of Contractor :

1. Maintain registers of form-D and form-E under Mines Rules, 1955 for all the employees and produce before the Welfare Section.
2. Prepare written Safe Operating Procedure (SOP) for the work to be carried out, including an assessment of risk and safe methods to deal with it/them.
3. Provide copy of the SOP to the Engineer/Officer Incharge who shall be supervising the contractor's work.
4. Keep an up to date SOP and provide a copy of changes to the Engineer/Officer Incharge.
5. Ensure that all work is carried out in accordance with the Statue and SOP and for the purpose he may deploy adequate qualified and competent personnel for the purpose of carrying out the job in a safe manner.
6. For work of a specified scope/nature, develop and provide to the Engineer/Officer Incharge a site specific Code of Practice (COP).
7. Ensure that all sub-contractors hired by him comply with the same requirement as the contractor himself and shall be liable for ensuring the compliance all safety laws by the sub or sub-sub contractors.
8. All persons deployed by the contractor for working in mine must undergo vocational training(VT), initial medical examination(IME), periodical medical examination(PME). They should be issued cards stating the name of the contractor and the work and its validity period, indicating status of VT & IME.
9. Every person deployed by the contractor in a mine must wear safety gadgets to be provided by the contractor. If contractor is unable to provide, owner, agent and manager of the mine shall provide the same.
10. The contractor shall submit by post to SMS returns indicating – (i) Name of his firm, (ii) Registration number, (iii) Name and address of person heading the firm, (iv) Nature of work, (v) type of deployment of work persons, (vi) Number of work persons deployed, (vii) how many work persons hold VT Certificate, (viii) how many work persons undergone IME and (ix) type of medical coverage given to the work persons. The return shall be submitted quarterly by 10th of April, July, October and January for contracts of more than one year. However, for contracts of less than one year, returns shall be submitted monthly. A copy of the return is to be submitted to Engineer/Officer Incharge of M/s IRE Ltd. and Mines Manager of M/s IRE Ltd.

Address of SMS, Bhubaneswar Region

Director of Mines Safety, Bhubaneswar Region,
Plot No.L-1, Nayapalli, Near Swosti Plaza Hotel,
PO : RRL Campus, Bhubaneswar-751013

Responsibilities of Employees engaged by the Contractors :

1. An employee must, while at work, take reasonable care for the health and safety of people who are at the employee's place of work and who may be affected by the employee's act or omissions at work.
2. An employee must, while at work, co-operate with his or her employer or other persons so far as is necessary to enable compliance with any requirement under the act or the regulations that is imposed in the interest of health, safety and welfare of the employee or any other person.

Additional clauses to be complied by Employer, Contractor and Employees engaged by the Contractors as per recommendations of 11th National Conference on Safety in Mines, 2013.

1. IREL(INDIA)LIMITED reserves the right to enforce the requirement of statute/circulars issued by Directorate General of Mines Safety (SMS), Dhanbad issued from time to time subsequent to the finalization of Order based on the present NITs also.
2. The contractor shall not employ or terminate his worker without the knowledge of the mine management.
3. Payment to contractor's workers including leave with wages shall be made through bank only.
4. In case of non-routine type of work in the mine, a Work-Permit system outlining the precautions to be adopted, SOPs, supervision, persons responsible for the job, etc. shall be adopted.

FORMAT – I**BANK GUARANTEE FORMAT FOR EARNEST MONEY DEPOSIT**

(To be executed on Stamp paper not less than Rs.200/- (Rupees Two Hundred only) or as per appropriate Stamp Act.)
(To be issued by approved Scheduled Banks)

In accordance with Notice Inviting Tender (NIT) No. _____ Dated _____ for the work of _____ (herein after referred to as "the said Works") for Rs. _____ (Rupees _____ only), under _____ OSCOM unit of M/s IREL(India)Limited, a company incorporated under Indian Companies Act, having its registered office at Plot No.1207, ECIL building, Opp. to Siddhivinayak Temple, Veer Savarkar Marg, Prabhadevi, Mumbai – 400028, India (herein after referred to as IREL(INDIA)LIMITED), M/s _____ Address _____ [Herein after referred to as Contractor (s)] wish /wishes to participate in the said tender and a Bank Guarantee for the sum of Rs. _____ (in words) valid for a period of _____ days (in words) is required to be submitted by the Bidder towards the Bid Security.

We the _____ Bank (hereinafter called the said Bank) do hereby undertake to pay to IREL(INDIA)LIMITED, the sum of Rs. _____ (Rupees _____ only) by reason of the said tenderer's failure to enter into an agreement of contract on intimation of acceptance of his tender and/or to commence the contract works and/or failure to deposit the security deposit within the stipulated period as per the terms and conditions relating to and/or governing the contract and/or specified in the Notice Inviting Tender (NIT). We also agree that any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. We also agree that notwithstanding any dispute or difference or any litigation in respect of or arising from the said contract and/or the acceptance of the tender of the tenderer afore stated by IREL(INDIA)LIMITED including the question as to the tenability of the claim of the IREL(INDIA)LIMITED for forfeiting the Earnest Money being the Bank Guarantee herein, we shall forthwith pay the said amount to IREL(INDIA)LIMITED on demand being made as aforesaid.

