



OIL INDIA LIMITED

(A Govt. of India Enterprise)

OIL HOUSE

Plot No. 19, Sector-16A

NOIDA - 201 301, UTTAR PRADESH

BID DOCUMENT

Engineering, Procurement & Construction (EPC) Contract 500 KW Solar PV Power Plant at PS#3 Jorhat (Assam) including Comprehensive Operation & Maintenance for 5 Years



Tender No:

CLI 5100 P18 Dated 22.06.2017

OIL INDIA LIMITED

(A Govt. of India Enterprise)

Plot No. 19, Sector-16A , NOIDA - 201 301, UTTAR PRADESH

DISCLAIMER

The information contained in this Bid document (the "BID") or subsequently provided to Bidder(s), whether verbally or in documentary or any other form by or on behalf of the Owner or any of their employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this Bid and such other terms and conditions subject to which such information is provided.

This Bid is not an agreement and is neither an offer nor invitation by the Owner to the prospective Bidders or any other person. The purpose of this Bid is to provide interested parties with information that may be useful to them in making their financial offers pursuant to this Bid. This Bid includes statements, which reflect various assumptions and assessments arrived at by the Owner in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This Bid may not be appropriate for all persons, and it is not possible for the Owner, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this Bid. The assumptions, assessments, statements and information contained in this Bid, may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this Bid and obtain independent advice from appropriate sources.

Information provided in this Bid to the Bidder(s) is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Owner accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

The Owner/ Implementing agency, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Applicant or Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this Bid or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the Bid and any assessment, assumption, statement or information contained therein or deemed to form part of this Bid or arising in any way in this Bid Stage.

The Owner / Implementing agency also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this Bid.

The Owner / Implementing agency may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this Bid.

The issue of this Bid does not imply that the Owner/ Implementing agency is bound to select a Bidder or to appoint the Selected Bidder or Concessionaire, as the case may be, for the Project and the

Owner / Implementing agency reserves the right to reject all or any of the Bidders or Bids without assigning any reason whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the Owner or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will remain with the Bidder and the Owner shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Bid, regardless of the conduct or outcome of the Bidding Process.

FORWARDING LETTER

To,

Prospective Bidder

Sub: Invitation of bids for Engineering, Procurement & Construction (EPC)
Contract 500 KW Solar PV Power Plant at PS#3 Jorhat (Assam) including
Comprehensive Operation & Maintenance for 5 Years

Dear Sirs,

Oil India Limited invites bids from prospective bidders for the subject item under "Single Stage Two Bid System" complete in all respect in accordance with the following details and enclosed Sections of the Bid Document:

1.0 **BRIEF DETAILS:**

Sl. No.	Description of Item	Particulars
i.	Supply, Installation and Commissioning of 500 KW Solar PV Power Plant at PS#3 Jorhat (Assam) including Comprehensive Operation & Maintenance for 5 Years	OIL India Complex , Pump Station # 3, Jorhat (Assam)
ii.	Period of commissioning	Complete 500KW within four (4) months from the date of issue of LOA
iii.	Tender No. & Date	CLI 5100 P18 dt. 22.06.2017
iv.	Type / Mode of tendering	Domestic Open Tender under Single Stage Two Bid system through e-procurement portal.
v.	Bid Document	The Bid Document comprises of Sections-I to IX including this Forwarding Letter, all Annexure and Appendix.
vi.	Tender Fee (non-refundable)	Rs. 1,000/-
vii.	Earnest Money Deposit (EMD) (Bid Security) & Validity	Rs. 10,01,400.00 Validity - As Mentioned in the On-line Tender
viii.	Duration of Contract	a) EPC contract: Four months from date of issue of LOA b) O&M contract- 5 years from date of commissioning for whole project
ix.	Date and time of pre-bid meeting	10.07.2017 Time: 11 AM i.e. 11:00 Hrs. (IST) Venue: Corporate Office, OIL, Plot No. 19, Sector-16A, NOIDA -201301 UTTAR PRADESH

Sl. No.	Description of Item	Particulars
x.	Last Date & Time of loading of bid in OIL's e-Tender portal	As Mentioned in the On-line Tender
xi.	Date & time of opening of un-priced bid	As Mentioned in the On-line Tender
xii.	Date & time of opening of Priced bid	Will be intimated to the qualified bidders nearer the time.
xiii.	Venue for pre-bid meeting & opening of bids	Corporate Office, OIL, Plot No. 19, Sector-16A, NOIDA -201301 UTTAR PRADESH
xiv.	Technical Specification of Solar System	As given in Section VIII
xv.	Location of Project	OIL India Complex , Pump Station # 3, Jorhat (Assam)
xvi.	Currency of Offer	Indian Rupees.
xvii.	Payment Terms	Payments shall be released against milestones as mentioned in Special Conditions of Contract.
xviii.	Payment for Operation & Maintenance of Solar Power Project	Payment period shall be on quarterly basis at the end of each quarter. The operator shall submit bills in respect of the quarter ended in quadruplicate after the end of each quarter for the payment after submission of PBG as per Clause no.6.6.
xix.	Performance Ratio	Bidder should quote Annual energy production & performance ratio for 25 years
xx.	Performance Security	The successful bidder shall furnish, within fifteen days of letter of Award of Contract, a Security Deposit cum-Performance Bank Guarantee equivalent to 10% of total EPC contract consisting detailed engineering, manufacturing, testing, supply and delivery of equipment at site & erection testing & commissioning in all respect for 500 KW solar power plant Proforma of SPBG per Annexure-III/IV.
xxi.	O&M Performance Security	<p>The Bidder shall submit a Bank Guarantee one month prior to commissioning of project, an amount equivalent to 10% (ten percent) of annual O&M charges for the year. Every year a fresh bank guarantee shall be submitted by the Bidder, having validity of 13 months, one month prior to expiry of the previous Bank Guarantee or the existing bank guarantee can be extended suitably every year till O&M contract remains with the Bidder.</p> <p>Such Bank Guarantee shall be given in the Proforma as per Annexure – III / IV.</p>
xxii.	Evaluation of Bids	Evaluation of Bids of eligible bidders shall be done as per details specified in the Bid Evaluation Criteria.

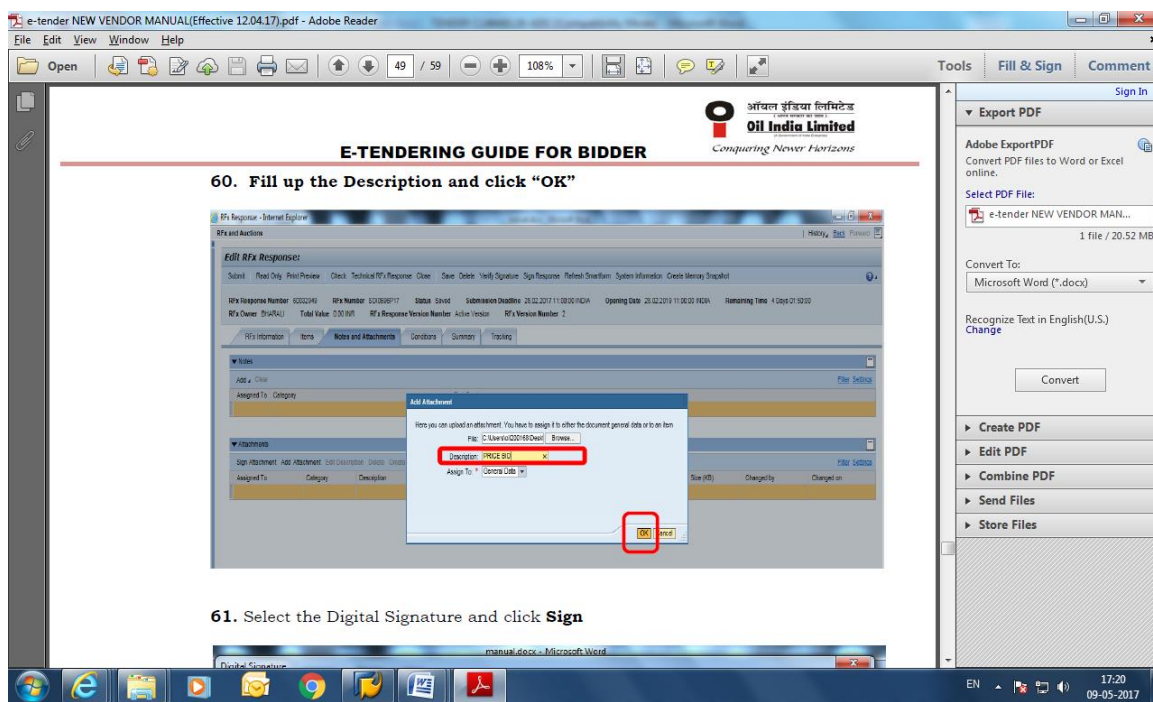
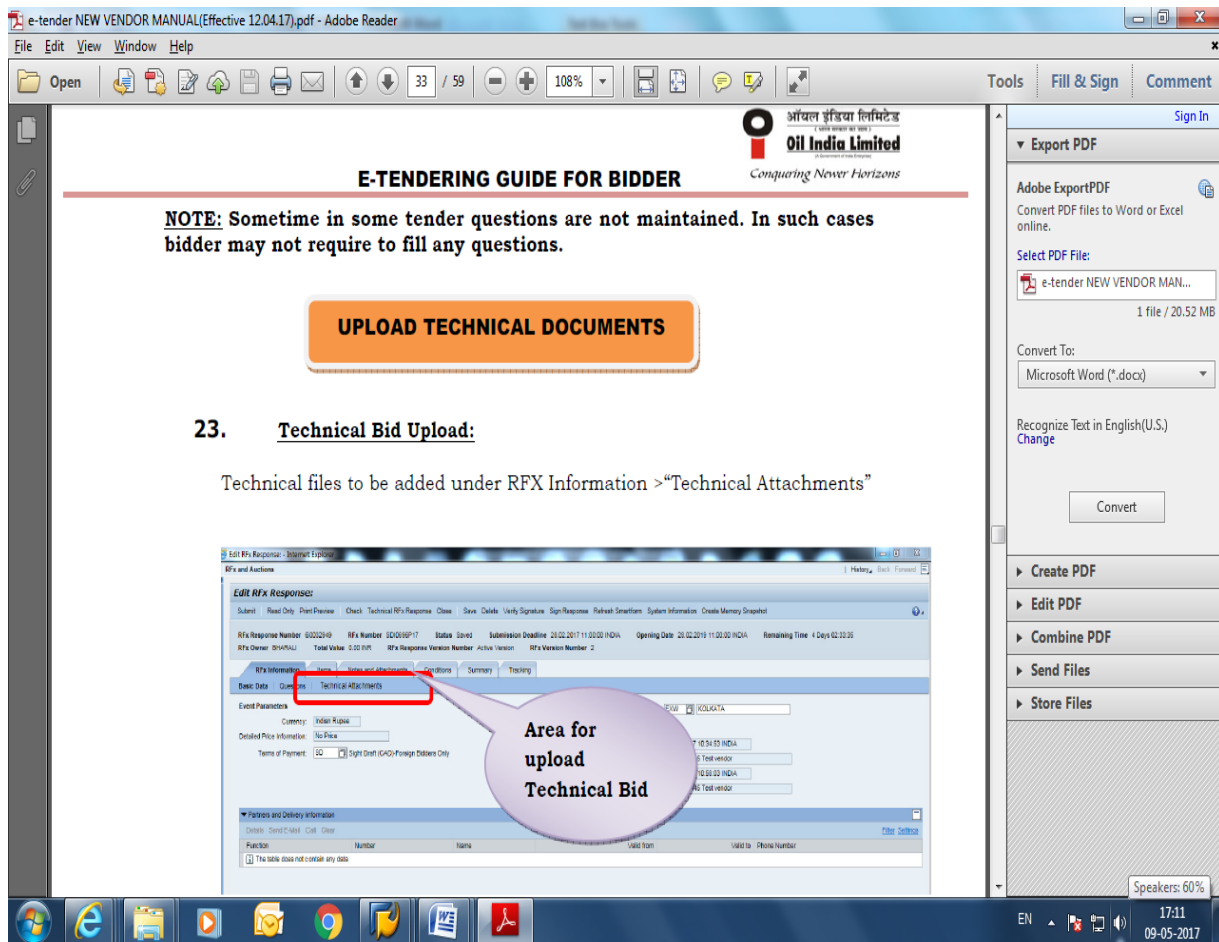
Sl. No.	Description of Item	Particulars
xxiii.	Validity of Offer	Offers shall be valid for a period of 90 days from bid closing date or extension, if any.
xxiv.	Quotation to be on 'Firm' price basis	Prices quoted as per price schedule of Prices I&II by the bidders shall remain 'Firm' during the bidder's Performance of the contract and not subject to variation on any account. Quotation submitted with variable price will be treated as non-responsive and the same shall be rejected.
xxv.	Custom Duty, CVD, etc.	For goods offered from abroad Custom Duty, CVD and other applicable levies, etc., if payable, will be paid directly by the bidder and shall be included in the tender price only.
xxvi.	Taxes, duties, levies etc.	In case of the bidder offers goods manufactured in India, GST/prevaling tax regime considerations would apply
xxvii	Project Consultant	M/s. Power & Energy Consultants (PEC), Address: U-136, First Floor, Shakarpur, Vikas Marg, Delhi has been appointed as consultant for bid evaluation & site supervision works.
xxvii	Queries regarding Pre-Bid conference	<p>Any queries regarding pre-bid conference may be forwarded in the prescribed format at BRS-4 to Oil India Limited and our Consultant M/s Power & Energy Consultants (PEC).</p> <p>Queries to be sent to:</p> <p>Oil India Limited:</p> <p>i) Mr. P. P. Dutta Chief Manager (BD-RE) OIL INDIA LIMITED, Plot No. 19, Sector 16A, NOIDA - 201301 (Uttar Pradesh) Cell: +91 – 9818787963 e-mail: parthadutta@oilindia.in</p> <p>ii) Mr. S. K. Saikia CE E-RE OIL INDIA LIMITED, Plot no. 19, Sector 16A, NOIDA-201301, (Uttar Pradesh) Phone: +91-120 2419135 Cell: +91 – 9971002012 e-mail: sksaikia@oilindia.in</p> <p>Power & Energy Consultants:</p> <p>i) Mr. C M Jain Mobile No. +91 9312262799 e-mail: info@powerandenergyconsultants.com</p> <p>ii) Mr. R K Mohta Mobile No. +91 9871282201 e-mail: info@powerandenergyconsultants.com</p>

2.0 **SUBMISSION OF BIDS:**

2.1 Bidders shall take note of the following important points while participating in OIL's e-procurement tender:

- i) The bid along with all supporting documents must be submitted through OIL's E-procurement site only except the following documents which shall be submitted manually by the bidder in a sealed envelope super scribed with OIL's Tender No., Bid Closing date and marked as "Original Bid Security" and addressed to DGM (Contracts BD), Business Development Department, Oil India Limited, Plot No. 19, Sector – 16A, NOIDA 201301, U. P.:
 - a) Original Bid Security (Copy to be uploaded while submitting the bid)
 - b) Printed catalogue and Literature, if called for in the tender.
 - c) Power of Attorney for signing the bid.
- ii) Any other document required to be submitted in original as per tender requirement. If the digital signature used for signing is not of "Class -3" with Organizations name, the bid will be rejected.

2.2 The tender is invited under **SINGLE STAGE-TWO BID SYSTEM**. The bidders are required to submit both the "**TECHNO-COMMERCIAL UN-PRICED**" and "**PRICED**" bids through electronic format in OIL's e-Tender portal within the Bid Closing Date and Time stipulated in the e-Tender. Detailed Guidelines to bidders for participating in OIL's e-Procurement tenders are given in website. Please ensure that **TECHNO-COMMERCIAL UN-PRICED BID / ALL TECHNICAL DOCUMENTS RELATED TO THE TENDER** are uploaded in the Technical RFX Response. **Please note that no price details should be uploaded in Technical RFX Response.** Details of prices as per Bid format / Price-bid can be uploaded as Attachment in the attachment link under "**Notes and Attachments**". A screen shot in this regard is given below. However, we request bidders to go through OIL's e – Portal / Website before uploading their bids for updated information regarding participation requirements and procedure for OIL's e – tenders. Offer not complying with above submission procedure will be rejected as per Bid Rejection Criteria mentioned .



- (i) The "Price bid" must contain the price schedule and the bidder's commercial terms and conditions. For uploading Price Bid, first click on Sign Attachment, a browser window will open, select the file from the PC and click on Sign to sign. On Signing a new file with extension .SSIG

will be created. Close that window. Next click on Add Attachment, a browser window will open, select the .SSIG signed file from the PC and name the file under Description, Assigned to General Data and click on OK to save the File.

- (ii) The bid and all uploaded documents must be Digitally signed using “Class 3” digital certificate **with organization name** [e-commerce application (Certificate with personal verification and Organization name)] as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India.
- (iii) The authenticity of above digital signature shall be verified through authorized CA after bid opening. If the digital signature used for signing is not of **“Class -3” with Organizations name, the bid will be rejected.**
- (iv) Bidder is responsible for ensuring the validity of digital signature and its proper usage by their employee.
- (v) The bid including all uploaded documents shall be digitally signed by duly authorized representative of the bidding company.

2.3 Interested bidders may contact the following person or the Project Consultant for any technical clarifications against the tender.

2.3.1 Mr. P. P. Dutta

Chief Manager (BD-RE)
OIL INDIA LIMITED, Plot No. 19,
Sector 16A, NOIDA - 201301 (Uttar Pradesh)
Cell: +91 – 9818787963
e-mail: parthadutta@oilindia.in

2.3.2 Mr. S. K. Saikia

CE E-RE
OIL INDIA LIMITED, Plot no. 19,
Sector 16A, NOIDA-201301, (Uttar Pradesh)
Phone: +91-120 2419135
Cell: +91 – 9971002012
e-mail: sksaikia@oilindia.in

3 SUBMISSION OF COPIES OF CERTIFICATES/ DOCUMENTARY PROOFS

Bidders are required to submit copies of all certificates / documentary evidences towards proof of meeting the stated "BRC" along with the other requisite documents. Non-submission of copies of requisite certificates / documents shall render the bid non-responsive, and shall be liable for rejection.

4 INTEGRITY PACT:

OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide **Annexure - XI** of the tender document. This Integrity Pact proforma has been duly signed digitally by OIL's competent signatory. The proforma has to be returned by the bidder (along with the technical bid) duly signed (digitally) by the same signatory who signed the bid, i.e., who is duly authorized to sign the

bid. Any bid not accompanied by Integrity Pact Proforma duly signed (digitally) by the bidder shall be rejected straightway. Uploading the Integrity Pact with digital signature will be construed that all pages of the Integrity Pact have been signed by the bidder's authorized signatory who sign the bid.

NAME OF INDEPENDENT EXTERNAL MONITOR:

- (a) Shri Rajiv Mathur, IPS (Retd.)
Former Director, IB, Govt. of India
E-mail Id: rajivmathur23@gmail.com
- (b) Shri Satyananda Mishra, IAS(Retd.)
Former Chief Information Commissioner &
Ex-Secretary, DOPT, Govt. of India
E-mail Id : satyanandamishra@ hotmail.com

5 PRE-BID MEETING

5.3 A Pre-Bid Meeting shall be convened at 11:00 Hrs on 10.07.2017 at OIL India Corporate Office, Plot No. 19, Sector-16A, NOIDA -201301 UTTAR PRADESH.

Bidders or their authorized representatives, who has purchased the tender document and desirous of attending the Pre-Bid Meeting, must submit authorization letter (Annexure XV) at the time of Pre-Bid Meeting. Only 2 to 3 representatives shall be allowed from one bidder to attend the same.

5.4 Bidders are requested to submit any queries/questions by email/courier in the prescribed format at Bid Response Sheet no. 4 in PDF and word format so as to reach OIL INDIA at least three (05) days before the pre-bid meeting. These queries/questions shall be addressed during the pre-bid meeting.

❖ **NOTE:**

1. Bidders are requested to fill all "Bid Response Sheets, & Annexure" as enclosed in the Bid Document. Bidders must sign all the attachments of the Bidding Document.
2. Bidders may depute their authorized representative to attend the "Un-priced Bid Opening". The eligible Bidders shall be informed of date & time for opening of their "Price Bid".
3. Any change in bid after the "Due Date & Time of Bid-Submission" of bid is not allowed.
4. Bidders are advised, in their own interest, to ensure that their bids are submitted well before the "Due Date & Time of Bid-Submission" of the bid document.
5. Bidders are required to submit their bids along with a covering letter under the firm's / company's letterhead specifying the name and designation of the authorized person signing the bid, complete postal address of firm / company,

telephone no., e-mail ID, etc.

6. Bidders are advised to have a site visit prior to pre-bid meeting

Yours faithfully,

OIL INDIA LIMITED

(B.D.Borah)

Chief Manager (BD)

For General Manager (BD)

For Chairman & Managing Director

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SECTION-I
NOTICE INVITING TENDER

SECTION-I

NOTICE INVITING TENDER

E-Tender No. CLI 5100 P18

- a. OIL INDIA LIMITED (OIL), a Govt. of India Enterprise, invites competitive bids from domestic bidders for Engineering, Procurement & Construction (EPC) Contract 500 KW Solar PV Power Plant at Jorhat (Assam) Comprehensive Operation & Maintenance for 5 Years through its e-Procurement portal <https://etender.srm.oilindia.in/irj/portal> . Application showing full address and email address with proof of online payment of Tender Fee (Non-refundable) of Rs.1, 000.00 in favour of M/s. Oil India Limited is to be sent to Deputy General Manager, Contracts (BD), Oil India Limited, Plot No. 19, Sector-16A, NOIDA–201301 [email ID: bdborah@oilindia.in] only from 26.06.2017 to 17.07.2017. The application along with the Tender Fee and e-mail ID must reach the office of Deputy General Manager, Contracts (BD) within the working hours as on 17.07.2017. The envelope containing the application for participation should clearly indicate “Request for participation in E-Tender” for easy identification and timely issue of authorization. Vendors having User ID / Password for e-tender portal can pay the tender fee through the payment gateway on the website only by using credit / debit card or net banking. A new vendor may obtain User ID and Password through online vendor registration system and pay on-line subsequently. No physical tender documents will be provided. On receipt of requisite tender fee, USER_ID and initial PASSWORD will be communicated to the bidder (through e-mail) and bidders will be allowed to participate in the tender through OIL’s e-Procurement portal. Details of tender can be viewed using “Guest Login” provided in the e-Procurement portal. The link to e-Procurement portal has been also provided through OIL’s web site www.oil-india.com. The USER ID & Password are unique/non-transferable and only one set of the same will be issued against one vendor (one e-mail ID).

Note:

- b. Central Govt. departments , PSU and Micro and Small Enterprises (with documentary evidence of registration as Micro and Small Enterprise) will be provided tender document free of cost, however they have to apply to OIL’s above-mentioned office to obtain User ID and Password before the last date of sale of tender document (User ID & Password).
- c. All corrigenda, addenda, amendments, time extension, clarifications etc. to the Tender will be hoisted on the web site only and no separate notification shall be issued in the press. Prospective bidders are requested to regularly visit OIL’s website to keep them updated.

SECTION-II

PROFILE OF OIL INDIA LIMITED

SECTION-II

PROFILE OF OIL INDIA LIMITED

The story of Oil India Limited (OIL) traces and symbolizes the development and growth of the Indian petroleum industry. From the discovery of crude oil in the far east of India at Digboi, Assam in 1889 to its present status as a fully integrated upstream petroleum company, OIL has come far, crossing many milestones.

On February 18, 1959, Oil India Private Limited was incorporated to expand and develop the newly discovered oil fields of Naharkatiya and Moran in the Indian North East. In 1961, it became a joint venture company between the Indian Government and Burmah Oil Company Limited, UK.

In 1981, OIL became a wholly-owned Government of India enterprise. Today, OIL is a premier Indian National Oil Company engaged in the business of exploration, development and production of crude oil and natural gas, transportation of crude oil and production of LPG. OIL also provides various E&P related services and holds 26% equity in Numaligarh Refinery Limited.

The Authorized share capital of the Company is Rs. 500 Crores. The Issued, Subscribed and Paid share capital of the company is Rs. 240.45 Crores. At present, The Government of India, the Promoter of the Company is holding 78.43% of the total Issued & Paid-up Capital of the Company. The balance 21.57% of the Equity capital is held by others.

OIL has over 1 lakh sq km of PEL/ML areas for its exploration and production activities, most of it in the Indian North East, which accounts for its entire crude oil production and majority of gas production. Rajasthan is the other producing area of OIL, contributing 10 per cent of its total gas production.

Additionally, OIL's exploration activities are spread over onshore areas of Ganga Valley and Mahanadi. OIL also has participating interest in NELP exploration blocks in Mahanadi Offshore, Mumbai Deepwater, Krishna Godavari Deepwater, etc. as well as various overseas projects in Libya, Gabon, Iran, Nigeria and Sudan.

In a recent CRISIL-India Today survey, OIL was adjudged as one of the five best major PSUs and one of three best energy sector PSUs in the country.

VISION

- Oil India is the fastest growing Energy Company with highest profitability
- The fastest growing energy company with a global presence providing value to the shareholder
- Oil India delights the customers with quality products and services at competitive prices.
- Oil India is a Learning Organization, nurturing initiatives, innovations and aspirations with best practices.
- Oil India is a team, committed to honesty, integrity, transparency and mutual trust creating employee pride.

- Oil India is fully committed to safety, health and environment.
- Oil India is a responsible corporate citizen deeply committed to socio-economic development in its areas of operations.
- Strategic Plan 2011-20 for diversification into Renewable & Alternate Energy domain.
- As part of its green energy initiative, Oil India Limited is pursuing to generate power from the renewable sources of energy available in the country.

COMMISSIONED PROJECTS

- A 13.6 MW Wind Energy Power Project (WEPP) at Ludurva, Jaisalmer, Rajasthan. This project which was commissioned on 31.03.2012
- A 54 MW Wind Energy Power Project at Dangri, Jaisalmer, Rajasthan. This project which was commissioned on 30.03.2013
- A 100 KW Solar PV Power Plant (Grid interactive) at Joypur Oil Collecting Station & Joypur Gas Compressor Station Complex at it's Field Headquarters at Assam. This project was commissioned on 31.03.2012.
- A 30 KW roof top Solar PV Power Plant (Grid connected) at it's Corporate Office, Noida. This project was commissioned on 16.07.2012.
- A 100 KW Solar PV Power Plant (Grid connected) at Tanot Village complex, Tanot, Rajasthan within it's operational in Rajasthan. This project was commissioned on 15.03.2013.
- A 5 MW Solar PV Power Plant (Grid Connected) at Ramgarh, Jaisalmer, Rajasthan. This project which was commissioned on 23.01.2014
- A 9 MW Solar PV Power Plant (Grid Connected) at Ramgarh, Jaisalmer, Rajasthan. This project which was commissioned on 25.02.2016
- A 54 MW Wind Energy Power Project split between Madhya Pradesh (38 MW at Chandgarh) and Gujarat (16 MW at Patan), Project was commissioned on 31.03.2015.
- 52.5 MW Wind Energy Power Project split between Madhya Pradesh (25.2 MW at Unchwas) and Gujarat (27.3MW at Kotiya Veer) on going.

It is worthy to mention note that the diversification initiatives taken by OIL into the Renewable Energy domain, has provided both tangible and intangible benefits to the Company, helping it to enhance it's brand image both as a producer of Green Energy and a Responsible Corporate.

SECTION–III

INSTRUCTIONS TO BIDDERS

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SECTION-III

INSTRUCTIONS TO BIDDERS (ITB)

3.1 GENERAL

3.1.1 STUDY AND PREPARATION OF BID

The Bidder is advised to read carefully all instructions and conditions appearing in this document and understand them fully. Bidder should furnish duly filled Bid Response sheets, Schedules, and Annexure etc contained in this Bid documents along with desired documents and BGs. Failure to provide the information as required may render the bid technically unacceptable.

3.1.2 The Bidder in quoting his rate shall for all purpose, whatsoever, be deemed to have himself independently obtained all relevant and necessary information for the purpose of preparing his tender. The correctness or completeness of the details, given in the bid documents is not guaranteed. The Bidder is required to satisfy him in all respect, before the submission of offer.

3.1.3 The Bidder shall be deemed to have examined the tender document, to have obtained his own information in all matters whatsoever that might affect the carrying out of the works at the schedule's rates and to have satisfied himself to the sufficiency of his tender. Any error in description or quantity or omission in the Contract Document shall not vitiate the contract or release the Contractor from executing the work comprised in the contract according to drawings and specifications at the scheduled rates. He is deemed to know the scope, nature and magnitude of the works and requirement of materials, equipment, tools and labour involved, wage structures and as to what all works he has to complete in accordance with the contract documents irrespective of any defect, omissions or errors that may be found in the contract documents. The Contractor shall be deemed to have visited site and surroundings, to have satisfied himself to the working conditions at the site, nature and conditions of rock and soil, availability of water, electric power, labour etc, transportation facilities, probable sites for labour accommodation and store go-downs etc and all other factors involved in the execution of works.

3.2 INFORMATION TO BIDDER

3.2.1 Bidders are required to furnish all information and documents as called for in this document in English language. Any printed literature furnished by the Bidder in another language shall have to be accompanied by an English translation, which shall govern in case of any variation.

3.2.2 Addenda to the bid document, if any, shall be issued prior to the date fixed for receiving the Bids to revise any of the tender condition.

3.2.3 All addenda are to be considered an integral part of the tender document which will be web hosted and can be viewed in <http://www.oil-india.com>.

- 3.2.4 Bidder is required to take into account all addenda in his Bid received during the bid period and to confirm / attach the same in the Bid.
- 3.2.5 Bid should be filled in only with indelible ink or typed. Any bid filled in by pencil or otherwise shall not be considered.
- 3.2.6 All additions, alterations, and over-writings in the bid or accompanying documents must be clearly signed and stamped by the authorized signatory to the bid.
- 3.2.7 The bidder is intended to be selected through single stage two bid system which shall be; Part-I Un-priced bid (Techno-commercial bid including Pre-qualification documents and Part-II, the Priced bid fulfilling the qualifying criteria as mentioned below:

3.3 BIDDER

- 3.3.1 Bids may be submitted by:
- a) Single person/ entity (called sole bidder)
 - b) An Indian arm of a foreign company.

Note:

JVs and consortiums are not eligible to participate in the bid.

- 3.3.2 Fulfilment of Rejection criteria and certain additional conditions in respect of each of the above two types of bidders is stated below, respectively:
- a) The bidder shall fulfill each Rejection Criteria.
 - b) In case the bidder is an Indian arm (subsidiary, authorized agent, branch office or affiliate) of a foreign principal, then the Indian Arm shall have to fulfil each rejection criteria.

3.4 BID REJECTION CRITERIA (BRC)

The bid shall conform generally to the specifications and terms and conditions given in this bid document. Bids shall be rejected in case the services offered do not conform to required parameters stipulated in the technical specifications. Notwithstanding the general conformity of the bids to the stipulated specifications, the following mandatory requirements will have to be particularly met by the Bidders without which the same will be considered as non-responsive and rejected. All the documents related to BRC must be submitted along with the Techno-Commercial Bid.

A. Commercial

- (i) The bidder must quote the prices through OIL's e-procurement portal in line with the formats provided in the document, failing which tender shall be rejected. These should not contain any additions, alterations, over-writings,

cuttings or corrections and any other markings, which may leave any room for doubt.

- (ii) Bids received in any form other than through the e-procurement as described in para 3.6.1 and 3.6.2 of ITB and/or after bid closing date and time will be rejected
- (iii) Please note that no price details should be uploaded in Technical RFX Response link in the e- procurement portal. Please follow Para 2.2 of forwarding letter in this regard.
- (iv) The USER ID and bid document are non-transferable. If bid is submitted by any entity other than the one to whom the User ID has been issued the same will be rejected.
- (v) Bids shall contain no interlineations, erasures or over writing except as necessary to correct errors made by bidders, in which case such corrections shall be initialled by the person(s) signing the bid. Any bid not meeting this requirement shall be rejected.
- (vi) Any bid containing false statement will be rejected.
- (vii) Conditional bids will be rejected.
- (viii) Bidder must accept and comply with the following clauses as given in the Tender Document in to-to failing which offer will be rejected –
 - Bid validity clause
 - Performance Guarantee Clause
 - Warranty Clause
 - Force Majeure Clause
 - Insurance Clause
 - Arbitration Clause
 - Acceptance of Jurisdiction and Applicable Law
 - Liquidated damage cum penalty clause
 - Integrity Pact
 - Time Schedule
- (ix) If the Bid does not contain all the information as requested in this ITB or in the formats specified in the ITB, Owner may reject the Bid as non-responsive.
- (x) Bid Security/Earnest Money Deposit (EMD) (hard copy in original) must be submitted at the office of DGM Contracts BD, Oil India Limited, Plot No. 19, Sector-16A, NOIDA before Bid closing date and time. Otherwise the Bid will be rejected. A scanned copy of this document should also be uploaded along with the Un-priced bid documents. Bid Security must be valid as stipulated in the tender document i.e. One month beyond the validity of the bid. Bid submitted with Bid Security with inadequate validity will be rejected. Bidder may also pay through OIL's online portal before the bid closing time.
- (xi) Any Bid received after the bid closing date mentioned in the relevant Clause shall be rejected.

- (xii) To determine the substantial compliance of the Bid, owner reserves the right to ask the bidder for clarification of clauses covered by the BRC. Such clarifications to ensure compliance with the BRC clauses must be received on or before the deadline given by Owner or the bid will be rejected.
- (xiii) **Integrity Pact:** OIL shall be entering into an Integrity Pact with the bidders as per format enclosed vide Annexure-XI of the tender document. The Integrity Pact has **to be uploaded by the bidder (along with the technical bid)** duly signed by the same signatory who signed the bid i.e. who is duly authorized to sign the bid. Any bid, not accompanied by Integrity Pact duly signed by the bidder shall be rejected straightway. All pages of the Integrity Pact to be signed by the bidder's authorized signatory who sign the bid. Signed copy also to be uploaded with Technical bid.
- (xiv) If any of the clauses in the BRC contradict with other clauses of bidding document elsewhere then the clauses in the BRC shall prevail
- (xv) Any offer which does not include all the jobs/services mentioned in the Scope of Work will be considered as incomplete and rejected

B. Technical

- (i) The stabilized output of the offered Solar PV plant should not be less than 500 KW under standard conditions.
 - (ii) The 500 KW Solar PV Plant shall be a complete system and meet the Technical Specifications of the Bid Documents.
 - (iii) The bidder may be;
 - a) A manufacturer of SPV modules with minimum designing, manufacturing and testing capabilities required for setting up the 500 KW Solar Project. And meets the experience criteria as described at sub clause (iv & v)
- OR
- b) System Integrator cum EPC contractor who have designed, engineered, installed tested and commissioned using tier one quality products for at least 250 KW Grid Connected Solar Power plants of offered technology and meeting required as described at sub clause (iv & v)
 - (iv) A bidder should have experience of Minimum one number Grid connected Solar PV power plant of not less than 250 KW or more capacity from concept to commissioning (i.e. designed, erected, tested and commissioned) during the last five (05) years from the original date of bid closing.
 - (v) Minimum one SPV Power Project of at least 100 KW capacity commissioned by the bidder in India, should be working successfully for at least one year from its date of commissioning from the original date of bid closing.

C. Financial

- (i) Annual financial turnover as per Audited Annual Reports for in any one of the last three accounting years, must be at least Rs 2.95 Cr. as per the Audited Annual Reports Chartered Accountant Firm indicating their Membership/ Code

number along with Profit and Loss Account. These documents are to be submitted with the Technical Bid

- (ii) "Net Worth" of the bidder should be positive for the preceding financial/ accounting year.

In case, Financial Statements of the preceding financial / accounting year are not available with the bidder, then the financial turnover of the previous three financial/accounting years excluding the preceding financial/ accounting year will be considered. In such cases, the Net worth of the previous financial/accounting year excluding the preceding financial/ accounting year will be considered. However, the bidder has to submit an affidavit/undertaking certifying that 'the balance sheet/Financial Statements for the financial year. (as the case may be) has actually not been audited so far.

- a) For proof of Annual Turnover & Net worth any one of the following document must be submitted along with the bid:-

- i) A certificate issued by a practicing Chartered /Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover & Net worth as per Annexure- XV attached .

OR

- ii) Audited Balance Sheet along with Profit & Loss account. In case of foreign bidders, self-attested/digitally signed printed published accounts are also acceptable.
- b) In case the bidder is a Central Govt. Organization/PSU/State Govt. Organization/Semi-State Govt. Organization or any other Central/State Govt. Undertaking, where the auditor is appointed only after the approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, bidder to provide documentary evidence for the same.

In case the Audited Balance sheet and Profit Loss Account submitted along with the bid are in currencies other than INR or US\$, the bidder shall have to convert the figures in equivalent INR or US\$ considering the prevailing conversion rate on the date on which the Audited Balance Sheet and Profit & Loss Account is signed. A CA(Chartered Accountant) Certificate is to be submitted by the bidder regarding converted figures in equivalent INR.

In case the bidder is a subsidiary company (should be a 100% subsidiary of the parent/ultimate parent/holding company) who does not meet financial criteria by itself and submits bid based on the financial strength of its parent/ultimate parent/holding company, then following documents need to be submitted along with the technical bid.

- (i) Audited Balance Sheet and Profit Loss Account of the parent/ ultimate parent/ holding company.
- (ii) Corporate Guarantee on parent/ultimate parent/holding company's letter head signed by an authorized official undertaking that they would financially support their 100% subsidiary company for executing the project/job in

case the same is awarded to them, and

- (iii) The bidder is a 100% subsidiary company of the parent/ultimate/holding parent company.
- (iv) Documents proving that Net worth of the parent/ultimate parent company is positive for the accounting year preceding the bid closing date.

Notes:

1. The bidder shall furnish documentary evidence by way of copies of Contract / Purchase Order, Completion Certificate or any other equivalent document, Audited Balance Sheet and Profit & Loss Account etc. along with the Bid to establish experience / track record and financial capabilities meeting Bid Rejection Criteria.
2. The bidder or its Proprietor/ Partner(s)/ Director(s) of the Firm should not have been convicted by a Court of Law for an offence involving moral turpitude in relation to business dealings during the past seven (7) years. The bidder shall give an affidavit to this effect. The affidavit must be affirmed before the competent judicial authority or duly notarized by the Notary. Besides, bidder should furnish litigation history of their firm or group firm (if claiming fulfillment of BRC on group entity terms). The litigation history shall include:
 - (i) Arbitration cases pending.
 - (ii) Disputed incomplete works.
 - (iii) Pending civil cases against the firm and/or its Proprietor / Partner(s) / Director(s) involving moral turpitude in relation to business dealings.
 - (iv) Pending criminal cases against the firm and / or its Proprietor / Partner(s) / Director(s) involving moral turpitude in relation to business dealings.
 - (v) Punishments awarded under civil cases and/or criminal cases involving moral turpitude in relation to business dealings to the firm and/or its Proprietor/ Partner(s)/ Director(s).
3. The bidder should meet all the above requirements /criteria as on the bid due date. The bids of only those bidders, who meet the above requirements / criteria, will be considered for further evaluation.

3.5 FORMAT AND SIGNING OF BID:

The bid and all uploaded documents must be digitally signed using “Class 3” digital certificate [e-commerce application (Certificate with personal verification and Organization name)] as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India.

The authenticity of above digital signature shall be verified through authorized CA after bid opening. If the digital signature used for signing is not of “Class -3” with Organizations name, the bid will be rejected

Bidder is responsible for ensuring the validity of digital signature and it's proper usage by their employee.

The bid including all uploaded documents shall be digitally signed by duly authorized representative of the bidding company.

The bid should contain no interlineations, correcting fluid erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such correction shall be initialled by the person(s) signing the bid. Any bid not meeting this requirement shall be liable for rejection.

3.6 SUBMISSION, UPLOADING OF BID & OTHER POINTS

3.6.1 The tender is invited under SINGLE STAGE-TWO BID SYSTEM. The bidders are required to submit both the "TECHNO-COMMERCIAL UN-PRICED" and "PRICED" bids through electronic format in the OIL's e-Tender portal within the Bid Closing Date and Time stipulated in the e-Tender. Detailed Guidelines to bidders for participating in OIL's e-Procurement tenders are given in Appendix-I. Please be guided by Para 2.2 of the forwarding letter regarding submission of Technical and Priced bids properly.

3.6.2 Offer not complying with above submission procedure will be rejected as per Bid Rejection Criteria mentioned in Section -III.

The bid and all uploaded documents must be digitally signed using "Class 3" digital certificate [e-commerce application (Certificate with personal verification and Organization name)] as per Indian IT Act obtained from the licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India.

The authenticity of above digital signature shall be verified through authorized CA after bid opening. If the digital signature used for signing is not of "Class -3" with Organizations name, the bid will be rejected.

Bidder is responsible for ensuring the validity of digital signature and its proper usage by their employee.

The bid including all uploaded documents shall be digitally signed by duly authorized representative of the bidding company.

Timely submission of the bids is the responsibility of the Bidders. Bidders should submit their bid on-line before Bid Closing date and time of the tender.

Bids other than submitted through OIL's e-tender portal shall not be accepted.

A. BID SECURITY (Earnest Money Deposit – EMD) :

A.1 The Bid Security is required to protect the Company against the risk of Bidder's conduct, which would warrant forfeiture of the Bid Security, pursuant to sub-clause A.8.

A.2 All the bids must be accompanied by Bid Security in Original for the amount as mentioned in the "Forwarding Letter" or an equivalent

amount in other freely convertible currency and shall be in any one of the following forms:

(a) A Bank Guarantee or irrevocable Letter of Credit in the prescribed format vide **Annexure II** or in another form acceptable to the Company : Bank Guarantee/LC issued from any of the following Banks only will be accepted :

- i) Any Nationalised / scheduled Bank in India or
- ii) Any Indian branch of a Foreign Bank or
- ii) Any reputed foreign Bank having correspondent Bank in India

The Bank Guarantee / LC shall be valid for 30 days (as indicated in On-line tender) beyond the validity of the bids asked for in the Bid Document.

Bank Guarantees issued by Banks in India should be on non-judicial stamp paper of requisite value, as per Indian Stamp Act, purchased in the name of the Banker.

(b) A Cashier's cheque or Demand Draft drawn on 'Oil India Limited' valid for 180 days from the date of issue and payable at Delhi / Noida,. Otherwise same will be deposited in OIL's bank account and will be returned by issuing an interest free demand draft of same amount after finalization of tender.

- A.3 Any bid not secured in accordance with sub-clause **A.2** above shall be rejected by the Company as non-responsive.
- A.4 The bidders shall extend the validity of the Bid Security suitably, if and when specifically advised by OIL, at the bidder's cost.
- A.5 Unsuccessful Bidder's Bid Security will be discharged and/or returned within 30 days after finalization of tender.
- A.6 Successful Bidder's Bid Security will be discharged and/or returned upon Bidder's furnishing the Performance Security and signing of the contract. Successful bidder will however ensure validity of the Bid Security till such time the Performance Security is furnished.
- A.7 Bid Security shall not accrue any interest during its period of validity or extended validity.
- A.8 The Bid Security may be forfeited:
- i) If any bidder withdraws their Bid during the period of bid validity
 - ii) If any bidder alters their Bid during the period of bid validity or if the bidder increases the price during the period of bid validity.
 - iii) If the bidder does not accept the LOA issued by Company within the validity of the bid

- iv) If the bid is accepted by OIL, and work is awarded but the Consultant does not furnish the Performance Security.
- v) If the bidder furnishes fraudulent document/information in their bid.

A.8.1 In case any bidder withdraws their bid during the period of bid validity, Bid Security will be forfeited and the party shall be debarred for a period of 2(two) years or as per OIL's banning policy.

A.9 The scanned copy of the original Bid Security in the form of either Bank Guarantee or LC or Cashier Cheque or Bank Draft must be uploaded by bidder along with the Technical bid in E-portal. The **original Bid Security** shall be submitted by bidder to the office of **OIL INDIA LIMITED, OIL HOUSE, PLOT NO. 19, SECTOR 16A, NOIDA-201301 Attn: DGM(Contracts-BD)** in a sealed envelope which must reach **above** office before the Bid Closing date and Time failing which the **bid shall be rejected**.

Bidder may also pay the bid security amount online .

AA. EXEMPTION FROM SUBMISSION OF BID SECURITY :

Central Govt. departments , PSU and Micro and Small Enterprises (with documentary evidence of registration as Micro and Small Enterprise) are exempted from submitting Bid Security.

A. EMD shall be non- interest bearing

- (i) Bidder may submit EMD Amount as specified in the Tender Document in hardcopy format in a sealed envelope super scribing the following details on the right hand top corner of the envelope:

OIL's Enquiry No.	_____
Bid closing date	_____
Brief description of the job	_____
Bidder's Name	_____

- (ii) Offers must be addressed to:
Deputy General Manager, Contracts (BD)
Oil India Limited
Plot No. 19, Sector-16A,
NOIDA-201 301
- (iii) The sealed envelope containing the offer must be delivered at the Office of Deputy General Manager, Contracts (BD) at above address before Bid Closing Time and Date. Timely delivery of the bids is the responsibility of the Bidders.

- (iv) Bidders, in their own interest, are advised to drop their bids personally in the Tender Box placed at the Office of Deputy General Manager, Contracts (BD) at the above address. Alternatively, they may send the same through Courier or by Post. OIL will not be responsible for any delay, wrong delivery or non-delivery of the bids.
- 3.6.3 Owner shall not be responsible for any delay in uploading of bids sent through for any reasons whatsoever.
- 3.6.4 Bidder or any authorized representative of the bidders may attend the Bid opening. Company will open the Bids, including submission(s) made pursuant to para 3.7, in the presence of Bidder's representatives who choose to attend at the date, time and place mentioned in the Covering Note. However, the Bidder's representative must produce an authorization letter from the bidder at the time of opening of tenders. Unless this letter is presented, the representative will not be allowed to attend the opening of tenders. Only one representative against each bid will be allowed to attend.
- 3.6.5 Bid (if any) which are withdrawn prior to bid closing date shall not be opened. On opening the remaining bids company will examine them to determine whether the same are complete, requisite bid securities have been furnished, documents have been properly signed and the bids are generally in order.
- 3.6.6 At bid opening, company will announce the Bidder's names, written notifications or withdrawal, if any, furnishing of requisite Bid Security, quoted prices and such other details as the company may consider appropriate.
- 3.6.7 To facilitate examination, evaluation and comparison of bids the Company may, at its discretion, ask the Bidder for clarifications of its bid. The request for clarification and the response shall be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.
- 3.6.8 Prior to detailed evaluation, the Company will determine the substantial responsiveness of each bid to the Bidding Document. For purpose of these paragraphs, a substantially responsive bid is one which conforms to all the terms and conditions of the Bidding Document without material deviations. The Company's determination of bid's responsiveness is to be based on the contents of the Bid itself without recourse to extrinsic evidence.
- 3.6.9 Owner may at its sole discretion, extend the bid submission due date / time.
- 3.6.10 Bid document should be checked before submission to ensure that all information / documents required for qualification are included.
- 3.6.11 Transfer of bid document issued to one prospective Bidder to any other party is not permissible.
- 3.6.12 Intending Bidders are required to carefully go through the instructions included in the bid document and furnish complete information, necessary documents and schedules.