We _____ Bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for entering into an Agreement of contract and that it shall continue to be enforceable till all the dues of the IREL(INDIA)LIMITED under the terms and conditions of the NIT for the work have been fully paid and its claims satisfied or discharged or till IREL(INDIA)LIMITED certifies, that the terms and conditions of the NIT have been fully and properly carried out by the said tenderer and accordingly discharges the guarantee.

We _____ Bank further agree with the IREL(INDIA)LIMITED that the IREL(INDIA)LIMITED shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the NIT and/or terms and conditions governing the contract or to extend the time of validity of the offer from the said tenderer from time to time or to postpone for any time or from time to time any of the powers exercisable by the IREL(INDIA)LIMITED against the said tenderer and to forbear or enforce any of the terms and conditions of the NIT and we shall not be relieved from our liability hereunder by reason of any such variation, or extension being granted to the said tenderer or for any forbearance, act or omission on the part of the IREL(INDIA)LIMITED or any indulgence by the IREL(INDIA)LIMITED to the said tenderer or by any such matter or thing whatsoever which under the law relating to surety/guarantee would but for this provision have effect of so relieving us.

We _____ Bank do hereby further agree that any change in the Constitution of the said tenderer or the Bank will not affect the validity of this guarantee.

We _____ Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the IREL(INDIA)LIMITED in writing.

Dated the _____ day of _____ 2017

_____ Bank

(Signature with name in Block letters with designation,
Attorney as per power of Attorney No. _____ dt. _____)

Bank's Common seal

FORMAT – II

BG FORMAT FOR SECURITY DEPOSIT

(To be executed on non-judicial stamp paper of Rs.200/- (Rupees Two Hundred only) or as per appropriate Stamp Act.)

WHEREAS on or about the _____ day of _____ M/s _____ (Tenderer's name & address), having its registered office situated at _____ (Postal address) (herein after referred to as 'The Tenderer') entered into a contract bearing reference no. _____ dtd. _____ with _____ OSCOM unit of M/s IREL(India)Limited, a company incorporated under Indian Companies Act having its registered office at Plot No.1207, ECIL building, Opp. to Siddhivinayak Temple, Veer Savarkar Marg, Prabhadevi, Mumbai – 400 028, India (herein after referred to as IREL(INDIA)LIMITED), for _____ (details of order) (herein after referred to as 'The Contract').

AND WHEREAS under the terms and conditions of the contract the tenderer is required to keep with IREL(INDIA)LIMITED a security deposit of Rs. _____ (Rupees _____ only) or submit a Bank Guarantee in lieu of cash deposit for the fulfillment of the terms and conditions of the contract, and whereas the supplier has chosen to submit a Bank Guarantee.

We _____ Bank do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from IREL(INDIA)LIMITED stating that the amount claimed is due by way of loss or damage caused to or that would be caused to or suffered by IREL(INDIA)LIMITED by reason of breach of any of the terms and conditions of the said contract. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. _____ plus interest @ 12% per annum from the date of demand for payment till the actual date of payment made by us.

We undertake to pay to IREL(INDIA)LIMITED any money so demanded notwithstanding any dispute or disputes raised by the tenderer in any suit or proceeding pending before any court or tribunal relating thereto, our liability under these present being absolute and unequivocal.

The payment so made by us under this guarantees shall be valid discharge of our liability for payment thereunder and the tenderer shall have no claim against us for making such payment.

We _____ Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of IREL(INDIA)LIMITED under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till IREL(INDIA)LIMITED certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said tenderer and accordingly discharges this Guarantee. Our Guarantee shall remain in force until _____ and unless a demand or claim under this guarantee is made on us in writing within six months from the expiry of the Guarantee period, we shall be discharged from all liability under this Guarantee thereafter.

We _____ Bank, further agree that IREL(INDIA)LIMITED shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extent time of performance by the said tenderer from time to time or to postpone for any time or from time to time any of the powers exercisable by IREL(INDIA)LIMITED against the said tenderer and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contract or for any forbearance, act or omission on the part of IREL(INDIA)LIMITED or any indulgence by IREL(INDIA)LIMITED to the said tenderer or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Consultant.

We _____ Bank lastly undertakes not to revoke this guarantee during its currency except with the previous consent of IREL(INDIA)LIMITED in writing.