- 3.6.13 The Bidder will be deemed to have independently obtained all the necessary information for the purpose of preparing his bid.
- 3.6.14 It should be clearly noted that under no circumstances any time extension or any financial or any other kind of adjustment would be permitted for want of non-familiarity of work or work site(s).
- 3.6.15 All costs towards site(s) visit(s), conference(s), preparation and submission of bids shall be borne by the Bidders themselves.
- 3.6.16 At any time prior to opening of bids, Owner either on its own initiative or in response to clarifications requested by a prospective Bidder may modify the bid document by issuing an amendment in e-Portal.
- 3.6.17 After opening of proposal and till final selection of successful Bidder(s), no correspondence of any type will be entertained, unless called for by Owner. Any type of uncalled for clarifications on prices and or rebates shall not be accepted.
- 3.6.18 Bidders are advised to submit offers strictly based on the terms and conditions and specifications contained in the bid documents. This is a “Zero Deviation” bidding process. Bids with any deviation to the bid conditions shall be liable for rejection.
- 3.6.19 The Bidder must quote the prices in line with the formats provided in the document. Quoted rate / cost shall be entered in words as well as in figures. These should not contain any additions, alterations, over-writings, cuttings or corrections and any other markings, which leave any room for doubt. In case of difference in figures and words, the amount written in words shall prevail and shall be considered for evaluation.
- 3.6.20 Successful Bidder / Bidders will be required to execute a Contract Agreement in the prescribed format. In the event of failure of Bidder to execute the contract agreement within specified period from the date of receipt of acceptance of the bid, the full earnest money deposited shall be forfeited.
- 3.6.21 Bid proposal preparation is the responsibility of the Bidder and no relief or consideration will be given for errors and omissions.
- 3.6.22 Purchase Preference or any other benefits available to any entities / sectors as per directives of Government of India from time to time, shall be considered.
- 3.6.23 Bidders shall declare that they are not under liquidation, any court receivership proceedings. Refer Bid response sheet 5.
- 3.6.24 Bidder to note that appropriate Grievance Redressing Mechanism is available for all such bidders participating in the tender.
- 3.6.25 Bidders are advised to submit offers in accordance with the terms & conditions and specifications contained in the tender document.
- 3.6.26 Bidders are required to give a declaration giving the names of other firms / agencies / partnership firm / wholly owned or partly owned subsidiary etc. where they are having financial/professional stakes and also give a certificate, if any such firm agency is participating in this tender.

3.7 MODIFICATION AND WITHDRAWAL OF BIDS:

The Bidder, after submission of bid, may modify or withdraw its bid prior to bid closing date and time (as stated on the covering note of this bid document), if considered inevitable.

No bid can be modified subsequent to the deadline for submission of bids. Post tender modification(s) of bid by any bidder within the period of its bid validity will lead to rejection of such offer and forfeiture of bidder's Bid Security in full. Such modification (s) may also call for debarment of the bidder.

Bidder can delete their original bid and upload again their correct/revised bids within the stipulated bid closing date and time. However, such corrections / revisions / resubmission of bids including last minute decision by Bidders shall be solely on bidders' risk and responsibility. Company shall not assume any liability in this regard.

No bid may be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of bid validity specified by the bidder on the Bid document. Withdrawal of a bid during this interval shall result in the Bidder's forfeiture of its Bid security.

3.8 IMMUNITY TO GOVERNMENT OF INDIA:

It is expressly understood and agreed to by and between the bidder and OIL INDIA that OIL INDIA is entering into this contract solely on its own behalf and not on behalf of any other person or entity. In particular, it is expressly understood and agreed that the Government of India is not a party to this contract and has no liabilities, obligations or rights hereunder. It is expressly understood and agreed that OIL INDIA is an independent legal entity with power and authority to enter into contracts solely in its own behalf under the applicable laws of India and general principles of contract law. The bidder expressly agrees, acknowledges and understands that OIL INDIA is not an agent, representative or delegate of the Govt. of India. It is further understood and agreed that the Govt. of India is not and shall not be liable for any acts, omissions and commissions, breaches or other wrong arising out of the contract. Accordingly, the bidder hereby expressly waives, release and forgoes any and all actions or claims including cross, impleader claims or counter claims against the Govt. of India arising out of this contract and covenants not to sue the Govt. of India as to any manner, claim cause of action or thing what so ever arising of or under this Agreement.

3.9 BID EVALUATION CRITERIA

Evaluation of techno-commercial bids and priced bids shall be done separately.

1. Evaluation of Techno-commercial bids shall be carried out first. This will be done on the basis of Bid Rejection Criteria, documents furnished by the bidder and completeness & conformity of the bids with respect to the ITB requirements.
2. Price bids of only qualified and techno-commercially acceptable bidders shall be opened.
3. Financial evaluation of the bids shall be carried out by Cost per KWh basis with the following consideration

- a. Total EPC contract price quoted by bidder as per Price Bid P-I.
- b. Total O&M charges as per Price Bid P-II for 5 years including statutory charges if any quoted by the bidder.
- c. The bidder shall furnish Annual Estimated Production (AEP) for 25 years based on the Performance Ratio (PR) offered by the bidder for the plant.
- d. Bidder shall submit AEP and the Performance Ratio (PR) in BRS8.
- e. AEP shall be calculated as follows

AEP = Nominal Annual Energy Production in kWh X PR

Nominal Annual Energy Production in kWh = Annual Cumulative Solar Irradiation intensity (KWHr/m²) X Generator area of the PV plant (m²) X Efficiency factor of the PV modules

Note:

To calculate Nominal Annual Energy Production (NAEP), Annual Solar Irradiation may be considered as **1500 KWh/m²** (Jorhat, Assam). The AEP data provided in BRS 8 will be used for evaluation purpose only.

- f. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between sub totals and the total price, (even in case of carry forward of prices) the unit or subtotal price shall prevail and the total price shall be corrected accordingly. If there is a discrepancy between words and figures, the amount in words will prevail. If the Bidder does not accept such correction of errors, its bid will be rejected and the bid security will be forfeited
4. Order shall be placed on the bidder whose Cost per KWH is found to be the Lowest (L1) for the whole project i.e. 500 KW. For this purpose cost will be total of Capex and Opex for 5 Years as quoted in price bid formats. Annual Energy Production (AEP) as given in **BRS8** for the first five years shall be considered for calculation cost per KWH.

3.10 RIGHTS OF OWNER

- 3.10.1 Bidders are informed that Owner is neither under any obligation to select any bidder nor to assign any reason for either qualifying or disqualifying any bidder. Owner is also not under any obligation to proceed with the project or any part thereof.
- 3.10.2 At any time prior to opening of price proposals, either on its own initiative or in response to clarifications requested by any prospective bidder, Owner may modify the document by issuing an amendment by courier/fax / e-mail, etc. to all bidders.
- 3.10.3 Owner reserves the right to reject any or all proposals without assigning any reason thereto.

3.11 BID FORM

Bidders are required to sign the Bid Form enclosed as per Annexure-I, **to be uploaded along with Technical Bid without indicating the price.**

3.12 BID VALIDITY

The bid shall be valid for a period of 90 days from the bid closing date or extensions, if any, without any change in the quoted price and all terms & conditions.

3.13 CONFIDENTIALITY

Bidder shall treat tender documents and contents therein as private and confidential. If at any time during bid preparation, bidder decides to decline the invitation to bid; all documents must be immediately returned.

Note:

- Bidder (Contractor) shall not, without OIL's prior written consent, make use of any document or information except for purposes of performing the contract.
- Any document supplied to the bidder(Contractor) in relation to the contract other than the Contract itself remain the property of OIL and shall be returned (in all copies) to OIL on completion of Contractor's performance under the Contract if so required by OIL.

3.14 JURISDICTION/ GOVERNING LAWS

3.14.1 Jurisdiction:

For all disputes arising out of this contract, the jurisdiction shall lie under the jurisdiction of direct courts in cities of Noida / New Delhi only.

3.14.2 Governing Laws:

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

3.15 NO DISPUTE / CLAIMS

Although details presented in this tender have been compiled with all reasonable care, it is Bidder's responsibility to satisfy itself that the information / documents are adequate and that there is no conflict between various documents/stipulations. No dispute or claims will be entertained on this account. Bid proposal preparation is the responsibility of the bidder and no relief or consideration can be given for errors and omissions.

3.16 PROJECT LOCATION

3.16.1 Project is located at PS#3 Jorhat (Assam) in the premises of OIL India. The Bidder is required to quote for tendered capacity of the project accordingly.

3.17 SITE CONDITIONS

3.17.1 Bidder shall satisfy himself of the site conditions and shall apprise himself of the procedure for engagement of agencies / labour and shall collect other relevant

information that may be required before submitting the bid. Claims and objections due to ignorance of site condition will not be considered after submission of the bid.

3.17.2 Bidder shall 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 himself independently obtained 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.

3.17.3 Bidder shall study complete power system of OIL at Jorhat PS# 3 before bid submission.

3.17.4 Bidder shall be deemed to have visited and carefully examined the site and surroundings to have satisfied himself about the nature of all existing facilities, infrastructure available for transport and communications and access to the site for developing the solar power project.

3.17.5 Bidder is deemed to have acquainted himself of Government taxes, laws structure, regulations, levies and other charges relating to the tendered work at site.

3.17.6 Any neglect or omission or failure on the part of the bidder in obtaining necessary clearances and reliable information upon the forgoing or any other matter affecting the bid shall not relieve him from any risks or liabilities or the entire responsibility for completion of the work in accordance with the bid.

3.18 LOCAL CONDITIONS

3.18.1 It will be imperative on the part of each bidder to acquaint himself with all local laws, conditions and factors which may have any effect or bearing on the execution of works and supplies under the scope of this tender. In their own interest, the bidders are required to familiarize themselves with (but not limited to) the Indian Income Tax Act, Indian Companies Act, Indian Customs Act, Factories and Boiler Act, Contract Labour (regulation and abolition) Act, Arbitration Act, PF Act and other related Acts and Laws and Regulations of India with their latest amendments as applicable. The Owner shall not entertain any clarification from the Bidder(s) regarding such local condition.

3.18.2 It shall be understood & agreed that above factors have been properly investigated and considered while submitting the offer. No claim for financial or any other adjustments to contract price or completion time on account of lack of clarity of such factors shall be entertained.

SECTION-IV

GENERAL CONDITIONS OF CONTRACT

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SECTION-IV GENERAL CONDITIONS OF CONTRACT

4.1 DEFINITIONS:

Following terms and expressions shall have the meaning hereby assigned to them unless the context otherwise requires:

- 4.1.1 'Contract' means the terms and conditions contained in the document entitled Engineering, Procurement & Construction (EPC) Contract 500 KW Solar PV Power Plant at Jorhat (Assam) Comprehensive Operation & Maintenance For 5 Years and attached exhibits. In the event of any conflict between the text of the contract and the exhibits, the text of the Contract shall have precedence over the exhibits.
- 4.1.2 'Contractor' means the individual or firm or body incorporated performing the work under this Contract.
- 4.1.3 'Company' means OIL INDIA LIMITED (OIL) and its executors, successors, administrators and assignees.
- 4.1.4 The 'Work' means each and every activity required for the successful performance of the services described under this contract.
- 4.1.5 'Operating Area' means those areas on-shore in India in which company or its affiliated company may from time to time be entitled to execute such services/operations.
- 4.1.6 'Site' means the land and other places, on, under, in or through which the works are to be executed by the Contractor and any other land and places provided by the Company for working space or any other purpose as designated hereinafter as forming part of the Site.
- 4.1.7 'Contract Price' means the price payable to the Contractor under the contract for the full and proper performance of its contractual obligations.
- 4.1.8 'Company's Items' means the equipment, materials and services which are to be provided by Company/Contractor at the expense of Company.
- 4.1.9 'Contractor's Items' means the equipment, materials and services which are to be provided by Contractor/Company at the expense of the Contractor.
- 4.1.10 'Commencement Date' means the date on which the Contractor starts work as per the scope of work of the Contract.
- 4.1.11 'Contractor's personnel' means the personnel as required to be provided by Contractor from time to time for execution of this contract.
- 4.1.12 'Company Representative' means the person or persons appointed and approved in writing from time to time by the Company to act on its behalf for overall co-ordination.

4.2 EFFECTIVE DATE AND DURATION OF CONTRACT:

- 4.2.1 The contract shall become effective as of the Date Company notifies Contractor in writing that it has been awarded the contract i.e. with effect from the date of issue of Letter of Award (LOA) of the Contract. The date of issue of Letter of Award (LOA) will be the Effective Date of Contract.

4.3 GENERAL OBLIGATIONS OF CONTRACTOR:

Contractor shall, in accordance with and subject to the terms and conditions of this Contract shall have following obligations:

- 4.3.1 Perform the work as described in the Scope of Work of the tender document in most economic and cost-effective way.
- 4.3.2 Except as otherwise provided in the Scope of Work and the Special Conditions of the Contract, provide all labour as required to perform the work.
- 4.3.3 Perform all other obligations, work and services which are required by the terms of this contract or which reasonably can be implied from such terms as being necessary for the successful and timely completion of the work.
- 4.3.4 Provide and make regular payments to all labour & sub-vendors as required to perform the work.
- 4.3.5 Contractor shall be deemed to have satisfied themselves before submitting their offer as to the correctness and sufficiency of their offer for the services required and of the rates and prices quoted, which rates and prices shall, except insofar as otherwise provided, cover all its obligations under the contract.
- 4.3.6 Contractor shall give or provide all necessary supervision during the performance of the services and as long thereafter as Company may consider necessary

4.4 GENERAL OBLIGATIONS OF COMPANY:

- 4.4.1 Company shall, in accordance with and subject to the terms and conditions of the Contract, pay Contractor for its full and proper performance of obligations as per provision of this contract.
- 4.4.2 Allow Contractor and its employee's access, subject to normal security and safety procedures, to all areas of Company as required for orderly performance of the work.

4.5 GUARANTEE, WARRANTY AND REMEDY OF DEFECTS:

- 4.5.1 Contractor must warrant that they shall perform the work in a first class, workman-like, and professional manner and in accordance with the highest degree of quality, efficiency, and with the state of the art technology and in conformity with all specifications, standards and drawings set forth or referred to in the Technical- Scope of Work and with instructions and guidance which the Company may, from time to time, furnish to the Contractor.
- 4.5.2 Should the Company discover at any time during the tenure of the Contract or within the Performance Liability Period of the Contract that the work carried out by the contractor does not conform to and perform as per terms and conditions of the Contract, Contractor shall after receipt of notice from Company, promptly perform all corrective work required to make the services conform to the Warranty. Such corrective work shall be performed entirely at Contractor's own expenses. If such corrective work is not performed within a reasonable time, the Company, at its option, may have such remedial work carried out by others and charge the cost thereof to Contractor, which the Contractor must pay promptly. In case Contractor fails to perform remedial work, the performance security shall be forfeited.
- 4.5.3 All Goods or Materials shall be supplied strictly in accordance with the specifications, drawings, data sheets, other attachments and conditions stated in the Contracts.
- 4.5.4 The Contractor guarantees that the Goods or Materials supplied under the Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Contractor further warrants that the goods supplied under this Contract shall have no

defect arising from design, materials or workmanship.

- 4.5.5 No deviation from such specifications or alterations or of these conditions shall be made without agreement with the COMPANY in writing, which must be obtained before any work against the order is commenced. All materials supplied by the CONTRACTOR pursuant to the Contract (irrespective of whether engineering, design data or other information has been furnished, reviewed or approved by Company) are guaranteed to be of the best quality of their respective kinds, (unless otherwise specifically authorized in writing by Company) and shall be free from faulty design, workmanship and materials, and to be of sufficient size and capacity and of proper materials so as to fulfill in all respects operating conditions, if any, specified in the Contract.
- 4.5.6 This Guarantee shall remain valid for a period of 24 (twenty-four) months from the date of putting the plant into operation i.e. DATE OF COMPLETION OF THE PROJECT. If any trouble or defect, originating with the design, material, workmanship or operating characteristics of any materials, arises at any time prior to expiry of guarantee period, the CONTRACTOR is notified thereof, CONTRACTOR shall, at his own expense and as promptly as possible, make such alterations, repairs and replacements as may necessary to permit the material to functions in accordance with the specifications and to fulfill the foregoing guarantees.
- 4.5.7 The Company may, at its option, remove such defective materials, at CONTRACTOR'S expense in which event CONTRACTOR shall, without cost to Company and as promptly as possible, furnish and install proper materials. Repaired or replacement materials shall be similarly guaranteed by the CONTRACTOR for a period of no less than 24 (twenty-four) months from the date of replacement/ repair.
- 4.5.8 In the event that the materials supplied do not meet the specifications and/ or not in accordance with the drawings data sheets or the terms of Contract and rectification is required in site(s), COMPANY shall notify the CONTRACTOR giving full details of differences. The CONTRACTOR shall attend the site within 3 (three) days of receipt of such notice to meet and agree with representatives of COMPANY, the action required to correct the deficiency. Should the CONTRACTOR fail to attend meeting at site within the time specified above, COMPANY shall immediately rectify the work/ materials and CONTRACTOR shall reimburse COMPANY all cost and expenses incurred in connection with such trouble or defect. In case the Contractor fails to perform remedial work, the Performance Bank Guarantee shall be invoked.

4.6 CONFIDENTIALITY, USE OF CONTRACT DOCUMENTS AND INFORMATION:

- 4.6.1 Contractor shall not, without Company's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing pattern, sample or information furnished by or on behalf of Company in connection therewith, to any person other than a person employed by Contractor in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far, as may be necessary for purposes of such performance.
- 4.6.2 Contractor shall not, without Company's prior written consent, make use of any document or information except for purposes of performing the contract.
- 4.6.3 Any document supplied to the Contractor in relation to the contract other than the Contract itself remain the property of Company and shall be returned (in all copies) to Company on completion of Contractor's performance under the Contract if so required by Company.
- 4.6.4 The above obligations of the Contractor shall be in force even after termination of the Contract.

4.7 TAXES, DUTIES & LEVIES:

- 4.7.1 Tax levied as per the provisions of Indian Income Tax Act and any other enactment/rules on income derived/payments received under the contract will be on Contractor's account. Such taxes will be deducted at source by the Company from the Contractor's invoice.
- 4.7.2 Contractor shall be responsible for and pay the personal taxes, if any, for all their personnel deployed.
- 4.7.3 The Contractor shall furnish to the company, if and when called upon to do so, relevant statement of accounts or any other information pertaining to work done under the contract for submitting the same to the Tax authorities, on specific request from them. Contractor shall be responsible for preparing and filing the return of income etc. within the prescribed time limit to the appropriate authority.
- 4.7.4 Prior to start of operations under the contract, the contractor shall furnish the company with the necessary documents, as asked for by the company and/ or any other information pertaining to the contract, which may be required to be submitted to the Income Tax authorities at the time of obtaining "No Objection Certificate" for releasing payments to the contractor.
- 4.7.5 Tax clearance certificate for personnel and corporate taxes shall be obtained by the contractor from the appropriate Indian Tax authorities and furnished to company within 6 months of the expiry of the tenure of the contract or such extended time as the company may allow in this regard.
- 4.7.6 Corporate income tax will be deducted at source by the Company from the Contractor's invoice at the specified rate of income tax as per the provisions of Indian Income Tax Act as may be in force from time to time.
- 4.7.7 Corporate and personal taxes on contractor shall be the liability of the contractor and the company shall not assume any responsibility on this account.
- 4.7.8 All local taxes, levies and duties, sales tax, octroi, etc. on purchases and sales made by contractor shall be borne by the contractor.
- 4.7.9 The Contractor agrees to and does hereby accept full and exclusive liability at his own cost for the payment of any and all taxes, duties license fee and other such levies etc. as are payable to government, local or statutory authority as are now in force and as are payable by Contractor, his agents, Sub-Contractor's and their employees etc. for performance of work under this Contract. The Contractor shall be deemed to have been fully informed with respect to all such liabilities and considered the same in his bid, and the Contract shall not be varied in any way on this account.

4.8 INSURANCE:

- 4.8.1 The contractor shall arrange insurance to cover all risks in respect of their personnel, materials and equipment belonging to the contractor or its subcontractor during the currency of the contract.
- 4.8.2 Contractor shall at all time during the currency of the contract provide, pay for and maintain the following insurances amongst others:
 - i) Workmen compensation insurance as required by the laws of the country of origin of the employee.
 - ii) Employer's Liability Insurance as required by law in the country of origin of employee.

- iii) General Public Liability Insurance covering liabilities including contractual liability for bodily injury, including death of persons, and liabilities for damage of property. This insurance must cover all operations of Contractor required to fulfil the provisions under this contract.
 - iv) Contractor's equipment provided by the Contractor for performance of the work shall have an insurance cover with a suitable limit (as per international standards).
 - v) Automobile Public Liability Insurance covering owned, non-owned and hired automobiles used in the performance of the work hereunder, with bodily injury limits and property damage limits shall be governed by Indian Insurance regulations.
 - vi) Public Liability Insurance as required under Public Liability Insurance Act 1991.
 - vii) The Contractor shall obtain additional insurance or revise the limits of existing insurance as per the Company's request, if any, in which case additional cost shall be to Contractor's account.
- 4.8.3 Any deductible set forth in any of the above insurance shall be borne by Contractor.
- 4.8.4 Contractor shall furnish to Company prior to commencement date, certificates of all its insurance policies covering the risks mentioned above.
- 4.8.5 Contractor shall require all of their sub-contractor to provide such of the foregoing insurance coverage as Contractor is obliged to provide under this Contract and inform the Company about the coverage prior to the commencement of agreements with its sub-contractors.
- 4.8.6 All insurance taken out by Contractor or their sub-contractor shall be endorsed to provide that the underwriters waive their rights of recourse on the Company.
- 4.8.7 i) All goods/equipment to be supplied under this contract shall be under Contractor's custody until such goods/equipment are installed and commissioned on turnkey basis. The Contractor shall at his own expense, secure and maintain insurance covering the full value of all such goods/ equipment for the period up to commissioning of the Plant.
- ii) Such insurance shall cover any loss or damage of supplied goods/equipment during transit from Contractor's source of despatch to project sites, storage at various sites, erection, installation and commissioning of such goods/equipment till such time the entire Plant is commissioned. The beneficiary of all such insurance policies shall be OIL. Unless insurance document in this regard are furnished to the Company no payment will be made for such supplies.
- 4.8.8 All cost on account of insurance liabilities covered under Contract will be to Contractor's account and will be included in Contract Price. However, the Company may from time to time, during the currency of the Contract, ask the Contractor in writing to limit the insurance coverage risk and in such settlement, for reduction in Contract Price to the extent of reduced premium amounts.
- 4.8.9 If any of the above policies expire or are cancelled during the term of the Contract and the Contractor fails for any reason to renew such policies, then the Company will renew/replace same and charge the cost thereof to the Contractor. Should there be a lapse in any insurance required to be carried by the Contractor for any reason whatsoever, loss/damage claims resulting there from shall be to the sole account of the Contractor.

4.9 CHANGES:

- 4.9.1 During the performance of the work, Company may make a change in the work within the general scope of this Contract including, but not limited to, changes in methodology, and minor additions to or deletions from the work to be performed. Contractor shall perform the work as changed. Changes of this nature will be affected by written order by the Company.
- 4.9.2 If any change result in an increase in compensation due to Contractor or in a credit due to Company, Contractor shall submit to Company an estimate of the amount of such compensation or credit in a form prescribed by Company. Such estimates shall be based on the rates shown in the Schedule of Rates. Upon review of Contractor's estimate, Company shall establish and set forth in the Change Order the amount of the compensation or credit for the change or a basis for determining a reasonable compensation or credit for the change. If Contractor disagrees with compensation or credit set forth in the Change Order, Contractor shall nevertheless perform the work as changed, and the parties will resolve the dispute in accordance with Clause 4.21 hereunder. Contractor's performance of the work as changed will not prejudice Contractor's request for additional compensation for work performed under the Change Order.

4.10 FORCE MAJEURE:

- 4.10.1 In the event of either party being rendered unable by 'Force Majeure' to perform any obligation under the Contract, the relative obligation of the party affected by such 'Force Majeure' will stand suspended as provided herein. The term "Force Majeure" as employed herein shall mean act of God, strikes, lockouts or other industrial disturbances, acts of public enemy, wars whether declared or not, blockade, insurrections, riots, epidemic, landslides, lightning, earthquake, fire storms, floods, washouts, arrests and restraints of Government, civil disturbances, explosion, breakage or accident to machinery etc. and any other cause, whether of the kind herein enumerated or otherwise which are not within the control of the party claiming suspension, and which by exercise of due diligence such party is unable to prevent or overcome and which renders the performance of the Contract by the said party impossible.
- 4.10.2 Upon occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid thereby, shall notify the other party in writing within Seventy-Two (72) hours of the alleged beginning and ending thereof, giving full particulars and satisfactory evidence in support of its claim.
- 4.10.3 Should 'Force Majeure' condition as stated above occurs and should the same be notified within Seventy-Two (72) hours after its occurrence, both the parties shall have no obligation. Either party will have the right to terminate the Contract if such 'Force Majeure' condition continues beyond fifteen (15) days with prior written notice. Should either party decide not to terminate the Contract even under such condition, no payment would apply. Time for performance of the relative obligation suspended by the Force Majeure shall then stand extended by the period for which such cause lasts. The above clause (i.e. Clause No. 4.10) with all its sub-clauses shall be referred to as Force Majeure Clause of this tender document.

4.11 LIABILITY:

- 4.11.1 Except as otherwise expressly provided, neither Company nor its servants, agents, nominees, assignees, Contractors, or sub-contractors shall have any liability or responsibility whatsoever to whomsoever for loss of or damage to the equipment and/or loss of or damage to the property of the Contractor and/or their Contractors or sub-contractors, irrespective of how such loss or damage is caused and even if

caused by the negligence of Company and/or its servants, agent, nominees, assignees, contractors and sub-Contractors. The Contractor shall protect, defend, indemnify and hold harmless Company from and against such loss or damage and any suit, claim or expense resulting there from.

- 4.11.2 Neither Company nor its servants, agents, nominees, assignees, Contractors, sub-contractors shall have any liability or responsibility whatsoever for injury to, illness, or death of any employee of the Contractor and/or of its Contractors or sub-contractor irrespective of how such injury, illness or death is caused and even if caused by the negligence of Company and/or its servants, agents nominees, assignees, Contractors and sub-contractors. Contractor shall protect, defend, indemnify and hold harmless Company from and against such liabilities and any suit, claim or expense resulting there from.
- 4.11.3 The Contractor hereby agrees to waive its right to recourse and further agrees to cause their underwriters to waive their right of subrogation against Company and/or its underwrites, servants, agents, nominees, assignees, Contractors and sub-contractors for loss or damage to the equipment of the Contractor and/or its sub-contractors when such loss or damage or liabilities arises out of or in connection with the performance of the contract.
- 4.11.4 The Contractor hereby further agrees to waive its right of recourse and agrees to cause its underwriters to waive their right of subrogation against Company and/or its underwriters, servants, agents, nominees, assignees, Contractors and sub-contractors for injury to, illness or death of any employee of the Contractor and of its Contractors, sub-contractors and/or their employees when such injury, illness or death arises out of or in connection with the performance of the contract.
- 4.11.5 Except as otherwise expressly provided, neither Contractor nor its servants, agents, nominees, Contractors or sub-contractors shall have any liability or responsibility whatsoever to whomsoever for loss of or damage to the equipment and/or loss or damage to the property of the Company and/or their Contractors or sub-contractors, irrespective of how such loss or damage is caused and even if caused by the negligence of Contractor and/or its servants, agents, nominees, assignees, Contractors and sub-contractors. The Company shall protect, defend, indemnify and hold harmless Contractor from and against such loss or damage and any suit, claim or expense resulting there from.
- 4.11.6 Neither Contractor nor its servants, agents, nominees, assignees, Contractors, sub-contractors shall have any liability or responsibility whatsoever to whomsoever or injury or illness, or death of any employee of the Company and/or of its Contractors or sub-contractors irrespective of how such injury, illness or death is caused and even if caused by the negligence of Contractor and/or its servants, agents, nominees, assignees, Contractors and sub-contractors. Company shall protect, defend indemnify and hold harmless Contractor from and against such liabilities and any suit, claim or expense resulting there from.
- 4.11.7 The Company agrees to waive its right of recourse and further agrees to cause its underwriters to waive their right of subrogation against Contractor and /or its underwriters, servants, agents, nominees, assignees, Contractors and sub-contractors for loss or damage to the equipment of Company and/or its contractors or sub-contractors when such loss or damage or liabilities arises out of or in connection with the performance of the contract.
- 4.11.8 The Company hereby further agrees to waive its right of recourse and agrees to cause it underwriters to waive their right of subrogation against Contractor and/or its underwriters, servants, agents, nominees, assignees, Contractors and sub-contractors for injury to, illness or death of any employee of the Company and of its Contractors,

sub-contractors and/or their employees when such injury, illness or death arises out of or in connection with the performance of the Contract.

4.12 INDEMNITY AGREEMENT:

4.12.1 Except as provided hereof Contractor agrees to protect, defend, indemnify and hold Company harmless from and against all claims, suits, demands and causes of action, liabilities, expenses, cost, liens and judgments of every kind and character, without limit, which may arise in favor of Contractor's employees, agents, contractors and sub-contractors or their employees on account of bodily injury or death, or damage to personnel/properly as a result of the operations contemplated hereby, regardless of whether or not said claims, demands or causes of action arise out of the negligence or otherwise, in whole or in part or other faults.

4.12.2 Except as provided hereof Company agrees to protect, defend, indemnify and hold Contractor harmless from and against all claims, suits, demands and causes of action, liabilities, expenses, cost, liens and judgments of every kind and character, without limit, which may arise in favour of Company's employees, agents, contractors and sub-contractors or their employees on account of bodily injury or death, or damage to personnel/properly as a result of the operations contemplated hereby, regardless of whether or not said claims, demands or causes of action arise out of the negligence or otherwise, in whole or in part or other faults.

4.13 INDEMNITY APPLICATION:

4.13.1 The indemnities given herein above, whether given by Company or Contractor shall be without regard to fault or to the negligence of either party even though said loss, damage, liability, claim, demand, expense, cost or cause of action may be caused, occasioned by or contributed to by the negligence, either sole or concurrent of either party.

4.14 CONSEQUENTIAL DAMAGE:

4.14.1 Neither party shall be liable to the other for special, indirect or consequential damages resulting from or arising out of the contract, including but without limitation, to loss or profit or business interruptions, howsoever caused and regardless of whether such loss or damage was caused by the negligence (either sole or concurrent) of either party, its employees, agents or sub-contractors.

4.15 WAIVERS AND AMENDMENTS:

4.15.1 It is fully understood and agreed that none of the terms and conditions of the Contract shall deemed to be waived or amended by either party unless such waiver or amendment is executed in writing by the duly authorized agents or representatives of such party. The failure of either party to execute any right of termination shall not act as a waiver or amendment of any right of such party provided hereunder.

4.16 PAYMENT & INVOICING PROCEDURE:

4.16.1 The Company shall pay to the Contractor, during the term of the Contract, the amount due from time to time calculated according to the rates of price schedule and in accordance with other provisions hereof. No other payments shall be due from the Company unless specifically provided for in this Contract. All payments will be made in accordance with the terms hereinafter described.

4.16.2 All payments due by the Company to the Contractor shall be made at the Company's designated Bank. All Bank charges will be on Contractor's account.

4.16.3 Payment of any invoices shall not prejudice the right of the Company to question the

validity of any charges therein, provided the Company within one year after the date of payment shall make and deliver to the Contractor written notice of objection to any item or items the validity of which the Company questions.

- 4.16.4 The Contractor will submit six sets of all invoices duly certified by Engineer-In-Charge along with duly filled up activity completion sheet to the Company for processing of payment.
- 4.16.5 Invoices shall be raised by the Contractor as per the Payment Schedule prescribed in this bid document.
- 4.16.6 The Company shall within 20 (Twenty) days of receipt of the invoice notify the Contractor of any item under dispute, specifying the reasons thereof, in which event, payment of the disputed amount may be withheld until settlement of the dispute, but payment shall be made of any undisputed portion within 30 (Thirty) days from the date of receipt of the invoices at Company's office at NOIDA. This will not prejudice the Company's right to question the validity of the payment at a later date as envisaged in Sub-Clause 4.16.3 above. No interest shall be payable by the Company on any delayed /disputed amount.
- 4.16.7 The acceptance by the Contractor of part payment on any billing not paid on or before the due date shall not be deemed to be a waiver of the Contractor's rights in respect of any other billing, the payment of which may then or thereafter be due.
- 4.16.8 The Contractor shall maintain complete and correct records of all information on which the Contractor's invoices are based up to 2 (two) years from the date of last invoice. Such records shall be required for making appropriate adjustments or payments by either party in case of subsequent audit query /objection.
- 4.16.9 Any audit conducted by the Company of the Contractor's records, as provided herein, shall be limited to the Company's verification (i) of the accuracy of all charges made by the Contractor to the Company and (ii) that the Contractor is otherwise in compliance with the terms and conditions of this Agreement.

4.17 WITH-HOLDING:

- 4.17.1 Company may withhold or nullify the whole or any part of the amount due to Contractor on account of subsequently discovered evidence in order to protect Company from loss on account of: -
- i) For non-completion of jobs assigned as per Technical Scope of Work.
 - ii) Contractor's indebtedness arising out of execution of this Contract.
 - iii) Defective work not remedied by Contractor.
 - iv) Claims by Sub-Contractor of Contractor or others filed or on the basis of reasonable evidence indicating probable filing of such claims against Contractor.
 - v) Failure of Contractor to pay or provide for the payment of salaries/wages, contributions, unemployment compensation, and taxes or enforced savings withheld from wages etc.
 - vi) Failure of Contractor to pay the cost of removal of unnecessary debris, materials, tools, or machinery.
 - vii) Damage to another Contractor of Company.
 - viii) All claims against Contractor for damages and injuries, and/or for non-payment of bills etc.

- ix) Any failure by Contractor to fully reimburse Company under any of the indemnification provisions of this Contract. If, during the progress of the work Contractor shall allow any indebtedness to accrue for which Company, under any circumstances in the opinion of Company may be primarily or contingently liable or ultimately responsible and Contractor shall, within five days after demand is made by Company, fail to pay and discharge such indebtedness, then Company may during the period for which such indebtedness shall remain unpaid, withhold from the amounts due to Contractor, a sum equal to the amount of such unpaid indebtedness.

Withholding will also be effected on account of the following: -

- i) Order issued by a Court of Law in India.
- ii) Income tax deductible at source according to law prevalent from time to time in the country.
- iii) Any obligation of Contractor which by any law prevalent from time to time to be discharged by Company in the event of Contractor's failure to adhere to such laws.
- iv) Any payment due from Contractor in respect of unauthorized imports.

When all the above grounds for withholding payments shall be removed, payment shall thereafter be made for amounts so withheld.

Notwithstanding the foregoing, the right of Company to withhold shall be limited to damages, claims and failure on the part of Contractor, which is directly/ indirectly related to some negligent act or omission on the part of Contractor.

4.18 APPLICABLE LAW / JURISDICTION:

4.18.1 The Contract shall be deemed to be a Contract made under, governed by and construed in accordance with the laws of India for the time being in force and shall be subject to the exclusive jurisdiction of Courts situated in Delhi/New Delhi.

4.18.2 The Contractor shall ensure full compliance of various Indian Laws and Statutory Regulations, to the extent applicable, as stated below, but not limited to, in force from time to time and obtain necessary permits/licenses etc. from appropriate authorities for conducting operations under the Contract:

- a) Electricity Act, 2003
- b) Explosives Act, 1884 & Indian Explosives Rules, 2008
- c) The Minimum Wages Act, 1948.
- d) The Workmen's Compensation Act, 1923.
- e) The Payment of Wages Act, 1963.
- f) The Payment of Bonus Act, 1965.
- g) The Contract Labour (Regulation & Abolition) Act, 1970 and the rules framed there under,
- h) The Employees' Pension Scheme, 1995.
- i) The Interstate Migrant Workmen Act., 1979 (Regulation of employment and conditions of service).
- j) The Employees Provident Fund and Miscellaneous Provisions Act, 1952.
- k) The Central Sales Tax Act
- l) VAT Act of the state.

- m) Service Tax Act.
- n) Customs & Excise Act & Rules framed there under
- o) State Entry Tax Act, if any
- p) Any other central and / or state Act applicable.

4.18.3 The Contractor shall not make Company liable to reimburse the Contractor to the statutory increase in the wage rates of the contract labour appointed by the Contractor. Such statutory or any other increase in the wage rates of the contract labour shall be borne by the Contractor.

4.18.4 The Contractor shall not engage labour below 18 (eighteen) years of age under any circumstances.

4.19 TERMINATION:

4.19.1 TERMINATION ON COMMISSIONING OF THE PLANT & EXPIRY OF THE DURATION OF OPERATION & MAINTENANCE (O&M):

The Contract shall be deemed to have been completed on successful commissioning of the plant and completion of its O&M for 10 years thereafter.

4.19.2 TERMINATION ON ACCOUNT OF FORCE MAJEURE:

Either party shall have the right to terminate the Contract on account of Force Majeure as set forth in Para 4.10 above.

4.19.3 TERMINATION ON ACCOUNT OF INSOLVENCY:

In the event that the Contractor at any time during the term of the Contract, becomes insolvent or makes a voluntary assignment of its assets for the benefit of creditors or is adjudged bankrupt, then the Company shall, by a notice in writing have the right to terminate the Contract and all the Contractor's rights and privileges hereunder, shall stand terminated forthwith.

4.19.4 TERMINATION FOR UNSATISFACTORY PERFORMANCE:

If the Company considers that, the performance of the Contractor is unsatisfactory, or not up to the expected standard, the Company shall notify the Contractor in writing and specify in details the cause of the dissatisfaction. The Company shall have the option to terminate the Contract by giving 15 days' notice in writing to the Contractor, if Contractor fails to comply with the requisitions contained in the said written notice issued by the Company.

4.19.5 TERMINATION FOR DEFAULT:

The Company may, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Contractor, terminate the Contract in whole or in part:

- A. If the Contractor fails to deliver any or all of the GOODS within the period(s) specified in the Contract; or
- B. If the Contractor fails to perform any of their obligations(s) under the Contract, and
- C. If the Contractor, in either of the above circumstances does not rectify his failure within a period of 30 (Thirty) days (or such longer period as the Company may authorize in writing) after receipt of the default notice from the Company.

4.19.6 TERMINATION DUE TO CHANGE OF OWNERSHIP & ASSIGNMENT:

In case the Contractor's rights and/or obligations under the Contract and/or the Contractor's rights, title and interest to the equipment/material, are transferred or assigned without the Company's consent, the Company may at its absolute discretion, terminate the Contract. The above clause (i.e. Clause No. 4.19) with all its sub-clauses as well as the ensuing Clause No. 4.20 shall be referred to as Termination Clause of this tender document.

4.20 CONSEQUENCES OF TERMINATION:

- 4.20.1 In all cases of termination herein set forth, the obligation of the Company to pay for Services rendered / goods supplied as per the Contract shall be limited to the period upto the date of termination. Notwithstanding the termination of the Contract, the parties shall continue to be bound by the provisions of the Contract that reasonably require some action or forbearance after such termination.
- 4.20.2 Upon termination of the Contract, Contractor shall return to Company all of Company's items, which are at the time in Contractor's possession.
- 4.20.3 In the event the COMPANY terminates the Contract in whole or in part, pursuant to sub-clause 4.19.5, the COMPANY may procure, upon such terms and in such manner, as it deems appropriate, goods similar to those undelivered and the Contractor shall be liable to the COMPANY for any excess costs for such similar Goods. However, the CONTRACTOR shall continue performance of the contract to the extent not terminated.
- 4.20.4 Notwithstanding any provisions herein to the contrary, the Contract may be terminated at any time by the Company on giving 15 (Fifteen) days written notice to the Contractor due to any other reason not covered under the above Sub-Clause from 4.19.1 to 4.19.5 and in the event of such termination the Company shall not be liable to pay any cost or damage to the Contractor except for payment for Work done as per this Contract up to the date of termination.
- 4.20.5 In the event of termination of contract, Company will issue Notice of termination of the contract with date or event after which the contract will be terminated.

4.21 SETTLEMENT OF DISPUTES AND ARBITRATION:

- 4.21.1 All disputes or 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 arbitration in accordance with the Rules of Indian Arbitration and Conciliation Act, 1996. The venue of arbitration will be New Delhi. The award made in pursuance thereof shall be binding on the parties.

4.22 NOTICES:

- 4.22.1 Any notice given by one party to other, pursuant to this Contract shall be sent in writing by e mail or telex or Fax and confirmed in writing to the applicable address specified below:

COMPANY

OIL INDIA LIMITED
PLOT NO. 19, SECTOR-16A,
NOIDA - 201 301 UTTAR PRADESH

CONTRACTOR

- 4.22.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

4.23 SUBCONTRACTING:

4.23.1 Contractor shall not subcontract or assign, in whole or in part, its obligations to perform under this contract, except with Company's prior written consent.

4.24 MISCELLANEOUS PROVISIONS:

4.24.1 Contractor shall give notices and pay all fees at their own cost required to be given or paid by any National or State Statute, Ordinance, or other Law or any regulation, or bye-law of any local or other duly constituted authority as may be in force from time to time in India, in relation to the performance of the services and by the rules & regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the services.

4.24.2 Contractor shall conform in all respects with the provisions of any Statute, Ordinance of Law as aforesaid and the regulations or bye-law of any local or other duly constituted authority which may be applicable to the services and with such rules and regulation, public bodies and Companies as aforesaid and shall keep Company indemnified against all penalties and liability of every kind for breach of any such Statute, Ordinance or Law, regulation or bye-law.

4.24.3 All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site(s) where the services are performed, be deem to be the absolute property of the Company. The Contractor shall take reasonable precautions to prevent the personnel or any other persons from removing or damaging any such article or thing and shall immediately upon the discovery thereof and, before removal, acquaint the Company of such discovery any carry out, at the expense of the Company, the Company's orders as to the disposal of the same.

4.24.4 During the tenure of the Contract, Contractor shall keep the site(s) where the services are being performed reasonably free from all unnecessary obstruction and shall store or dispose of any equipment and surplus materials and clear away and remove from the site(s) any wreckage, rubbish or temporary works no longer required. On the completion of the services, Contractor shall clear away and remove from the site(s) any surplus materials; rubbish or temporary works of every kind and leave the whole of the site(s) clean and in workmanlike condition to the satisfaction of the Company.

4.24.5 Key personnel should not be changed during the tenure of the Contract except due to sickness/death/resignation of the personnel in which case the replaced person should have equal experience and qualification, which will be again subject to approval, by the Company.

4.25 SECURITY DEPOSIT CUM PERFORMANCE BANK GUARANTEE (SPBG):

4.25.1 Within 15 days of the receipt of notification of award from the Company, the Contractor shall furnish performance bank guarantee to Company towards Performance Security for an amount equal to 10% (ten percent) of the total estimated Contract Price. The SPBG shall be submitted in the prescribed format.

4.25.2 The proceed of the Performance Bank Guarantee shall be payable to the Company as compensation for any loss resulting from Contractor's failure to fulfill their obligations under the Contract without prejudice to any of the rights or remedies the Company may be entitled to as per terms & conditions of the Contract. The proceeds of the Performance Bank Guarantee shall also govern the successful performance of goods & services during the entire period of Warrantee/Guarantee.

4.25.3 The performance security specified above must be valid for two years and one month after satisfactory erection & commissioning to cover the warranty obligations indicated in Clause 4.5 hereof. In the event of extension of the Contract period, the validity of the bank guarantee shall be suitably extended by the Contractor. The Company will

discharge the same not later than 30 days after the expiry of 'Period of Liability'.

4.25.4 SPBG against the O&M Contract shall be submitted by the Contractor one month prior to completion of free O&M period, for an amount equivalent to 10% (ten percent) of annual O&M charges for the year. Every year a fresh bank guarantee shall be submitted by the Contractor, having validity of 13 months, one month prior to expiry of earlier Bank Guarantee or the existing bank guarantee can be extended suitably every year till O&M contract remains with the Bidder. Such Bank Guarantee shall be furnished in the Performa as per Annexure–III/IV.

4.25.5 The Performance Bank Guarantee shall be enforceable at Delhi/NOIDA.

4.25.6 The SPBG shall not accrue any interest.

4.26 INVOCATION OF PERFORMANCE BANK GUARANTEE:

4.26.1 In the event of the Contractor failing to honour any of the commitments entered into under the Contract and/or in respect of any amount due from the Contractor to the Company, The Company shall have an unconditional option under the guarantee to invoke their performance bank guarantee and clear the amount from Bank.

4.27 LIQUIDATED DAMAGES / COMPENSATION:

4.27.1 In the event of the Contractor's default in timely completion of The work under the provisions of this Contract, the Contractor shall be liable to pay liquidated damaged at the rate of 0.5% (half Percent) of un commissioned portion of work for each week (7 days) or a part thereof of delay till the works are completed, subject to a maximum of 7.5%(seven & a half Percent) of the total Contract Price (value of supply, Erection and commissioning excluding O&M Price).

The company may without prejudice to any other method of recovery, deduct the amount of such liquidated damages from any amount due to the contractor.

4.27.2 Both the Contractor & the Company agree that the above percentages of liquidated damage is genuine pre-estimates of loss/damage, which the Company would have to suffer on account of delay/breach on the part of the Contractor and the said amount will be payable on demand without there being any proof of the actual loss/or damage caused by such delay/breach. Decision of the Company in the matter of applicability liquidated damage shall be final & binding on the Contractor.

4.27.3 The above clause (i.e. Clause No. 4.27) with all its sub-clauses shall be referred to as Liquidated Damage / Compensation Clause of this tender document.

4.28 SUBSEQUENTLY ENACTED LAWS:

4.28.1 Subsequent to the date of submission of offer by the Contractor, if there is a change in or enactment of any law or interpretation of existing law, which results in additional cost/ reduction in cost to the Contractor on account of the operation under this contract, the Company / the Contractor shall reimburse/pay the Contractor/ the Company for such additional / reduced cost actually incurred.

4.29 ASSOCIATION OF COMPANY'S PERSONNEL:

4.29.1 The Company may depute one or more than one representative (s) / Engineer (s) to act on its behalf for overall co-ordination and operational management at location. The Company's representative will be vested with the authority to order any changes in the scope of work to the extent so authorized and notified by the Company in writing. Company's representative shall liaise with the Contractor and monitor progress to

ensure timely completion of the jobs. Company's representative shall also have the authority to oversee the execution of jobs by the Contractor and to ensure compliance of provisions of the Contract.

- 4.29.2 The Company's representatives shall have free access to all the equipment of the Contractor during operations as well as idle time for the purpose of observing / inspecting the operations performed by the Contractor in order to judge whether, in the Company's opinion, the Contractor is complying with the provisions of the Contract.

4.30 LABOUR:

- 4.30.1 Before starting the work the Contractor shall obtain a license from competent authority under the Contract Labour Act 1970 and furnish a copy of it to the Company. The recruitment of the labour shall be met from the areas of operation and wages will be according to the rates prevalent at the time, which can be obtained from the District Authorities of the area. The facilities to be given to the laborers should conform to the provisions of labour laws as per Contract Labour (Regulation and Abolition) Act, 1970.

4.31 SAFETY

- 4.31.1 Upon arrival of Plant and Equipment/Material at the Site(s), the Contractor shall assume custody thereof and remain responsible thereafter for safe custody until the whole plant is handed over.
- 4.31.2 Adequate firefighting equipment and extinguishing agents of sufficient capacity and quantity must always be available at site(s) and kept ready for immediate use. Sufficient number of workmen must be fully trained in the use of such equipment and must be available for immediate intervention at all times
- 4.31.3 For storage of materials and equipment for the construction and erection work, storage must be subdivided into storage units and the distance between such storage units shall be as acceptable to the insurance company which issued the policy. All inflammable materials and especially all inflammable liquids and gases must be stored at a sufficient large distance from the property under construction or erection and from any hot work.
- 4.31.4 Welding, soldering or the use of an open flame in the vicinity of combustible material is only permitted if at least one workman suitably equipped with extinguishers and well trained in firefighting is present.
- 4.31.5 At the beginning of work, all fire-fighting facilities must be checked thoroughly.
- 4.31.6 Explosives shall not be used at the site(s) by the Contractor without the permission in writing of OIL and only in the manner and to the extent to which he has prescribed. Where explosives are used by the Contractor, the same shall be transported to the site(s) in explosive proof van and stored in a special magazine to be provided by and at the cost of the Contractor, who shall be liable for all damages loss or injury to any person or property and shall be responsible for complying with all statutory obligations in these respects. The contractor shall employ only licensed blasters.
- 4.31.7 The contractor shall for the duration of the contract, maintain in good order and condition all such protective apparel and equipment (such as safety helmets, safety belts, gloves etc.) for all their workmen and staff engaged for contract work as may be required to be used by Law and by the OIL. The contractor shall ensure that such protective apparel / equipment are worn and used by their workmen and staff without fail. In case OIL notices any non-compliance thereto, OIL will not only be entitled to make alternative arrangements for the same but recover cost and damages plus OIL's own charges @ 20% or as deemed fit by the company, on his account.
- 4.31.8 The contractor shall follow the safety instructions as mentioned in Annexure-XII.