Dated the _____ day of _____ 2017

_____ Bank

PERFORMANCE BG FORMAT

WHEREAS on or about the _____ day of _____ M/s _____ (Tenderer's name & address), having its registered office situated at _____ (Postal address) (herein after referred to as 'The Tenderer') entered into a contract bearing reference no. _____ dtd. _____ with _____ OSCOM unit of M/s IREL(India)Limited, a company incorporated under Indian Companies Act having its registered office at Plot No.1207, ECIL building, Opp. to Siddhivinayak Temple, Veer Savarkar Marg, Prabhadevi, Mumbai – 400 028, India (herein after referred to as IREL(INDIA)LIMITED), for _____ (details of order) (herein after referred to as 'The Contract').

AND WHEREAS the Agreement provides that the tenderer shall furnish a Bank Guarantee for Rs. _____ (Rupees _____ only) being ____% (_____percent) of the total agreement value as Guarantee for the due fulfillment by the tenderer of the terms and conditions contained in the Agreement, the guarantee remaining valid till the completion of the guarantee period.

We _____ Bank do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from IREL(INDIA)LIMITED stating that the amount claimed is due by way of loss or damage caused to or that would be caused to or suffered by IREL(INDIA)LIMITED by reason of breach by the said tenderer of any of the terms or conditions contained in the said Agreement or by reason of the Bidder's failure to perform the said agreement. Any such demand made on the bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees _____ only).

We undertake to pay to IREL(INDIA)LIMITED any money so demanded notwithstanding any dispute or disputes raised by the tenderer in any suit or proceeding pending before any court or tribunal relating thereto, our liability under these present being absolute and unequivocal.

The payment so made by us under this guarantees shall be valid discharge of our liability for payment thereunder and the tenderer shall have no claim against us for making such payment.

We _____ Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of IREL(INDIA)LIMITED under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till IREL(INDIA)LIMITED certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said bidder and accordingly discharges this Guarantee.

We also agree that interest at the rate of 12% (twelve percent) per annum will be paid by us to the IREL(INDIA)LIMITED from the date of demand for payment till the actual date of payment made by us.

Our Guarantee shall remain in force until and unless a demand or claim under this guarantee is made on us in writing within six months from the expiry of the Guarantee period, we shall be discharged from all liability under this Guarantee thereafter.

We _____ Bank, further agree that IREL(INDIA)LIMITED shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extent time of performance by the said tenderer from time to time or to postpone for any time or from time to time any of the distributions exercisable by IREL(INDIA)LIMITED against the said tenderer and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said tenderer or for any forbearance, act or omission on the part of IREL(INDIA)LIMITED or any indulgence by IREL(INDIA)LIMITED to the said tenderer or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision, have effect of so relieving us.

This guarantee will not be discharged due to the change in the constitution of the Bank or the bidder.

We _____ Bank lastly undertakes not to revoke this guarantee during its currency except with the previous consent of IREL(INDIA)LIMITED in writing.

Dated the _____ day of _____ 2017

_____ Bank

(Signature with name in Block letters with designation,
Attorney as per distribution of Attorney No. _____ dt. _____)

ARTICLES OF AGREEMENT

ARTICLES OF AGREEMENT made at _____ this _____ day of _____ 20__ between M/s IREL(INDIA)LIMITED(hereinafter referred to as contractee) and M/s _____ (hereinafter referred to as contractor, which expression shall include its successors and assigns) of the other part, WHEREAS the contractee is desirous that certain work should be carried out Viz _____ as envisaged in the Tender No: _____ and contractee has accepted a Tender by the contractor “ _____”.

NOW THIS AGREEMENT WITNESSTH as follows:

1. In this agreement words and expression shall have the same meanings as are respectively assigned to them in the General Conditions of contract (GCOC).
2. The following documents shall be deemed to form and be read and construed as part of this Agreement viz:
 - 1 Work Order (WO)
 - 2 Letter of intent (LOI)
 - 3 Contractors tender letter no. _____ dt. _____ to the extent accepted by IREL(INDIA)LIMITED
 - 4 Special Conditions of contract.(SCOC)
 - 5 Technical Specifications
 - 6 General Conditions of contract. (GCOC)
 - 7 Invitation to Tender (NIT)
3. In consideration of the payments to be made by the contractee to the contractor as hereinafter mentioned, the contractor hereby covenants with the contractee to execute, complete and maintain the works in conformity in all respects with the provisions of the contract.
- 4 The contractee hereby covenants to pay to the contractor in consideration of the execution, completion and maintenance of the works, the contract price at the time and in the manner prescribed by the contract.
5. The contract will be deemed to have been entered into at Indian Rare Earths Limited, Matikhalo- 761045 (Ganjam) and all cases of action in relation to this contract will therefore be deemed to have arisen within the Jurisdiction of Chatrapur Court, Ganjam District (ORISSA). The contract shall be governed by the Indian Law for the time being in force.
6. The several parts of this contract have been read to us and fully understood by us.

AS WITNESS our hands this _____ day of _____ 20__.

Signed by the said in the presence of

Contractee (at Matikhalo, Dist-Ganjam, ORISSA)

Signed by the said in the presence of

Contractor (at Matikhalo Dist-Ganjam, ORISSA)