4.32 PROTECTION OF PROPERTY AND EXISTING FACILITIES:

- 4.32.1 The Contractor shall perform each work in such a manner as will prevent damage to the Company's property and conform to and are consistent with, operational practices of hydrocarbon industries. Any permanent damage /loss to the Company's pipeline, assets and plants due to actions undertaken by the Contractor in order to provide the services envisaged under this Contract shall have to be remedied by the Contractor, entirely at their own cost. This cost shall include and not be limited to actual replacement of such damaged pipeline, assets or plants, or payment of actual replacement cost in relation thereto as may be incurred by the Company.
- 4.32.2 The CONTRACTOR shall take sufficient care in moving his plants, equipment and materials from one place to another so that they do not cause any damage to any person or to the property of COMPANY or any third party including overhead and underground cables and in the event of any damage resulting to the property of COMPANY or of a third party during the movement of the aforesaid plant, equipment or materials, the cost of such damages including eventual loss of production, operation or services in any plant or establishment as estimated by COMPANY or ascertained or demanded by the third party shall be borne by the CONTRACTOR.

4.33 PERFORMANCE OF WORK:

- 4.33.1 The Contractor shall submit daily reports to EIC detailing progress of different operations as per the scope of the work. The Company, at its option may change the periodicity of such reports. In addition, they shall submit the complete job report (with all pertinent details to serve permanent record) within 15 (Fifteen) days from the date of completion of each individual job. The manner and the speed of execution and maintenance of the operations are to be conducted in a manner to the satisfaction of the Company's representative. Should the rate of progress of the operations or any part of them is at any time too slow in the opinion of the Company's representative; (to ensure completion of the operations within schedule) the Company's representative may so notify the Contractor in writing. The Contractor shall reply to the written notice giving details of the measures, which he proposes to take to expedite the operations. If no satisfactory reply to the Company's notice is received in seven days, the Company shall be free to take necessary actions as deem to be fit.

4.34 PERMITS & CERTIFICATES:

- 4.34.1 The Contractor shall procure, at his expense, all necessary permits, certificates and licenses required by virtue of all applicable laws, regulations, ordinances and other rules in effect at the place where any of the works is to be performed, and Contractor further agrees to hold COMPANY harmless from liability or penalty which might be imposed by reason of any asserted or established violation of such laws, regulations, ordinances or other rules. COMPANY will provide necessary permits for Contractor's personnel to undertake any work in India in connection with Contract.

4.35 POLLUTION AND CONTAMINATION:

- 4.35.1 Contractor shall be responsible for loss or damage from pollution or contamination arising out of or resulting from any of the Contractor's services/operation unless such pollution or contamination is for reasons beyond the control of the Contractor.

4.36 SET OFF:

Any sum of money due and payable to the Contractor (including security Deposit refundable to them) under this or any other contract may be appropriated by the Company and set off against any claim of the Company (or such other person or persons contracting through the Company) for payment of a sum of money arising out of this contract or under any other contract made by the Contractor/ with the Company (Or such other person or persons contracting through the Company).

4.37 HEADINGS:

The headings of the clauses of the Contract are for convenience only and shall not be used to interpret the provisions hereof.

4.38 APPLICABILITY OF GENERAL CONDITIONS OF CONTRACT

In case of any contradiction in clauses , the Special Conditions of Contracts in Section-V & VI shall prevail and override the clauses in this Section (Section –IV).

SECTION–V
SPECIAL CONDITIONS OF CONTRACT
FOR
SUPPLY, ERECTION & COMMISSIONING

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SECTION-V

SPECIAL CONDITIONS OF CONTRACT FOR SUPPLY, ERECTION & COMMISSIONING

5.1 DEFINITIONS & INTERPITATION

Acts / Codes shall mean, but not limited to the following, including the latest amendments and / or replacements, if any: -

1. Electricity Act, 2003 with amendments thereto, if any.
2. A.I.E.E Test Codes
3. American Society of Testing of Materials (ASTM Codes).
4. Relevant standards of the Bureau of Indian Standards (IS Codes) & IEC
5. Arbitration and Conciliation Act, 1996, and Rules made there under.
6. Environment (Protection) Act, 1986 and Rules made there under.
7. Other approved standards and/or Rules and Regulations touching the subject matter of the Contract.

Applicable Laws means any statute, law, regulation, ordinance, rule, judgment, order, decree, restriction, directive, governmental authorizations, requirements of Applicable Permits and any agreements, decisions, acts, instructions, requirements, directions and notifications of the competent authority having jurisdiction over the matter in question, whether in effect as on bid closing Date and Time.

ABT Meter means meter for measurement power and energy as per **IEGC**

Bid and Bid Document shall mean the proposal submitted by the Bidder in response to this ITB in accordance with the terms and conditions hereof.

Bidder shall mean the Bidding Entity or the Bidding Consortium which has submitted a proposal, in response to this ITB to Owner.

Bidding Entity shall mean a single entity, whether a firm or a Company.

BIS shall mean Bureau of Indian Standards.

Time Schedule shall mean the period by which the work shall be completed as agreed herein between the Owner and the Contractor as per clause no.5.10

Company shall mean a body incorporated in India under the Companies Act, 1956 / 2013

Completion Certificate shall mean as defined in 5.25 of this Section.

Commissioning of Project shall mean the commissioning 500 KW Solar PV Power Plant at PS#3 Jorhat (Assam).

Date of Commissioning of Solar Power means when the entire 500 KW has been connected to OIL's grid.

Contractor means the person or the persons, firm or Company or corporation whose tender has been accepted by the Employer and includes the Contractor's legal Representatives, his successors and permitted assigns.

CT means current transformer meant for measurement of current

C&R Panel means relay & control panel

CEIG means Chief Electrical Inspector of State Government

CRM means customer relations manager

DISCOM means 'Concerned Distribution Utility of the State'.

Date of completion means the date of issue of completion certificate as per clause-5.25

Effective Date / Zero Date shall mean the date of issue of Fax/ Letter of Intent

Engineering, Procurement and Construction Contractor (EPC) shall mean the firm/company or party on whom the Letter of Intent/Work Order for faithful execution of the work mentioned herein is placed and shall include his/her/their heirs, legal representatives and successors and permitted assigns.

Final Acceptance Date shall mean the date of successful completion of the Performance Guarantee Test (PGT).

Facility means solar module, Inverter, transformer, power evacuation system.

Grid shall mean OIL's internal network connected to Gen Sets and also state DISCOM network.

Inter-connection Point shall mean a point at OIL India Domestic substation

KW means Kilo Watt A C Power

KW means Kilo Watt Peak DC power

KWh means Kilowatt Hours

LCS means local control system.

MCCB means molded case circuit breaker

Metering Point means the point will be at OIL India Domestic substation

MBD means Machine Break Down for insurance purpose.

MNRE means 'Ministry of New & Renewable Energy Sources, Government of India'.

NODAL AGENCY means 'Renewable Energy Corporation / Agency of the State of Assam

O&M shall mean Operation & Maintenance of Solar power project which inter alia, includes provisions of manpower, spares, special tools, cranes or such materials/equipment that may be required for maintaining the Solar project in operation.

Operator shall mean the person or the persons, firm or Company or corporation whose tender has been accepted for operation & maintenance by the Owner and includes the Contractor's legal Representatives, his successors and permitted assigns.

Project shall mean the Development, Design, Engineering, Supply, Procurement and Construction, Commissioning, Operation and Maintenance of the proposed 500 KW Solar energy project complete in all respects and all activities incidental thereto.

Project Life means the operational life of solar project and all associated equipment and the same shall not be less than 25 years.

Prudent Utility Practice means accepted international/Indian practice(s), standard(s), engineering and operation considerations, taking into account the conditions prevalent at Site including manufacturer's recommendations generally followed in the operation and maintenance of facilities similar to the power plant

Inverter means device for conversion of direct current to alternating current

SMB means String Monitoring Box

Stabilization Period means time required for fine tuning of the project and is considered as 30 Days from the date of commissioning as per clause no.5.11

TRANSCO means 'Assam State Transmission Company or Corporation'

CAPEX Total capital cost of project excluding annual Operation & Maintenance charges

OPEX Total Operation & maintenance cost of project for 5 Years

PR "Performance Ratio" (PR) means the ratio of actual plant output versus Calculated, nominal plant output in kWh annual.

$PR = \text{Annual Actual Energy output in kWh} / \text{nominal Annual Energy Production in kWh.}$

Nominal Output Annual means Annual incident solar irradiation at the generator surface of the PV plant x relative efficiency of the PV plant modules.

PGT means Performance Ratio Guarantee Test.

Tier one shall mean list of manufactures declared/announced by Bloomberg or equivalent third party.

500 KW shall mean 500 KW AC.

5.2 GENERAL

5.2.1 Special Conditions of Contract shall be read in conjunction with the General Conditions of Contract, Scope of work, Technical specifications, drawings and any other document forming part of this contract, wherever the context so requires.

5.2.2 Where any portion of the Special Conditions of Contract (SCC) is repugnant to or at variance with any provisions of the General Conditions of Contract (GCC), then unless a different intention appears, the provision of the Special Conditions of Contract shall be deemed to over-ride the provisions of the General Conditions of Contract only to the extent such inconsistencies of variations in the SCC as are not possible of being reconciled with the provisions of GCC.

The materials, design and workmanship shall satisfy the applicable standards, specifications contained herein and codes referred to. Where the Technical Specifications stipulate requirements in addition to those contained in the standard codes and specifications, those additional requirements shall be satisfied.

In case of any contradiction in any of the terms & conditions to the extent that the two provisions cannot co-exist, the following shall prevail in order of precedence.

i) Contract Agreement

ii) Work Order

- iii) Letter/ Fax of Intent
- iv) Statement of Agreed Variations
- v) Instructions to Bidder
- vi) Special Conditions of Contract
- vii) Scope of Work
- viii) Technical Specifications.
- ix) General Conditions of Contract.
- x) Any other document

5.2.3 Environmental Laws

All applicable codes, laws, rules and regulations relating to actual or potential effect of the activities on and at the project contemplated by executing this project on the environment, the disposal of material, the discharge of chemicals, gases or other substances or materials into the environment, or the presence of such materials, chemicals, gases or other substances in or on the project.

5.3 POWER PLANT

The complete, fully functional and operational 500 KW solar power generating station including related facilities, substation and controls necessary to enable the plant to deliver electric power.

5.4 DOCUMENT

In this document unless otherwise stated:

- i) The headings and paragraph numbering are for convenience only and shall be ignored in construing the agreement;
- ii) The singular includes the plural and vice versa;
- iii) References to natural persons include body corporate and partnerships;
- iv) References to any enactment, ordinance or regulation include any amendment thereto or any replacement in whole or in part;
- v) References to Articles, Clauses and Schedules, unless the context otherwise requires, refers to Articles of, Clauses of and Schedules to this document.

5.5 SCOPE OF WORK

The scope of work covered in this tender shall be as specified under Section- VII B & VII C of "Scope of Work", Technical Specification as per Section VIII and as mentioned elsewhere in this tender document. It is, however, understood and confirmed by the Contractor that the scope as described in the bid document is not limiting in so far as the responsibilities of the Contractor shall include inter-alia, carrying out any and all works and providing any and all facilities those are required in accomplishing an operating system, complying fully with all requirements as are envisaged of it, complete in all respect and satisfying all Performance and guarantee requirements stated or implied from the contents of the tender document.. The Contractor shall get tested all required equipment (like CTs, PTs, ABT meter, etc) from the accredited agencies well before commissioning to avoid any delay in commissioning.

5.6 PLACEMENT OF ORDERS FOR AWARD OF CONTRACT

5.6.1 Two separate orders shall be placed on the bidder for implementation of the project as mentioned below:

1. Supply Order for detailed engineering, manufacturing, in-house testing, supply and delivery of equipment at site(s). & erection testing & commissioning in all respect for 500 KW solar power plant
2. Operation & Maintenance order: Comprehensive Operation & Maintenance (O&M) of 500KW Solar Power Project for a period of 5 years from the Date of commissioning.

5.6.2 A breach in the performance of any of the orders as indicated above, shall be considered as a breach in performance of the other order, which shall confer a right on the Owner to terminate the other order also at the risk and cost of the Contractor/operator without any prejudice to any other rights the Owner may have as per terms & conditions of respective order.

5.6.3 Total responsibility in regard to design, engineering, manufacturing, delivery at site(s), timely execution, including completion, guarantee liabilities and all other contractual obligations will remain with Bidder irrespective of the modality of ordering and the bidder shall coordinate all activities for smooth and timely completion of the project. In such a manner, as if there has been no split in the scope of work.

5.7 RESPONSIBILITIES OF THE CONTRACTOR

5.7.1 All expenses towards mobilization at site and demobilization including bringing in equipment, work force, materials, dismantling the equipment, clearing the site(s) after completion of work and liaisoning for interconnection of Solar plant with the State Grid with concerned departments etc. shall be deemed to be included in the prices quoted and no separate payments on account of such expenses shall be entertained.

5.7.2 Contractor may have to work in energized or partly energized conditions. In such cases, it shall be the responsibility of the Contractor to arrange for necessary permits or shuts downs and provide skilled and responsible persons for the execution of works. Contractor shall organize his works during the shutdown periods properly and complete the programmed works within the time given. Contractor shall not be paid any extra payments for working under the above said circumstances.

5.7.3 It shall be entirely the Contractor's responsibility to provide, operate and maintain all necessary construction equipment, scaffoldings and safety gadgets, cranes and other lifting tackles, tools and appliances to perform the work in a workman like and efficient manner and complete all the jobs as per time schedules. However, if any equipment / facilities are provided by Owner, the same shall be on chargeable basis.

5.7.4 Procurement and supply, in sequence and at the appropriate time, of all materials and consumables shall be entirely the Contractor's responsibility and his rates for execution of work will be inclusive of supply of all these items.

5.7.5 In case any material is issued by the Owner, then it will be properly used and maintained. Subsequent to completion of its use, it will be returned to Owner in good condition. In case of damage or misuse of such stores, Owner will recover the cost from the Contractor from the payments due to the Contractor.

5.8 FORCE MAJEURE

Refer Clause 4.10 of General condition of contract

5.9 Blank

5.10 TIME SCHEDULE

5.10.1 The time and the date of completion of the Contract as specified in the contract by the Owner without or with modifications, if any, and so incorporated in the Letter of Acceptance, shall be considered to be the heart of the Contract.

5.10.2 The bidder shall submit a detailed bar chart within the time frame agreed covering all activities with various key phases of supply and service obligations under the contract such as supply schedule and field erection activities within fifteen (15) days of the date of Letter of Acceptance.

5.10.3 The time period mentioned below shall be reckoned from the date of issue of Letter of Acceptance.

5.10.4 Commissioning schedule for the Solar plant shall be as follows:

Complete 500 KW four months from date of issue of LOA

The date of commissioning shall be the date as mentioned in the certificates of commissioning issued by the OIL India for solar plant

5.11 STABILIZATION OF SOLAR PLANT

Stabilization of solar plant shall be considered to have been achieved on successful accomplishment of the following activities:

5.11.1 Project has been completed in all respect including inter connection with existing OIL System

5.11.2 Plant performance found satisfactory on real live condition for a period of 15 days on continuous basis for trouble free operation

5.11.3 SCADA has been commissioned and fully operational including connectivity at OIL India domestic substation.

5.11.4 Solar plant is free from occurrence of repetitive fault of the same nature for an uninterrupted period of 15 days.

5.12 COMPENSATION FOR DELAY

5.12.1 As commissioning time is the essence of the Contract and the same shall be firm and binding. The Bidder shall complete all activities of the Project viz. design, engineering, manufacture, supply, storage, all civil works, and installation, erection, testing, commissioning, solar energy project within the scheduled date. In case the project is not commissioned within the scheduled date then the contractor has to pay the owner compensation for delay for the value of un-commissioned solar plant, as per Clause 4.27 of Section-V The decision of the Engineer-in Charge with regard to the amount to be recovered from the Contractor will be final and binding on the Contractor.

5.12.2 Commissioning will be considered for the project as a whole when last String of the solar energy project has been commissioned.

5.12.3 The Bidder shall indicate duration of all the activities in activity chart in conformity with the overall schedule of the commissioning of project. A sample for activity chart is attached for reference at Bid Response Sheet No.14. Bidder shall submit the activity chart in form of Bar Chart which shall be discussed and finalized and shall be a part of Contract.

5.13 EXTENSION OF TIME

5.13.1 Failure or any delay by the Owner due to any cause whatsoever, shall in no way effect or vitiate the contract or alter the character thereof or entitle the Contractor to damages or compensation thereof provided that the Owner may extend the time for completion of the work by such period as it may consider necessary or proper.

5.13.2 If the Contractor shall desire an extension of the time for completion of the project on the grounds of his having been unavoidably hindered in its execution or the work has been materially increased by Owner or other such grounds, he shall apply in writing to the engineer in-charge within ten days of the date of occurrence of event on account of which he desires, such extension as aforesaid, and the Engineer - In-charge shall, if in his opinion (which shall be final) reasonable grounds have been shown thereof, authorizes such extension of time as may be, in his opinion be necessary or proper. Whenever such extension is granted by the engineer in-charge, this would be without prejudice to the Owner's right under this contract.

5.14 NO COMPENSATION FOR ALTERATION IN OR RESTRICTION OF WORK

If at any time from the commencement of the work the Owner shall for any reason whatsoever not require the whole work or part thereof as specified in the bid to be carried out or, alteration in the work are required, the Engineer-In charge shall give notice in writing of the fact to the Contractor, who shall have no claim to any payment or compensation whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full or prior to alteration.

5.15 CONTRACTOR'S OFFICE AT SITE(S)

During the execution of the contract, the Bidder shall ensure responsible person with authority to take decisions to be available at site(s). Such person deputed by the Contractor shall report to the Consultant's Site in-charge, for smooth execution and timely commissioning of the work. The Contractor shall also provide and maintain a site office, at the site. Such office shall be open at all reasonable hours to receive instructions, notices or other communications. The Contractor shall be responsible for any misconduct/indiscipline by his employees or sub-Contractor/agent employee's. The Contractor shall abide by the instructions of the engineer in charge, if given in this regard.

EPC Bidder shall submit the Manpower Chart with hierarchy that would be deployed at site.

5.16 SUB-CONTRACTING OF WORK

Contractor shall not subcontract or assign, in whole or in part, its obligations to perform under this contract, except with Company's prior written consent. In the eventuality of sub-contracting of work, Owner/Company will be informed in advance. However, the Contractor's liability or obligations will not get altered / delegated to sub-Contractor. If any sub-Contractor engaged upon the work at the site executes any work which in the opinion of the engineer in-charge is not in accordance with the contract documents, the Owner/ Company may give written notice to the Contractor advising him to terminate such sub-contracts and the Contractor on the receipt of such notice shall terminate such contracts.

5.17 POWER OF ENTRY

5.17.1 In case the Contractor does not commence work in the manner described in the contract documents or if he shall at any time in the opinion of the Engineer in charge:

- i) Fail to carry on the works in conformity with contract document /schedule or
- ii) Substantially suspend work or the works for a continuous period of 14 days without

permission from the engineer in charge, or

- iii) Fail to carry on and execute the works to the satisfaction of the Engineer-in-Charge, or
- iv) Commit or permit any other breach of any of the provisions of the contract on his part to be performed. or
- v) If the Contractor abandons the works, or
- vi) If the Contractor during the continuance of the contract becomes bankrupt.

In any of such events, the Owner shall have the power to enter upon the works and take possession of the materials, temporary works, equipment, tools and stocks thereon, and to revoke the Contractor's order to complete the works by his agents, other Contractors or workmen.

5.18 USE OF COMPLETED PORTIONS

5.18.1 Whenever in the opinion of the Owner the work or any part thereof is in a condition suitable for use and in the best interest of the Owner requires use, the Owner may take possession of the same. The Contractor shall, however, be not relieved of his pending obligations.

5.18.2 Prior to the date of final acceptance of the work by the Owner, all necessary repairs or renewals in the work or part thereof so used on account of defective materials or workmanship or due to the operations failure shall be at the expenses of the Contractor. Such use shall neither relieve the Contractor or any of his responsibilities under the contract, nor act as waiver by the Owner of the conditions thereof. However, if in the opinion of the Owner the use of the work or the part thereof delays the commissioning of the remainder of the work, the Owner may grant such extensions of time as it may consider reasonable. The decision of the Owner in the matter shall be final. The Contractor shall not be entitled to claim any compensation on account of such use by the Owner.

5.19 POWER OF THE ENGINEER-IN-CHARGE TO ORDER SUSPENSION OF WORK

The Engineer-in-charge may, from time to time by direction in writing and without invalidating the contract, order the Contractor to suspend the work or any part thereof at such time or times and for such reasons as he may consider necessary. After such directions to suspend the work or any part thereof has been given, then proceed with the work or part thereof, directed to be suspended until he receives a written order from the Engineer-in-charge to so proceed. In the event of suspension, the Owner may under the provisions of the contract, extend the time for commissioning of the work or part thereof by such period as it may find reasonable. The decision of the Owner in the matter shall be final and binding on the Contractor.

5.20 PAYMENT TERMS

Payments shall be released in the following manner after furnishing of Security cum Performance Bank Guarantee by the bidder and signing of Agreement as per provisions of bidding document:

Considering separate orders, the following payment terms will be applicable for the respective scope: -

Stage wise payments shall be released against each SOR including all applicable taxes and duties after furnishing of Contract Performance Bank Guarantee as well as furnishing of Indemnity Bond by the bidder

5.20.1 Supply of plant and equipment for solar plant

a.	10% of the total price against supply (BRS PIII) shall be paid on approval of Basic Design & Engineering documents, QAP, Construction drawings etc.
b.	60% of the quoted price against supply of complete quantities for each item as per break up (BRS PIII) shall be paid against receipt of material at site under the Contract.
c.	15% of the total price against supply (BRS PIII) shall be paid on successful commissioning of solar power plant
d.	10% of the total price against supply (BRS PIII) shall be paid on successful stabilization of the plant.
e.	5% of the total price against supply (BRS PIII) shall be paid on successful completion of the first year of O&M.

5.20.2 Erection and commissioning works of solar Plant

a.	10% Total price of Erection and commissioning works (BRS P IV) on mobilization of machinery, manpower deployment and soil testing.
b.	20% Total price of Erection and commissioning works (BRS P IV) on completion of Foundation of Module Mounting structures.
c.	25% Total price of Erection and commissioning works (BRS P IV) on completion of Erection of Module Mounting Structures
d.	15% Total price of Erection and commissioning works (BRS P IV) on completion of control room, other civil works
e.	25% of Total price of Erection and commissioning works (BRS P IV) on completion of Erection of Modules, wiring, Junction Boxes, AC Distribution, DC distribution Board, transformer and other materials.
f.	5% of the total price of Erection and commissioning works (BRS PIV) shall be paid on successful completion of the first year of O&M.

5.20.3 PAYMENT FOR O&M

Payment period shall be on quarterly basis at the end of each quarter. The operator shall submit bills in respect of the quarter ended in quadruplicate after the end of each quarter for the payment after submission of PBG as per Clause no.6.6.

5.21 PAYMENT PROCEDURE

The Contractor shall raise bills against the completed supply/works as per para 5.20 above and payments shall be released within 30 days against undisputed bills after adjusting liquidated damage etc., if any.

5.22 RATES TO BE FIRM AND INCLUSIVE OF ALL TAXES

5.22.1 The rates quoted by the Contractor shall remain firm inclusive of all taxes, duties and binding till commissioning of the project in all respect. The rates shall not be subject to escalation. Rates shall be deemed to include and cover all costs, expenses, taxes, duties, levies, royalties, foreign exchange variation, etc. and liabilities of every description and all risks associated in execution, for completing and handing over the work to the Owner by the Contractor. However, any statutory variation in the

applicable rates taxes and duties including new taxes if any during the commissioning period will be to OIL INDIA's account.

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

5.23 DEFECTS PRIOR TO TAKING OVER

5.23.1 If at any time before the work is taken over, Engineer-in-Charge shall:

- i. Decide that any work done or materials used by the Contractor or any sub-Contractor is defective or not in accordance with the contract, or that the works or any portion thereof, are defective, or do not fulfill the requirements of contract (all such matters being hereinafter, called 'Defects' in this Clause).

And

- ii. As soon as reasonably practicable notice is given to the Contractor in writing of the said decision, specifying particulars of the defects alleged to exist or to have occurred, and then the Contractor, at his own expense and with all efforts shall make good the defects so specified.

5.23.2 In case the Contractor fails to do so, the Owner may take, at the cost and risk of the Contractor, such steps as may in all circumstances be reasonable to make good such defects. The expenditure so incurred by the Owner will be recovered from the amount due to the Contractor. The decision of the Engineer-in Charge with regard to the amount to be recovered from the Contractor will be final and binding on the Contractor. As soon as the works have been completed in accordance with the contract and have passed the tests on completion, the Engineer-in-Charge shall issue a certificate in which he shall certify the date on which the works have been so completed and have passed the said tests and the Owner shall be deemed to have taken over the works on the date so certified.

5.24 DEFECTS AFTER TAKING OVER

5.24.1 In order that the Contractor could obtain a completion certificate, he shall rectify any defect arising from the defective materials supplied by the Contractor or workmanship or any act or omission of the contract or that may have been noticed or developed after the works or group of the works has been taken over. . Normally it is expected that work will be completed within 15 days. However in case of unforeseen /genuine delay Engineer in charge may take a call on this aspect whose decision will be final .If any defect be not remedied within period stipulated above the Owner may proceed to do the work at Contractors risk and expense and deduct from the final bill such amount as may be decided by the Owner.

5.24.2 If by reason of any default on the part of the Contractor, a completion certificate has not been issued in respect of the works within one month after the date fixed by the Contractor for the completion of the work, the Owner shall be at liberty to use the works or any portion thereof in respect of which a completion certificate has not been issued , provided that the works or the portion thereof so used as aforesaid shall be offered reasonable opportunity for completion of these works for the issue of completion certificate.

5.24.3 All the aforesaid safeguards /rights provided for the Owner shall not prejudice its other rights/remedies elsewhere provided herein and/or under law.

5.25 COMPLETION CERTIFICATE

5.25.1 The contractor shall submit Completion Report of the project to Owner. The Completion Report shall consist of the following documents:

- (i) Copy of the Commissioning Certificate issued by the OIL India
- (ii) Technical documents as per scope of work & technical specifications according to which the work has been carried out.
- (iii) Four sets of as built drawings showing therein modification and corrections, if any, made during the course of execution signed by the Contractor. A soft copy of as built drawings shall also be submitted.
- (iv) Copy of complete layout of the solar plant including Evacuation system
- (v) Copies of test Certificates for type / routine tests performed on major equipment
- (vi) O&M Manuals – 3 sets
- (vii) HSE Manual - 3 sets
- (viii) Copies of Statutory clearances / permissions.
- (ix) Certificate / undertaking for making payment of all statutory requirements, labour wages and others and for any such claims.
- (x) An undertaking confirming the payment of all statutory taxes & duties, or document (s) having evidence of paying statutory duties, taxes etc. as per requirement of concerned statutory authorities.
- (xi) Certificate regarding completion of the facility in all respect including SCADA by the Engineer-In-Charge / Consultants

5.25.2 Owner shall issue Completion Certificate after verifying from the completion documents and satisfying itself that the work has been completed in accordance with details set out in the construction and erection drawings and the contract documents. No Completion Certificate shall be given nor shall the work be deemed to have been executed until the export of generated solar power commenced, statutory requirements are completed and all scaffolding, surplus materials and rubbish is cleaned off the site completely

5.26 AEP and Performance ratio

5.26.1 Bidder are expected to make their own study of solar profile and other related parameters of the area & make sound commercial judgment about Performance Ratio (PR) to determine the Annual power output i.e. Annual Energy Production of the plant. It shall be the responsibility of the bidder to access the corresponding solar insolation values and related factors of solar plant.

5.26.2 The bidder shall be required to install energy meters to record the Net Annual Energy Production (AEP) from the Solar Plant (Energy generated and exported from solar plant – Energy Import from OIL system)

5.26.3 Necessary corrections may be carried out by the Owner or its Consultant in the AEP furnished by bidders.

5.26.4 The corrected figure for AEP shall be considered for evaluation of bids. The same has to be ratified by the bidder.

5.26.5 The quoted AEP for 25 years shall be adopted for entire O&M period for

calculation of Performance Ratio.

- 5.26.6** The Successful bidder shall be responsible for achieving the Performance Ratio. For any shortfall in achieving the Performance Ratio (PR), the compensation shall be recovered from the successful bidder on annual basis. The successful bidder has to maintain the Solar Plant equipment(s) including its repair, replacement, overhauling, etc, so as to give the agreed Performance Ratio per year, for which OIL shall pay the agreed O&M charges only and no other charge / cost is payable by OIL.
- 5.26.7** In case the net exported energy recorded is less than AEP, then bidder shall be allowed to relocate the solar modules and install at different places at their own cost ensuring guaranteed Performance Ratio. The entire cost including cost of land, dismantling and re-erection, etc. shall be borne by the bidder. To ensure Performance Ratio, the bidder shall also be allowed to erect additional number of solar modules without extra cost to OIL.
- 5.26.8** The performance of 500 KW Solar Power Project shall be evaluated on annual basis. In case of shortfall in quoted Performance Ratio compensation shall be recovered as per compensation clause no 5.26.9.

5.26.9 Compensation Calculation:

Agreed Performance Ratio in Percentage (As per BRS 8): A

Achieved Performance Ratio in Percentage: B

$B = \text{Achieved Annual Energy Production} / \text{Nominal Annual Energy Production in kWh}^*$

*Nominal Annual Energy Production in kWh = Annual Cumulative Solar Irradiation intensity (KWHr/m²) for the that year X Generator area of the PV plant (m²) X Efficiency of the PV modules

Difference = A-B

Compensation = *Calculated AEP for the Year X (A-B) X 9.437 X 25

*Calculated AEP for the Year = Nominal AEP for the Year X Guaranteed PR

Unit rate = 1.25 X 7.55 (Tariff @ LT Commercial rate of corresponding year) = 9.437

Calculation:

First Year:

At the end of the first year, if the plant failed to achieve the PR (A above) than

a) The bidder shall compensate as follows:

Guaranteed PR: A

Achieved PR: B1

Difference: A-B1

Compensation: (Calculated AEP with the Guaranteed PR) X (A-B1) X 25 Years

Second Year onwards:

b) If the PR quoted in the BRS 8 for the second year is equal or more than the achieved PR of first year then no compensation will be levied.

If the achieved PR for the second Year is less than the achieved PR of the first Year but equal to the Guaranteed PR for second year as quoted in BRS8, then no compensation will be levied.

If the achieved PR is less than the Guaranteed PR for the second year as quoted in BRS8 and less than the achieved PR of first Year then compensation will be calculated as follows:

Achieved PR of First Year: B1

Second Year Guaranteed PR (BRS8): A2

Second Year achieved PR: B2

Difference: (B1/A2 whichever is less)-B2

Compensation: (Calculated AEP with the Guaranteed PR for the second Year) X Difference X 24 Years.

This will continue for the remaining years of O&M.

5.27 PERFORMANCE RATIO GUARANTEE TEST

5.27.1 The test to prove the Performance Guarantee shall be conducted at site by the contractor in presence of Owner's/Consultant representative. The PG test procedure shall be submitted by successful vendor after the award of the contract for review and approval by OIL/Consultant. This test shall be binding on both the parties of the Contract. Any special equipment, instrumentation tools and tackles required for successful completion of the Performance Guarantee Test shall be provided by the Contractor free of cost.

5.27.2 The procedure for PG demonstration test shall be as follows:

- i) A calibrated pyranometer shall be installed by the contractor at the location mutually agreed by the Contractor and Owner/Consultant. The test report for the calibration shall be submitted by the contractor for approval by the Owner/Consultant. The output of this pyranometer for three months of the PG test shall be made available at SCADA.
- ii) "Achieve d energy production" exported from the plant shall be noted for three months. For this purpose, the energy recorded in the incoming feeder meter from the solar plant shall be taken into account.
- iii) This recorded energy shall be compared with the "Nominal Energy Production" as mentioned in 5.26 above for 3 months.

5.27.3 Following factors shall be considered for computing the "Nominal Energy Production"

- i) Generation loss due to grid outage: The measured global solar radiation of the period of the power evacuation system shall be excluded to calculate average global solar radiation for the period of the PG test

5.27.4 In case of non- achievement of the desired performance of the plant, the contractor, in its own interest, take adequate measures, such as providing additional modules etc., to improve the performance of the plant at no additional cost to OIL. Otherwise compensation as per clause no 5.26 will be applicable at the end of the year.

5.28 INSURANCE

5.28.1 Insurance during Supply, Erection and Commissioning

- a) Contractor shall at his own expenses effect insurance from IRDA approved agencies to the supplies, transit, personnel and all other related activities to the satisfaction of the Owner as follows including all third-party risks. A copy of all

such policies will be given to the Owner along with. Owner shall be informed of all such insurance policies.

- b) Insurance to cover marine & transit insurance
- c) Insurance to cover storage cum erection cum commissioning with suitable endorsements in the name of OIL. For this: -
 - Bidder should submit the copy of the comprehensive policy along with the bid
 - Upon award of the work, the endorsed copy of the insurance should be submitted to OIL.
 - In case of any claim, if the endorsed insurance cover is not sufficient to meet the claimed amount, the contractor will be liable for the shortfall and the same will be recovered as amount due under the contract.”
- d) Insurance to cover third party liability along with an undertaking indemnifying Owner from any such claim.
- e) Workmen compensation and /or group personal accidents Insurance policy covering its employees and workers including Sub contractor
- f) Contractor shall also effect and maintain any other insurance that may be required under any law or regulation or practice from time to time.

5.28.2 The Contractor shall take all reasonable precautions to prevent fire of any nature in the general area of his operations and he shall be responsible for all damage from fires due directly or indirectly.

5.29 TESTS/INSPECTION

5.29.1 Inspection shall be carried out on 10 % quantity of the ordered major equipment viz. solar module, Transformer, String Monitoring Box (SMB) and Module Structures. All other item like cables, conductors, relays and associated equipment/components shall conform to relevant international/national standards.

5.29.2 Inspection for inverter shall be carried as per approved QAP for 100% quantity.

5.29.3 In case of imported components the same should be inspected at the stock yard warehouse of bidder for quantity mentioned in above clauses.

5.29.4 Test certificates for all major/critical items (Modules, Inverters, Transformer, String Monitoring Box (SMB), Module Structures shall be submitted to owner and its consultant along with in process checks carried out at time of manufacturing, assembling, pre dispatch with applicable standards at no cost to OIL INDIA. Copies of test certificates for such inspections in triplicate shall be supplied before dispatch of the equipment.

5.29.5 After the award of work, the successful bidder shall furnish a complete list and details of all tests to be conducted on all major components

5.29.6 The bidder shall also furnish a schedule for inspection / testing, so that Owner may associate his representative for witnessing of the tests. The Contractor shall also furnish copies of such test/inspection reports for reference and records of the Owner.

5.29.7 Owner may depute its personnel or authorized representative or consultant for witnessing the testing of major components at manufacturer's works. The bidder shall make all the required arrangements for such testing at its work.

5.29.8 Contractor shall arrange and extend necessary cooperation for effectively carrying out inspection / testing. However, this shall not absolve the responsibility of the Contractor in providing the performance guarantee/warranty.

- 5.29.9** The scope of work broadly includes review of manufacturing / fabrication procedures, QA/QC plans, review of Non-Conformance Report (NCR) issued by the Contractor during fabrication stage, review of documents including Quality Assurance Plan during manufacturing/ fabrication activities.
- 5.29.10** All the standard tests in accordance with applicable Standards adopted, shall be carried out at the manufacturer's works on the entire major component and their accessories, so as to ensure efficient operation and satisfactory performance of all the component/parts.
- 5.29.11** Any special test to be performed shall be mutually agreed upon between the Bidder and Owner
- 5.29.12** All equipment shall be further tested at site(s), wherever required, before commissioning.
- 5.29.13** The work is subject to inspection at all times and at all places by Owner. The Contractor shall carry out all instructions given during inspection and shall ensure that the work is carried out according to the relevant codes and practices.
- 5.29.14** Decision of Owner in regard to the quality of work and materials and its performance with respect to the specifications and drawings shall be final.
- 5.29.15** If any item is not found conforming to standards during test/inspection, the same shall be replaced / rectified by Contractor without any cost to Owner and shall be re-offered for inspection.

5.30 GUARANTEE / WARRANTY

- 5.30.1** Any material, equipment and/or accessories which prove defective or which fail to meet the design guarantee or Performance Guarantee during the defects liability period (which is 24 months from the date of completion of Stabilization Period) the Contractor shall replace / rectify at his own cost, such material, equipment and/or accessories.
- 5.30.2** The Contractor shall guarantee solar farm and installation work, for a period of 24 (twenty four) months from the date of completion of Stabilization Period. Any damage or defect that may arise or lie undiscovered at the time of issue of completion certificate, connected in any way with the equipment or materials supplied by him or in the workmanship, shall be rectified or replaced by the Contractor at his own expenses, as deemed necessary by the Engineer-in-Charge or in default, the Engineer-in-Charge may cause the same to be made good by other workman and deduct expenses (for which the certificate of Engineer-in-charge shall be final) from any sums that may be then or at any time thereafter, become due to the Contractor or from his SPBG.

5.31 STATUTORY APPROVALS FOR WORKS

- 5.31.1** All statutory approvals/permissions related to installation of the solar power project and carrying out its operation & maintenance (O&M) as may be required under applicable law, rules shall be obtained by the Bidder. All fees for such statutory approvals for installation & commissioning and first year of O&M shall be borne by the Contractor.
- 5.31.2** Inspection and acceptance of the work as above shall not absolve the Contractor of any of his responsibility under this contract.
- 5.31.3** All fee / charges payable to any statutory authority on account of operation & maintenance of solar plant shall be borne by the Contractor during the warrantee period of the contract.

5.31.4 The Contractor shall be responsible for interconnection of Solar Plant with the OIL domestic station, so as to export power from Solar Plant. The date of commissioning will not be considered prior to inter connection to OIL domestic substation So long as commissioning of the project is not delayed and operation and maintenance is not hampered due to delay in statutory approvals, no Price Reduction shall be affected.

5.32 PROGRESS REPORT & PROJECT REVIEW MEETING

The EPC contractor shall ensure that his designated project in charge shall submit fortnightly and monthly progress report (soft and hard copies) along with catch up plans against slippages to Consultant and simultaneously to Owner.

Owner shall hold project review meetings with Consultant and EPC Contractor at pre-defined periodicity.

SECTION–VI
SPECIAL CONDITIONS OF CONTRACT
FOR
OPERATION & MAINTENANCE (O&M)
OF
SOLAR POWER PLANT

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SECTION–VI

SPECIAL CONDITIONS OF CONTRACT FOR OPERATION & MAINTENANCE (O&M) OF SOLAR ENERGY PROJECT

6.1 TERM OF O&M CONTRACT

The Operator shall be responsible for Comprehensive Operation and Maintenance of the solar power project for a period of Five (5) years from the date of stabilization.

6.2 BATTERY LIMIT

The battery limit for bidder during the period of O&M contract shall cover complete solar energy plant and power evacuation system up to the point of interconnection with OIL system.

The bidder shall be responsible for arranging at his own cost all spare parts required for replacement for keeping the solar plant operational, repairs / replacement of any defective equipment(s) at his own cost as required from time to time, schedule and preventive maintenance, major overhauling of the equipment, maintaining log sheets/record for operational detail, deployment of staff for continuous operations and qualified engineer for supervision of O&M work, deployment of security personnel so as to ensure smooth operation for the entire period of O&M. Owner shall not pay any other amount except the agreed O&M charges.

6.3 SCOPE OF WORK

The Scope of Work for O&M Contract shall include but not limited to the following: -

1. Supply of spares
2. Consumables
3. All Statutory compliances as applicable at the time of bidding.
4. Arrangement of Tools
5. Arrangement of Tackles
6. Crane Management
7. Testing
8. Liaison with all Government agencies
9. All administrative work
10. Maintaining records and submissions to all concerned authorities
11. Security
12. Coordination with the required agencies for revenue realization
13. Performance ratio test as per industry practice.

The detailed scope of work is given in section VII C.

Cost of all the above items shall be included the price quoted for O&M Contract.

Operator shall provide all day to day operation and maintenance services for the solar energy project as set forth herein. Operator shall perform the work and arrange/supply all required spare parts, cranes, special tools & tackles or any other items as may be

required, in a prudent and efficient manner and in accordance with manufacturer's and systems designers' specifications, Annual Operating Plan for the Plant and O&M manuals.

All applicable laws of the land including environmental protection, pollution, sanitary, employment and safety laws, ("Government Rules") shall be complied.

6.4 PRUDENT UTILITY PRACTICE

Operator shall use all reasonable and practical efforts:

- To maximize plant capacity utilization
- To minimize plant downtime
- Optimize useful life of all the equipment of the solar energy project.

The Operator shall perform the following obligations prior to taking over of the O&M activity:

- Prepare Mobilization plan in consultation with the Owner
- Provide the services and personnel set forth in the Mobilization Plan
- Prepare in consultation with the Owner, the initial Annual Operating Plan
- Develop and implement plans and procedures including those for firefighting, maintenance planning, procuring and inventory control of stores and spares, plan to meet emergencies, plant safety and security; and such other facilities and systems as may be necessary to commence Operator's ongoing responsibilities.

After taking over the activity of O&M for the power plant, the Operator shall be responsible for the operation and maintenance of the plant and shall perform all necessary services including applicable services listed below: -

- i) Provide all operations and maintenance services necessary and advisable to efficiently operate and maintain the plant, including all associated and appurtenant mechanical and electrical equipment keeping in view the objectives set-forth herein above.
- ii) Maintain at the Plant accurate and up-to-date operating logs, records and Monthly reports regarding the operation and maintenance of the Plant which shall include detail of power output, other operating data, repairs performed and status of equipment, all such records to be maintained for the lifetime of the solar plant. Upon expiry of term, the operator shall hand over such records to the Owner. However, Owner shall have access to all such records at any time.
- iii) Regularly update and implement equipment repair or replacement and preventive maintenance program that meet the specifications of the equipment manufacturers and the recommendations of the original equipment manufacturers.
- iv) Perform periodic preventive maintenance and overhauls required for the Plant in accordance with the recommendations of equipment manufacturers. Attend any break down in the Plant/Facility promptly. Inform time taken in attending to such breakdown shortly after restoration of Solar System.
- v) Provide technical & engineering support for resolving operation and maintenance problems.
- vi) Perform the services required to procure all spare parts, or equipment/s as required, overhaul of parts, tools and equipment, required to operate and maintain the Plant in accordance with the recommendations of individual original

equipment manufacturer.

- vii) Operate and maintain the Plant for fire protection and safety of equipment. Fire protection here means that the contractor shall provide all necessary equipment for protection of complete solar against fire.
- viii) Maintain with the assistance of the Owner, records regarding the facility in accordance with prudent industry practices.
- ix) Arrange spares, consumables, tools & tackles, crane and testing. Cost of these items shall be included in the price quoted for O&M.

6.5 PERSONNEL

The Successful bidder shall employ adequately qualified and experienced personnel for operating and maintaining the solar power plant. The Successful bidder shall ensure that such personnel remain on duty at the plant at all times, i.e. 24 (twenty four) (24) hours a day and seven (7) days a week during the O&M period.

The successful bidder shall deploy personnel as under meeting all the requirements of the O&M activities of the plant:

- i) Skilled and experienced site-in-charge / Engineer – 1 No shall be available at site during power generating hours

Site-in-charge / Engineer shall be at least Diploma holder in Electrical / Electronics Engineering.
- ii) Electricians (ITI passed) – 1 No during power generating hours & 1 No for rest of the time each day (i.e. non power generating hours).
- iii) Tradesmen / Helpers – 2 Nos. for cleaning modules & equipments, up keeping and other associated works at site.
- iv) Security personnel – Adequate security personnel shall be provided.

Operator shall furnish the list of employees with qualification to OIL.

6.6 O&M PERFORMANCE GUARANTEE

The Bidder shall submit a Bank Guarantee one month prior to commissioning of project completion an amount equivalent to 10% (ten percent) annual O&M charges for the year. Every year a fresh bank guarantee shall be submitted by the Bidder, having validity of 13 months, one month prior to expiry of the previous Bank Guarantee or the existing bank guarantee can be extended suitably every year till O&M contract remains with the Bidder.

Such Bank Guarantee shall be given in the Performa as per Annexure – III / IV.

6.7 INSURANCE

By OIL

Insurance policy for Fire and allied perils including earthquake, flood, storms, cyclone, tempest, theft and burglary, and any other purpose, as deemed fit by OIL, shall be taken by OIL regularly during O&M contract period. In case of any loss/ claim covered under the policy, O&M contractor shall immediately inform the same to OIL & **facilitate OIL in filing the claim with Insurance Company.** Thereafter, Contractor shall submit all required documents to OIL for onward submission to Insurance Company for filing claim and take all necessary measures required to protect the interest of OIL for settlement of such claim.

The Contractor shall replace the damages to equipment which occur on account of events covered under such Insurance Policies, without waiting for settlement of the insurance claim, on the basis of estimation duly approved by OIL. OIL shall issue LOA / PO, wherever applicable, to go ahead and carry out repairs / replacement. On settlement of such claims by the Insurance Company, OIL will bear the additional cost of replacement / repair over and above the insurance claim settled. In the event of rejection of the above claim by Insurance Company, the entire replacement / repair cost will be borne by the Contractor and the amount, if any, given by OIL for repair / replacement will be refunded back by the contractor.

In case of claim against fire (not attributable to Force Majeure), theft & burglary, OIL shall only reimburse to the contractor to the extent claim received from the Insurance Company and the differential cost of replacement / repair over and above the insurance claim settled, if any, will be borne by the Contractor. In the event of rejection of the above claim by Insurance Company, entire replacement / repair cost will be borne by the Contractor

By Bidder

Bidder shall provide or obtain and maintain in force throughout the period of contract the following insurance coverage:

- Insurance to cover third party liability along with an undertaking indemnifying the Owner from any such claim.
- Workmen compensation and /or group personal accidents Insurance policy covering all its employees and works including the sub-contractor.
- Contractor shall also effect and maintain any and all other insurance, which he may be required under any law or regulation or practice from time to time.
- The Contractor may or may not take MBD insurance policy but it would be the responsibility of the Bidder to operate and maintain the solar plant and all the associated equipment at his own cost during the entire O&M period for which OIL shall pay the agreed O&M charges only. Any replacement / repair / modification of any item / equipment shall be carried out by the Bidder at his own cost during the entire O&M period, so as to have minimum machine down time. OIL shall not be responsible for any break down / failure of any equipment due to any reason thereof except for Force Majeure / Fire & Allied Perils Events or extraneous reasons. In the case of any delay/ lapse on the part of O&M Contractor in restoring the operations beyond the time periods to be finalized with the successful bidder before signing of the O&M contract, the loss in generation would be charged to the O&M Contractor.
- The Contractor shall take all pre-cautions to prevent fire of any nature in the area of jurisdiction of his operations and in case of any losses arising out of such accidents, due to negligence on the part of the Contractor or Sub contractor, has to be borne by the Contractor.
- The contractor shall replace the damaged equipment without waiting for settlement of insurance claim. In the case of any delay / lapse on the part of O&M Contractor, the loss would be made up by them.
- The scope / type / form of insurance cover mentioned elsewhere in this bid, for the scope of the project for the quoted O&M period, would be superseded by this Clause. (Refer clause 4.8)

6.8 MEASUREMENT OF ENERGY AND METERING

6.8.1 Metering Systems:

The Operator shall maintain the Metering System (which shall include ABT / TOD IEGC compliant meter, current and potential transformers and metering equipment). The Metering System will be designed and installed conforming to prudent practice so as to measure outgoing energy and power delivered by the Solar plant to the OIL's domestic station at the delivery point, i.e. point of inter connection and also for the import of energy for any purpose. Metering equipment shall comply with the requirements of Grid Code but shall not be inferior to 0.2 accuracy Class. Meter reading shall be done jointly with OIL India. Testing of Meters

The Owner shall have the right to carry out inspections of the Metering Systems from time to time to check their accuracy.

All testing and metering equipment shall conform to the relevant IS

Sealing and Maintenance of Meters

The Metering System shall be sealed in the presence of both parties

When the Metering System and/or any component thereof is found to be outside the acceptable limits of accuracy or otherwise not functioning properly, it shall be repaired, re-calibrated or replaced by the Operator on priority.

Breaking of meter seals shall not be done except in case of any requirement by testing / calibration. Even in such case the Operator shall immediately inform the Owner of such requirement to enable Owner for deputing its representative. All testing / calibration of metering system shall be done by accredited agency.

6.9 O&M CHARGES

The Operator shall be responsible for Comprehensive Operation and Maintenance of the solar power project for a period of five (5) years from the date of commissioning. Payment will be made after all statutory deductions as applicable to such type of contracts. The rate quoted shall deem to be inclusive of all salaries and other cost, expenses of employees, cost of spares, cost of repair / replacement / modification of any equipment or system for the entire period of 25 years so as to give guaranteed derating.

6.10 PAYMENT

As per payment clause 5.20.3 payment period shall be on quarterly basis at the end of each quarter. The operator shall submit bills in respect of the quarter ended in quadruplicate after the end of each quarter for the payment after submission of PBG as per Clause no.6.6. Quarterly payment will be released on production of the following documents:

- Record of major components / sub-systems repaired or replaced during the quarter.
- Record of preventive maintenance carried out by the Contractor during the quarter and preventive maintenance plan for next quarter.
- A certificate for compliance to the existing laws for employment of the manpower, and payments for statutory taxes and duties.

6.11 SUBMISSION OF DAILY & MONTHLY GENERATION DATA STATEMENT

A daily report comprising energy generation breakdowns, generation hours, low irradiation hours, plant availability etc. shall be sent through e-mail and /or made

available through to OIL India

6.12 OPERATOR'S OFFICE AT SITE WITHIN OIL PREMISES:

The bidder shall construct an office cum store at site to facilitate the O&M staff, this office shall be as follows:

- The office shall be constructed at the suitable location to have an easy access to both the blocks (J Block and K Block).
- The size of the office shall be 14 X 12 X 10 feet.
- Office shall be well ventilated consisting of one washroom.
- Office shall have minimum facilities like split AC (1.5 Ton), Desktop/Laptop computer with table, 4 Chairs, one Amirah etc.
- Provision for an additional space to keep spares shall be made.

6.13 POWER OF ENTRY

In case the Operator does not execute the work in the manner described in the contract documents or if he shall at any time in the opinion of the Engineer-in-Charge:

- i) Fail to operate & maintain the plant in conformity with contract document or
- ii) Substantially suspend work or the works for a continuous period of 15 days without permission from the engineer in charge, or
- iii) Fail to carry on and execute the works to the satisfaction of the engineer in charge, or
- iv) Commit or suffer or permit any other breach of any of the provisions of the contract on his part to be performed, or
- v) If the operator abandons the works, or
- vi) If the Operator during the continuance of the contract becomes bankrupt.

In any of such events, the Owner shall have the power to enter upon the works and take possession of the plant, materials, spares, equipment, tools and stocks thereon, and to revoke the Operator's license to operate the plant by his agents, other Operators or workmen.

6.14 HANDING OVER THE PLANT AFTER EXPIRY OF TERM

In the beginning of last year of expiry of term & extension of term as the case may be, the operator shall hand over the plant to the Owner in operationally fit and running condition the associated major & critical equipment to ensure that plant is operational and in good running condition in accordance with the norms of original equipment manufacturer. While handing over the plant, the operator shall hand over all technical documents, literature, and instruction manuals, lists of spare part & tools & tackles. The Operator will also hand over all the relevant record/documents.

6.15 DEFECTS / NON-ACHIEVEMENT PLANT DEPENDABLE CAPACITY AFTER HANDING OVER

In order that the Operator could obtain a Handing Over certificate, he shall rectify any defect / non-achievement of plant dependable capacity in accordance to the norms of manufacturer arising from the defective Operation & maintenance practices or

noncompliance of Prudent Utility Practices or that may have been noticed or developed during/ after the plant has been taken over, the period allowed for carrying out such works will be normally one month. If any defect could not be remedied or plant dependable achievement capacity in accordance to the norms of manufacturer could not be achieved within a reasonable time the Owner may proceed to do the work at operators risk and expense and deduct from the final bill such amount as may be decided by the Owner.

All the aforesaid safeguards /rights provided for the Owner shall not prejudice its other rights/remedies elsewhere provided herein and/or under law.

6.16 Deleted

6.17 FAILURE OF THE OPERATOR TO COMPLY WITH THE PROVISIONS OF THE CONTRACT

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

- (a) Determine the Contract: In which event the Contract shall stand terminated and shall cease to be in force and effect on and from the date appointed by the Owner on that behalf, whereupon the contractor shall stop forth with any of the contractor's work then in progress, except such work as the Owner may, in writing, requires to be done to safeguard any property or work, or installations from damage, and the owner, for its part, may take over the work remaining unfinished by the Contractor and complete the same through fresh contractor or by other means, at the risk and cost of the Contractor, and any of his sureties if any, shall be liable to the owner for any excess cost occasioned by such work having to be so taken over and completed by the Owner over and above the cost at the rates specified in the schedule of quantities and rates.
- (b) Without determining the Contract: To take over the work of the contractor or any part thereof and complete the same through a fresh contractor or by other means at the risk and cost of the Contractor. The contractor and any of his sureties are liable to the Owner for any excess cost over and above the cost at the rates specified in the schedule of quantities/ rates, occasioned by such works having been taken over and completed by the Owner.
- (c) In other cases, the decision of the Owner is binding on the contractor.

6.17.2 In such events of clause 6.17.1 (a) or (b) above

- (a) The whole or part of the security deposit furnished by the Contractor is liable to be forfeited without prejudice to the right of the Owner to recover from the contractor the excess cost referred to in the sub-clause aforesaid, the Owner shall also have the right of taking possession and utilizing in completing the works or any part thereof, such of materials, equipment and plants available at work site belonging to the contractor as may be necessary and the Contractor shall not be entitled for any compensation for use or damage to such materials, equipment and plant.
- (b) The amount that may have become due to the Contractor on account of work already executed by him shall not be payable to him until after the expiry of six (6) calendar months reckoned from the date of termination of contract or from the taking over of the work or part thereof by the Owner as the case may be, during which period the responsibility for faulty materials or workmanship in respect of such work shall under the contract, rest exclusively with the contractor. This

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

- 6.17.3 Before determining the contract as per clause 6.17.1 (a) or (b) provided in the judgment of the Owner, the default or defaults committed by the Contractor is/are curable and can be cured by the Contractor if an opportunity given to him, then the Owner may issue notice in writing calling the Contractor to cure the default within such time specified in the notice.
- 6.17.4 The Owner shall also have the right to proceed or take action as per 6.17.1 (a) or Clause 6.17.1(b) above, in the event that the contractor becomes bankrupt, insolvent, compounds with his creditors, assigns the contract in favour of his Creditors or any other person or persons or being a company or a corporation goes into liquidation, provided that in the said events it shall not be necessary for the Owner to give any prior notice to the contractor.
- 6.17.5 Termination of the Contract as provided for in sub-Clause 6.17.1 (a) above shall not prejudice or affect their rights of the Owner which may have accrued up to the date of such termination.

SECTION–VIIA SITE DESCRIPTION

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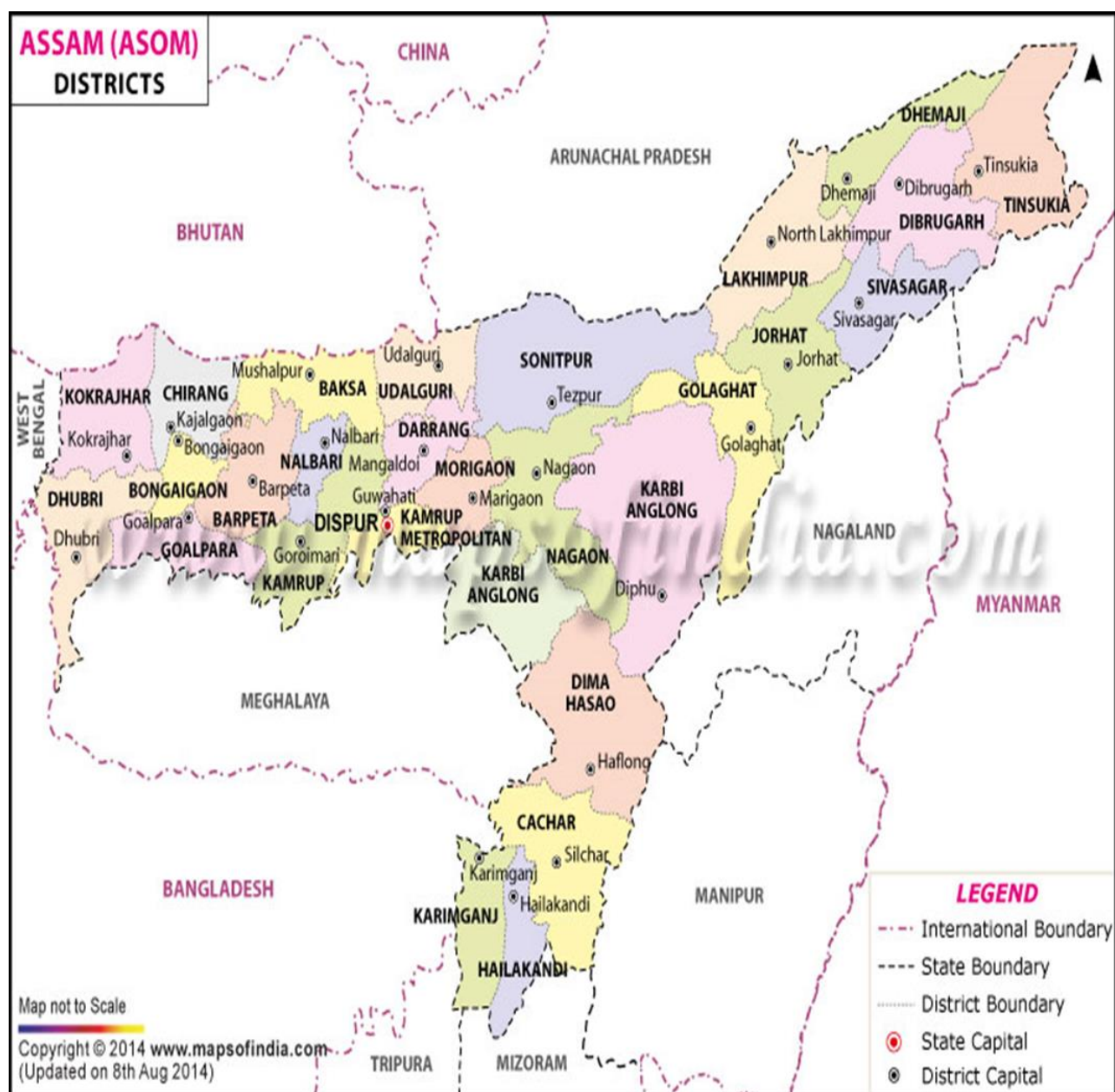
SECTION-VIIA

SITE DESCRIPTION

7 LOCATION

500 KW SPV power plant to be set up at PS # 3 OIL situated in OIL premises of Jorhat, Assam which is about one km. from National Highway-37. It is surrounded by semi populated green area, which makes its environment pollution free and provides plenty of fresh air all the time. The Jorhat District is situated in the North-East part of country.

MAP OF ASSAM



7.1 PROPOSED SITE OF SOLAR PLANT:

Average Co-ordinates of site

Coordinates in UTM: 2962683N, 0622780E

Coordinates in Degree. Decimal: Latitude: 26.78016, Longitude: 94.23506

Average Elevation: 256 masl

Ambient temp of this area: 0° C to 50° C. As such material to be used in solar power plant shall be capable to withstand this condition and operate satisfactorily and will give correct result.

7.2 DETAILS OF PROPOSED PROJECT LOCATION:

- a) Proposed capacity of the solar plant : 500KW
- b) Location : Village Charigaon, PS#3 Jorhat, Assam
- c) Estimated life of PV Power plant : 25 Years
- d) Estimated benefit : Generation of Green Power.
- e) Details of land : OIL India has already in possession of required land. Same is in two blocks. Namely "J Block" measuring 11544 sqm & "K Block" measuring 4560 sqm. Proper filling will be required. Boundary is already existing. Necessary road & path will be required to be constructed. Work can be started.

Presently no tube well is available in the area. A bore well will be dugged by the Contractor at suitable location in the area so that water is available for solar power plant. For water need of O&M staff, water for washing of panels is responsibility of contractor.

Water is required to be treated by water softener treatment plant before using to clean the modules. This water softener treatment plant of required capacity is also in scope of supply. A pipe network for cleaning the modules shall be provided. Same is also included in scope of contractors.

- f) Site Map : Site map is enclosed as Appendix II
- g) Water quality report : Appendix III
- h) Single line diagram : Appendix IV

SECTION–VIIB
SCOPE OF WORK
(SUPPLY, ERECTION & COMMISSIONING)

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SECTION– VIIB

SCOPE OF WORK

(SUPPLY, ERECTION & COMMISSIONING)

The Scope of Supply covered under this specification shall be but not limited to the following:

7.3 DESIGN, MANUFACTURING & SUPPLY

The successful bidder shall design the solar and its electrical system in such a way that the solar plant should

- Run in parallel with the existing Power Generating system of OIL
- The load shall be fed by Power from OIL's system when the solar power will not be available.

Design, engineering, manufacture, procurement & supply of equipment, and materials, testing at manufacturers works, inspection, packing and forwarding, supply, unloading at site, associated civil works, services, permits, installation and incidentals, insurance at all stages, erection, testing and commissioning of 500KW Solar PV Power Plant with associated equipment and materials on turnkey basis in PS#3 Jorhat District of Assam with its Comprehensive Operation & Maintenance for 5 years thereafter

The equipment and materials for 500KW Solar PV Power Plant with associated system (Typical) shall include but not be limited to the Supply, Erection, and Testing & Commissioning of the following:

- (i) Solar PV modules including mounting frames, mounting structures, foundation bolts and nuts for holding structures and module inter connection.
- (ii) Array Junction boxes /String combiner Box with surge protection and monitoring system, D C Power Interfacing Panel
- (iii) Distribution boxes and fuse boxes. MCCBs, Surge Arrestors
- (iv) Inverters with SCADA and monitoring system.
- (v) Weather Monitoring system to check Solar Irradiation, Wind Speed & Ambient Temperature.
- (vi) LT (A C) distribution Board, Plant Monitoring Desk, D C Distribution board for DC supply for plant.
- (vii) Digital Voltage and Ammeter, kWh meters. Metering instrument and protection relays along with battery system.
- (viii) DC cable (Copper) for interconnection between equipment including end terminations and other required accessories for DC portion of plant
- (ix) Control Cables (copper) including end terminations and other required accessories.
- (x) LT (433 V) Power Cables (Aluminium) including end terminations and other required accessories for AC side of plant.

- (xi) Battery and Battery charger Internal 433 volts.
- (xii) Data acquisition system with remote monitoring facilities.
- (xiii) Lighting arrestors.
- (xiv) PVC pipes and accessories/trenches.
- (xv) Tool kit and earthing kit.
- (xvi) Metering set and protection /Isolation systems at both ends of line,
- (xvii) Earthing system for PV Array, DC power system, Lightning protection system
- (xviii) Security equipment such as IP night vision at least 5 no's CCTV cameras, IR motion sensors etc.
- (xix) Fire protection and firefighting equipment, Fire extinguishers, Danger Plates, Name Plate etc.
- (xx) ABT Metering Set with CT- PT Set having accuracy of 0.2s class (Metering Cubicle) with Main & Check Meter at solar plant and at OIL India Domestic substation in line with Grid code.
- (xxi) 10 No's 100 Watt, 8000 lumens, LED Bay (Flood) Light with Aluminium fixture and PC glass fixed mounted on at least 15-Meter-high Mast (Max 2nos fixers on one Mast) and to be fixed on all around Boundary.
- (xxii) Transportation of equipment from Works to Site.
- (xxiii) Unloading, Loading of all supplied Equipment
- (xxiv) Control room equipment related to solar system etc.
- (xxv) Testing, maintenance and condition monitoring equipment.
- (xxvi) Mandatory spares & spares for 5 years
- (xxvii) Suitable water piping lines to make permanent arrangement for module washing and their drainage,
- (xxviii) Approved Size Name Board to be fixed at Entry point of Solar Plant of approved design.
- (xxix) Supply and providing of suitable illumination system having LED fixtures for control room, inverters Room, outside to these buildings etc.
- (xxx) Any other equipment / material required to complete the 500 KW Solar Power Plant on turnkey Basis.
- (xxxi) Design of 500KW Grid Interactive Solar Power Plant and its associated electrical & mechanical auxiliary systems includes preparation of single line diagrams and installation drawings electrical lay outs, erection key diagrams, electrical and physical clearance diagrams, design calculations for Earth- mat, Bus Bar & Spacers indoor and outdoor lighting/illumination etc. design memorandum and other relevant drawings and documents required for engineering of all facilities within the fencing to be provided under this contract, are covered under Bidders scope of work

7.4 Weather Monitoring Station

One Solar Observatory including testing facilities. The Solar Observatory with associate system shall include but not be limited to the following:

- ❖ Primary Pyronometer (1 Set) – Horizontal and Tilted.
- ❖ Secondary Pyronometer (1 Set) – Horizontal and Tilted.
- ❖ Modified Shade Disk Kit.
- ❖ Sunshine Duration Recorder.
- ❖ Anemometer.
- ❖ Temperature & Relative Humidity Meter.
- ❖ Particulate Meter.
- ❖ Solar Panel (35W) + Battery Bank.
- ❖ Adam Module and data logging System (8 Ch) and
- ❖ Desktop computer

The Primary pyronometer shall be installed at the top of the control room or any other suitable location to avoid discrepancy in data recording. The recording/reading of this pyrometer shall be considered for PR and its compensation calculations.

The secondary pyronometer shall be installed at the suitable location of OIL's existing building, the reading/recording of this pyronometer shall be considered in event of failure of primary pyronometer.

In addition to above, the contractor is required to measure the Solar Radiation and other climatic conditions. The major categories of site-specific assessment required are:

- Annual Cumulative Solar Irradiation
- Global Solar Radiation ("GSR")
- Diffuse Solar Radiation ("DSR")
- Sunshine Duration
- Atmospheric Turbidity
- Temperature & Humidity
- Wind Speed

7.5 Civil Works

Civil Works of shall be performed with respect to the following but not limited to:

- Site grading, levelling, clearing of vegetation
- Design and construction of foundation for module mounting Structures.
- Modules, all electrical equipment, Transformer platform and allied equipment
- Internal road and pathways, drains and cable trenches.

- Equipment foundations
- Water treatment plant including tube well for cleaning of Modules Water Storage Tank, Water Harvesting, Sewage & Drainage System. Treated water quality shall match the potable water quality (IS 10500).
- Provision of drainage system to prevent water logging in the plant premises.
- Civil foundation work of for AC Distribution Board, DC distribution Board
- Switchgears, Solar Road lights
- Barbed wire Fencing of transformer yard
- Extension of existing Domestic substation to accommodate incomer from solar plant.
- All foundation should be designed as per seismic Zone V

7.6 Erection Work

Erection Work shall be performed with respect to the following but not limited to:

- Solar PV Array. Inverters, all associated and allied equipment of solar plant
- Power and control Cables.
- Extension of existing domestic substation room
- Laying of cable from solar plant to domestic substation
- Entire GI cable tray inside control room building
- Fabrication, supply & erection of cable trays, support, brackets and accessories in case of site fabrication cable tray.
- Galvanized steel rigid/flexible conduits and accessories, Hume pipes, ferrules, lugs, glands, terminal blocks, galvanized sheet steel junction boxes, cable fixing clamps, nuts and bolts etc. as per requirement and site specific conditions.
- Supply of necessary steel materials for field fabrication of cable trays, supports, brackets, grounding system etc.

7.7 Pre-commissioning & Commissioning

Pre-commissioning & Commissioning of all supplied Equipment. Test running of Grid Connect Solar Power Plant as well as load trials at site, prior to handover and implementation of maintenance contract.

7.8 Other Associated Works

Any other items not specifically mentioned in the specification but which are required for erection, testing and commissioning and satisfactory operation of the solar power plant are deemed to be included in the scope of the specification unless specifically excluded on turnkey basis

7.9 Land Development

Land development, Design and construction of other civil works including:

- Suitable approach road and & internal roads to carry safe and easy transportation of equipment and material at the project site shall be made.
- Conducting contour survey of the Solar Photovoltaic Power Plant for the total area 1.5 Ha land for 500 KW MW solar plant & soil investigation.

7.10 Main Power, Utility and Water Arrangement

Construction Power & Water as required for this contract are to be arranged by the Bidder.

7.11 Operation and Maintenance

Total Operation & Maintenance of 500 KW Solar Photovoltaic Power Plant for the 5 year's period including insurance along with deployment of Engineering Personnel, Technicians, helpers for cleaning modules and up keeping of plant and Security Personnel.

7.12 Miscellaneous Works

This order is on turnkey Basis so all equipment & item which are not specifically mentioned but are required for completion of work including commissioning, operation & maintenance of Solar Photovoltaic Power Plant, in every respect and for safe and efficient operation and guaranteed performance are included in scope of supply without any extra cost.

7.13 Document and Drawings

Submission of following documents drawings data design and engineering information to Oil India Ltd or its authorized representative for review and approval in five copies.

- (i) Detailed technical specification of all the equipment
- (ii) Design criteria.
- (iii) Design calculations.
- (iv) General arrangement an assembly drawings.
- (v) Contour plan for the area.
- (vi) Solar Insolation Data, Solar Generator Area
- (vii) Schematic diagram for entire electric system
- (viii) G.A. drawings for, all types of structures.
- (ix) Quality assurance plans.
- (x) Test report (for type, acceptance, and routine tests).
- (xi) O&M Instruction's manuals and its drawings.

All drawings shall be fully corrected to agree with the actual "as built" site conditions and submitted to Oil India Ltd after commissioning of the project for record purpose

7.14 Project and Progress Reporting

The contractor shall forward to Oil India Ltd

- (i) The Schedule for various activities in the form of PERT Chart within a week from the date of detailed work order.
- (ii) Fortnightly site work progress report during construction period and
- (iii) Monthly O&M reports after commissioning of the project.

7.15 Operation & Maintenance Monitoring

Preparation and supply of detailed Operation, System and Maintenance manual of Power Plant

7.16 Quality Spares and Consumables

Establishing a system to maintain an inventory of spare parts and tools, equipment, consumables and supplies for the facility's and operation.

7.17 Training

Employ and coordinate the training of personnel who will be qualified and experienced to operate and monitor the facility and to coordinate operations of the facility with the grid system

7.18 Records

During the O&M period, the Contractor shall keep the measured daily data at regular interval and provide the same to Oil India Ltd in electronic form. The right use of the data shall remain with Oil India Ltd.

SECTION–VIIC
SCOPE OF WORK
(OPERATION & MAINTENANCE)

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SECTION–VIIC

SCOPE OF WORK (OPERATION & MAINTENANCE)

7.19 OPERATION AND MAINTENANCE

SCOPE

Owner intends to entrust the operation and maintenance (O&M) of the 500 KW solar farm on comprehensive basis to the Contractor on turnkey for 5 (five) years

Deployment of Engineering and supporting personnel and regulation of their Duties.

Deployment of Security personnel and regulation of their Duties.

Successful running of Solar Power Plant for optimum energy generation.

Monitoring controlling, troubleshooting maintaining of records, registers.

Supply of all spares, consumables and fixing/application, inverters indoor panels, MCCBs, CTs, PTs, Bus bars, cables terminals kits, Isolators with earth switch, Las, Flood lights, Street Lights along with battery replacement and all other associated equipment of solar plant etc., for a period of 5 (five) years. Cost of these items (including Cost of spares) shall be included in the price quoted for O&M. PI note Oil India Ltd will pay only O&M charges.

Supply & use of consumables throughout the maintenance period as per recommendations of the equipment manufacturers.

Conducting periodical checking, testing, over hauling and preventive action.

Daily General up keeping including cleaning of all equipment, building, amenities roads, Solar Photovoltaic land area etc.

Submission of periodical reports to Oil India Ltd on the energy generation & Operating conditions of the solar plant.

Taking care of the full security aspects of the Solar Power Plant.

Replacement of damaged modules if any, during period of 5(five) Years.

Replacement of Inverters and all type of Battery used in solar plant time to time if required.

Insurance covering all risks (Fire & allied perils, earth quake, terrorists and Burglary.

7.20 GENERAL

To maintain at the facility accurate and up-to-date operating logs, records and monthly reports regarding Operation & Maintenance of the facility.

To perform or contract for and oversee the Performance of periodic overhauls or maintenance required for the facility in accordance with the recommendations of the original equipment manufacturer.

To maintain and up-keep control room, all internal roads, tool room, stores, equipment, etc. in workable conditions.

To discharge obligations relating to retirement/ Superannuating benefits to employees (of the contractor) or any other benefit accruing to them in the nature of compensation, bonus / in addition to salary, etc. for the period of service with the Contractor.

7.21 REPORTS OF OPERATION AND PERFORMANCE MONITORING

A daily report comprising energy generation, breakdowns, generation hours etc. shall be sent through e-mail and /or made available through CRM to Owner.

Monthly performance of plant on the following parameters shall be prepared and submitted to Owner on 10th of succeeding month

- a. Daily generation data
- b. Details of preventive maintenance activities carried out during the month
- c. Breakdown details along with remedial actions taken
- d. Break up of down times – Technical & Non-Technical
- e. Error trend
- f. Component failure details

Annual report of Solar plant will also be prepared on above points shall be submitted in the month of April every year.

OWNER at its discretion may get the performance checked from an independent technical consultant.

7.22 PREVENTIVE MAINTENANCE

The Contractor shall draw the preventive maintenance schedules for daily, monthly and yearly and attend to the breakdowns a copy of such Preventive Maintenance Schedule shall be submitted to the Owner.

The Contractor shall carry out the periodical/plant maintenance as given in the manufacturer's service manual and perform minimum two certified services per annum. Such program for all the equipment shall be prepared as per operating manuals of manufacturer's and shall be implemented in letter and spirits.

Regular periodic checks of the inverter & modules shall be carried out as a part of routine preventive maintenance. In order to meet the maintenance requirements stock of consumables is to be maintained as well as various spares as recommended by the manufacturer at least for 2 years are to be kept for usage.

Schedule maintenance shall be as per OEM schedule/instructions.

Maintenance record is to be maintained by the operator to record regular maintenance work carried out as well as any breakdown maintenance along with the date of maintenance, reasons for the breakdowns, steps taken for attending to the breakdown, duration of the breakdown etc.

The Contractor shall deploy enough manpower at solar project site to carryout work instructions and preventive maintenance schedules as specified. The Contractor shall keep at least one skilled and experienced supervisor at site(s) on permanent basis to supervise the jobs that are being carried out at site(s).

The Contractor will attend to breakdown jobs immediately for repair / replacement /

adjustments and restore operations at the earliest during the currency of O&M Contract.

The Contractor shall immediately report the accidents, if any, to the Engineer In charge & to all the concerned authorities as per prevailing law of the State showing the circumstances under which it happened and the extent of damage and / or injury caused. O&M Contractor would be solely & fully responsible / liable to pay for any losses/damages/claims, etc. and Owner will be fully indemnified for such losses / claims.

The Contractor shall comply with the provision of all relevant Acts of Central or State Governments including payment of Wages Act, 1936; Minimum Wages Act, 1948;

Employer's Liability Act, 1938; Workmen's Compensation Act, 1923; Industrial Disputes Act, 1947; Employees State Insurance Act, 1948; Contract Labour (Regulations & Abolishment), Act 1970 or any other law relating thereto and rules made there under from time to time.

The Contractor shall at his own expense provide all amenities to his workmen as per applicable laws and rules.

The Contractor shall ensure that all safety measures are taken at the site(s) to avoid accidents to his or his Co-Contractor or Owner's Workmen.

If in the event of negligence or mal-operation by the Contractor's operator any failure of equipment takes place such equipment should be repaired / replaced by Contractor free of cost within a reasonable period of time.

7.23 STATUTORY & OTHER CHARGES

Statutory charges like CEIG annual charges or any other charges as may be required to be paid to such statutory agencies shall be in the scope of the Owner & shall be paid by the Owner from time to time post commissioning of project. For such payments contractor has to inform one month in advance to the Owner.

7.24 QUALITY SPARES & CONSUMABLES

In order to ensure longevity safety of the core equipment and optimum Performance of the system the Contractor should use only genuine spares of high quality standards as recommended by manufacturers (OEM).

7.25 TOOLS AND TACKLES

The Contractor shall arrange for all the necessary tools and tackles including crane for carrying out all the maintenance work covered under this contract.

7.26 SECURITY SERVICES

The Contractor shall arrange proper security system including deputation of security personnel at his own cost for the check/ vigil of the solar plant.

7.27 ONSITE TRAINING

Providing a detailed training plan for all operation, maintenance procedures, which shall after approval by Owner, form the basis of the training program. Contractor shall impart training on site to 6 Owner engineers in O&M of solar plant and associated equipment for two weeks. Boarding and lodging expenses of the trainees shall be borne by Owner.

SECTION–VIII

TECHNICAL SPECIFICATION

SECTION-VIII
TECHNICAL SPECIFICATION
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SECTION-VIII

TECHNICAL SPECIFICATION

8 SOLAR SYSTEM AND COORDINATION WITH EXISTING SYSTEM

- 8.1** As per design of bidder the SPV array/ string may consisting of number of SPV modules that directly produces DC electricity power on receipt of solar irradiation. This DC power shall be converted to AC power by requisite designed capacity of inverters. The AC output of 500KW solar plant at 433 V will be evacuated to OIL's domestic station by using suitable isolation transformer and shall run in parallel with the existing power generating system of OIL (Diesel/ crude oil generator).
- 8.2** The bidder shall design the solar power system in such a way that System controller of Inverters have ability to harvest the maximum possible Solar Power generation to be exported OIL's Domestic station.
- 8.3** The main objective is the high availability and reliability of the plant. In order to achieve the main objective, the following principles shall be adopted while designing system.
- 8.4** Technology: Solar PV power generation Technology Viz Crystalline Silicon Solar Cell Modules / manufactured in India or Imported of reputed make will be used

The Stabilized output of solar Power plant shall be 500KW after one year (measured at standard test conditions of solar radiation of 1000W per sq. meter). The bidder shall demonstrate the capacity of plant after one year from date of commissioning of plant. Thus, bidder shall use adequate capacity of SPV module, Inverters, Junction boxes etc. to ensure generation of power as per design estimates.

- 1 This is to be done by applying liberal de-rating factors for the array and recognizing the efficiency parameters of Inverters, transformers, etc. The output at Inverters (s) will be considered for verification purpose. Bidder should indicate procedure and details of software or formula for demonstration of capacity of plant in tender itself. For other purpose the meter reading will be considered.
- 2 Use of equipment and systems with proven design and performance that have a high availability track record under similar service conditions.
- 3 Selection of the equipment and adoption of a plant layout to ensure ease of maintenance.
- 4 Strict compliance with the approved and proven quality assurance norms and procedures during the different phases of the project.
- 5 Proper monitoring in the synchronizations which ensures the availability of power to internal line. Generation voltage of 230/433V shall be delivered at interconnection point voltage at the point of delivery.
- 6 The injection of DC power in to Grid shall be avoided by using suitable isolation transformer etc. at output of inverter.
- 7 Ripple content must not exceed 3% on DC side.
- 8 Limits for harmonics as per CEA technical standard on Grid connectivity are as follow:

- Individual voltage harmonics distortion not more than 3 %
- 9 The power plant has to operate in parallel with the grid system of OIL. Any faults not taken care will result in damage of only SPV power plant without effecting OIL's domestic electrical system. Thus, the Solar Power Plant design should be equipped with requisite protective measures/ relays / breakers so as to protect equipment in solar power plant against any of possible fault or other disturbances from the grid.
 - 10 Very fast microprocessor based Directional and Reverse power flow protection should be provided to insure isolation of the solar power plant from the grid at the time of any fault or/and any additional suitable protection.
 - 11 In case non availability of Grid Power solar plant shall be able to meet the domestic load to the extent of its generation capacity at that time.
 - 12 The bidder shall be required to build control room on ground nearby to plant as per approved drawing.
- 8.5** The basic and detailed engineering of the plant will aim at achieving high standards of operational performance especially considering following:
- a. Optimum availability of modules during the day time.
 - b. Ensuring module layout to prevent shading.
 - c. Selection of Inverters with high track record and with readily availability of requisite spares.
 - d. Careful logging of operation data / historical information from the Data Monitoring Systems, and periodically processing it to determine abnormal or slowly deteriorating conditions.
 - e. SPV power plant should be designed to operate satisfactorily in parallel with the OIL's electrical system within permissible limits of high voltage and frequency fluctuation conditions, so as to export the maximum possible units to the OIL's domestic station.
 - f. Flat plate arrays shall be held fixed at a tilted angle and face towards the equator. The angle of tilt should be approximately equal to the angle of latitude for the site. A steeper angle increases the output in winter; while a shallower angle more output in summer. It should be arranged in such a manner that optimize generation is achieved.
 - g. Based on the Solar Insolation data, the solar PV system should be so designed that it shall take into account the mean energy output after allowing for various losses, temperature corrections, on an average day for each month of the year.
 - h. The offered Grid Connected Solar Power Plant should be able to generate power through solar energy and supply clean and green electricity to the Oil's Domestic Station.
- 8.6** The specification provided with this bid document is a functional one; the design provided in this document is only meant as an example. The Bidder/ must submit a proposal based upon their own design with basic requirement mentioned in this Bid documents. In order to win the Contract, the Bidder/ must optimize their own design for Solar Photovoltaic (SPV) proven technology so that it best meets the evaluation criteria given in this bid document. The bidders are advised to visit the site before designing the plant and offer their bid. The bidders are also required to incorporate all the system required for efficient operation of 500 KW solar Plant in parallel with OIL's domestic station. The supplier/manufacturer shall submit the detailed design of the

complete solar generating system by using their software to optimize the combination of modules considering the specific location, isolation, nature of load etc.

8.7 EQUIPMENT AND MATERIAL

The equipment and material for 500KW Solar Photovoltaic Power Plant with associate system (typical) shall include following but not be limited to the following: (Only the technical features of major equipment's are described here under).

8.8 SPV CRYSTALLINE MODULES:

- 8.8.1 SPV Poly / Mono crystalline modules to be supplied shall be of reputed make, (cells / modules may be manufactured in India or abroad) conforming to Tier -1. SPV modules shall contain high power mono / poly crystalline silicon solar cells.
- 8.8.2 The bidder may use 300 Watt or higher capacity (in Wp) modules in appropriate numbers in order to meet the required capacity of 500 KW. Spacing between rows shall be so designed that shadow of one row to next is avoided.
- 8.8.3 Stabilized output of the Solar Power Plant shall not be less than 500 KW under Standard Test Condition after one year of operation from date of Commissioning of solar plant.
- 8.8.4 Peak power point voltage and the peak power point current of any supplied module and / or any module string (series connected module) shall not be more than 3% from the respective arithmetic means for all modules and / or for all module strings, as the case may be.
- 8.8.5 The solar cell shall have surface anti-reflective coating to help in absorbing more light in all weather conditions.
- 8.8.6 Each module shall have low iron tempered glass front for strength & superior light transmission. It shall also have tough multi-layered polymer back sheet for environmental protection against moisture with high electrical insulation.
- 8.8.7 The module frame shall be made of aluminium or corrosion resistant material that shall be electrically & mechanically compatible with the structural material to be used for mounting the modules.
- 8.8.8 The solar modules shall have suitable encapsulation and sealing arrangements to protect the silicon cells from the environment. The arrangement and the material of encapsulation shall be compatible with the thermal expansion properties of the Silicon cells and the module framing arrangement / material. The encapsulation arrangement shall ensure complete moisture proofing during life of the solar modules.
- 8.8.9 Solar module shall be laminated using lamination technology using established polymer (EVA) and Tedlar / Polyester laminate.
- 8.8.10 The PV modules used must qualify to the latest edition of IEC 61215 & IEC 61730 (Edition I and II) for safety qualification testing, Salt Mist Corrosion Resistant (IEC 61701, IEC 62716), Sand Storm Test (IEC 60068-2), Fire Resistance (EN 13501-1 class E, IEC 61730 class C) & Ammonia Corrosion Resistant: IEC 62716. 2.1.16 Modules shall be PID-free
- 8.8.11 Photo conversion efficiency of SPV Module shall not be less than 15%. Module shall be made of high transmittance glass front surface giving high encapsulation gain.

8.8.12 The PV modules should have lowest temperature coefficient and positive power tolerance. Negative power tolerance shall not be accepted.

8.8.13 Module rating is considered under standard test conditions; however Solar Modules shall be designed to operate and perform under site conditions.

8.8.14 All materials to be used shall have a proven history of reliability, light weight and stable operation in external outdoor applications and shall have service life of more than 25 years

8.8.15 Solar PV Module design shall conform to following requirement:

- a. Weather proof DC rated MC connector and a lead cable coming out as a part of the module, making connections easier and secure, not allowing any loose connections.
- b. Resistant to water in grace, abrasion, hail impact, humidity & other harsh environmental factors for the worst situation at site.

8.8.16 PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 12 years and 80% at the end of 25 years.

8.8.17 The fill factor of module shall not be less than 0.70 (typical).

8.8.18 The V-I curve of each PV module with Sl. Nos. shall be submitted along with Modules meeting the required specifications.

8.8.19 Identification and Traceability:

Each PV module shall have 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 PV module
- ii) Name of the manufacturer of Solar cells
- iii) Month and year of the manufacturer (Separately for Solar cell and module)
- iv) Country of origin (Separately for Solar cell and module)
- v) I-V curve for the module
- vi) Wattage, I_m , V_m and FF for the module
- vii) Unique Serial No and Model No of the module
- viii) Date and year of obtaining IEC PV module qualification certificate
- ix) Name of the test lab issuing IEC certificate
- x) Other relevant information on traceability of Solar cell and module as per ISO 9000 series.

8.8.20 Bidder shall provide data sheet for Solar PV Module (Under Standard Testing Condition) along with their offer as per Guaranteed Technical Particular

8.8.21 Marking:

Each PV module used in any solar power project must use a RF identification tag. The following information must be mentioned in the RF ID used on each module

(This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions.) and also in clear and indelible markings:

- Name, monogram or symbol of manufacturer of PV module;
- Name, monogram or symbol of manufacturer of Solar cells;
- Unique Serial number and model number of the module;
- Polarity of terminals or leads (colour coding is permissible)
- Maximum system voltage for which the module is suitable;
- Date & place (country of origin) of manufacture (separately for PV module and solar cell)
- I-V Curve for the module;
- Wattage, I_m , V_m & FF for the module;
- Name of the test lab issuing IEC certificate;
- Other relevant information on traceability of solar cells and module as per ISO 9000;

8.8.22 The 500 KW Solar PV power plants shall continuously measure solar radiation, ambient temperature, wind speed and other weather parameters, generation of DC power as well as AC power generated from the plant.

8.8.23 Bidder shall provide data sheet for Solar PV Module (Under Standard Testing Condition) along with their offer as per Guarantee Technical Particular (Bid Response sheet -10).

8.9 MODULE MOUNTING STRUCTURE

PV Array / String Configurations: The Solar array/string shall be configured in multiple numbers of sub-arrays / string, providing optimum DC power to auditable number of sub arrays / string. The bidder shall submit their own design indicating configuration of Inverters respective sub arrays/string and bill of material.

8.9.1 The Module structure design shall be appropriate and innovative with a factor of safety of not less than 1.5. The bidder may choose to offer module mounting structure as per their design / economics.

8.9.2 Seasonal tilt option shall be provided in the Module Mounting Structures and module alignment & tilt angle shall be calculated to provide the maximum annual energy output. This shall be decided based on the location of array installation.

8.9.3 The structure shall be designed to allow easy replacement of any module and shall be in line with site requirement

8.9.4 The mounting structure shall be designed for simple mechanical and electrical installation. It shall support SPV modules at a given orientation, absorb and transfer the mechanical loads to the base properly.

8.9.5 The mounting steel structure shall be as per latest BIS 2062 (amended up to date) and galvanisation of mounting structure shall be in compliance of BIS 4759 (amended up to date).

- 8.9.6 The array structure shall be so designed that it will occupy minimum space without sacrificing the output from SPV panels at the same time.
- 8.9.7 Nut & bolts, supporting structures including Module Mounting Structures shall have to be adequately protected from atmosphere and weather prevailing in the area.
- 8.9.8 All fasteners shall be of stainless steel of grade SS 304.
- 8.9.9 The Mounting structure shall be grounded properly using maintenance free earthing kit.
- 8.9.10 The support structure & foundation shall be so designed to withstand speed for wind zone of the location as given in relevant Indian wind load codes/ standards.
- 8.9.11 IS 800-2007 shall be followed for structural design. Contractor shall submit the DBR and STADD calculations along with the structural design within 10 days for approval of Oil India Ltd.
- 8.9.12 SPV module mounting structure
- a. Type: Fixed with provision of manual correction in tilt angle which shall be made after every 3 months to get maximum output
 - b. Azimuth: 0 degree True south
 - c. Tilt Angle: At altitude or as per site requirement.
- 8.9.13 Hot dipped Galvanized 80 Microns Steel Structural must be considered for all type of structural steel proposed for the power plant. Minimum thickness of galvanization should be at least 80 microns.
- 8.9.14 The bidder shall submit the certificate from the laboratory on testing the galvanized steel structure member for adherence of coat and for thickness of coating and also shall submit the report of Salt Spray Test to determine corrosion from NABL accredited laboratory.
- 8.9.15 Design drawings with material selected shall be submitted for prior approval of OIL India/consultant within 10 days of detailed order. The bidder/manufacture shall specify installation details of the PV modules and the support structures with appropriate diagram and drawings. The drawings along with detailed structure design and material selected and their standards shall be submitted in four sets to Oil India Ltd for approval before starting the execution work. The work will be carried out as per design approved by Oil India Ltd.

8.10 STRING COMBINER BOX OR ARRAY JUNCTION BOXES:

- 8.10.1 The string combiner box/ junction box shall be dust, vermin, and waterproof and made of FRP/ABS Plastic.
- 8.10.2 The terminal will be connected to copper bus-bar arrangement of proper size to be provided. The junction boxes shall have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables.
- 8.10.3 Suitable markings shall be provided on the bus-bars for easy identification and cable ferrules will be fitted at the cable termination points for identification.
- 8.10.4 The string combiner box/ junction box shall be with protection class IP 65 for mounting outside in Open weather condition.

8.10.5 Each string combiner box/ junction box will have suitable Reverse Blocking Diodes of maximum DC blocking voltage of 600 V with suitable arrangement for its connecting.

8.10.6 The string combiner box/ Array junction Box will also have suitable surge protection device.

8.10.7 The junction Boxes shall have suitable arrangement for the followings (typical): -

- Combine groups of modules into independent charging sub-arrays that will be wired into the controller.
- Provide arrangement for disconnection for each of the groups.
- Provide a test point for each sub-group for quick fault location.
- To provide group array isolation.

8.10.8 The current carrying ratings of the string combiner box/ junction box shall be suitable with adequate safety factor, to inter connect the Solar PV system corresponding to 500KW.

8.11 INVERTERS

8.11.1 Inverter, grid interactive in nature, shall consist of MPPT controller, inverter of aggregate rating 500 KW in array design/suitable rating in case of string design, associated control and protection devices etc all integrated into inverter. It shall provide necessary protections for Grid Synchronization and Data Logging/Monitoring. The Inverters should convert DC power produced by SPV modules in to AC power and must synchronize automatically its AC output to the exact AC Voltage and frequency of Grid. The bidder may choose the inverter as string/Central as per their Design/ Project Philosophy.

8.11.2 The DC energy produced has to be utilized to maximum and supplied to the bus for inverting to AC voltage to extract maximum energy from solar array and provides 3-ph, 433V AC/ (+15% to – 10%), 50+/-1.5 Hz with total harmonic voltage distortion less than 3% to synchronize with local grid. DC voltage ripple content shall be not more than 3%.

8.11.3 Each inverter shall be compliant with IEEE standard 929-200 or equivalent and IEC 60068-2 standards for Environmental Testing.

8.11.4 The Inverters shall be of very high quality having efficiency not less than 98% and shall be capable of running in integrated mode.

8.11.5 Degree of protection of the indoor Inverters shall be at least IP-31 and that of outdoor at least IP-55.

8.11.6 Built in with data logging to remotely monitor plant performance through external PC shall be provided (PC shall be provided along with SPV Plant).

8.11.7 The Inverters shall be designed for continuous, reliable power supply as per specification.

8.11.8 The Inverters should be designed to be completely compatible with the SPV array voltage and Grid supply voltage.

8.11.9 The dimension, weight, foundation details etc. of the Inverter shall be clearly indicated in the detailed technical specification.

8.11.10 The system should be capable of providing all the data including that of meter and Inverter to the central software on IEC-104 protocol. All the equipment's /hardware /software for complying to the same will be in the bidder's scope.

8.11.11 The Inverter shall be capable of complete automatic operation, including wake-up, synchronization & shut down independently & automatically.

8.11.12 Both AC & DC lines shall have suitable fuses, Metal Oxide Arrestors/surge arrestors and contactors to allow safe start up and shut down of the system. Fuses used in the DC circuit should be DC rated.

8.11.13 Inverters shall operate in sleeping mode when there will no power connected.

8.11.14 Protections:

- Over voltage both at input & output.
- Over current both at input & output.
- Over / under grid frequency.
- Heat sink over temperature.
- Short circuit.
- Protection against lightening.
- Surge arrestors to protect against Surge voltage induced at output due to external source.
- Any other protection.
- Anti- Islanding Protection

8.11.15 It should have user friendly 4X40 LED/LCD display for programming and view on line parameters such as:

- Inverter per phase Voltage, current, kW, kVA and frequency,
- Grid Voltage and frequency,
- Inverter (Grid) on Line status,
- PV panel voltage,
- Solar charge current and ambient temperature,
- Individual power stage heat sink and cabinet temperature,
- Solar Radiation (with external pyronometer with in scope)
- Inverter Import export kWh summation
- Solar kWh summation
- Inverter on
- Grid on
- Inverter under voltage/over voltage

- Inverter over load
- Inverter over temperature.

8.11.16 The Inverters shall have arrangement for adjusting DC input current and should trip against sustainable fault downstream and shall not start till the fault is rectified.

8.11.17 The 3 phase Inverters shall be from internationally reputed firms, which will incorporate latest Technological advance to provide highly reliable and efficient energy conversion from DC to AC.

8.11.18 Inverter shall be capable to synchronize independently & automatically with OIL's System grid power line frequency to attain synchronization and export power generated by solar plant to the internal electrical system.

8.11.19 The Inverter shall be capable of complete automatic operation, including wake-up, synchronization & shut down.

8.11.20 Typical failure analysis report of Inverters and recommended list of critical components shall be provided by the bidder while submitting their offer.

8.11.21 The Inverter shall be capable of operating in parallel with the grid utility service and shall be capable of interrupting line fault currents and line to ground fault currents.

8.11.22 The Inverter shall be able to withstand an unbalanced load conforming to IEC standard and relevant Indian electricity condition. The Inverter shall include appropriate self- protective and self-diagnostic features to protect itself and the PV array from damage in the event of Inverter component failure or from parameters – beyond the Inverter's safe operating range due to internal or external causes. The self-protective features shall not allow signals from the Inverter front panel to cause the inverter to be operated in a manner which may be unsafe or damaging. Faults due to malfunctioning within the Inverter, including commutation feature, shall be cleared by the Inverter protective devices and not by the existing site utility grid service circuit breaker.

8.11.23 The Inverter shall go to shut down/standby mode, with its contacts open, under the following conditions before attempting an automatic restart after an appropriate time delay.

- When the power available from the PV array is insufficient to supply the losses of the Inverter, the Inverter shall go to standby/shutdown mode.
- The Inverter control shall prevent excessive cycling of shut down during insufficient solar radiance.

8.11.24 Operation outside the limits of power quality as described in the technical data sheet should cause the power conditioner to disconnect the grid. Additional parameters requiring automatic disconnection are

- i. Neutral voltage displacement
- ii. Over current
- iii. Earth fault and
- iv. Reverse power

In each of the above cases, tripping time should be very less.

8.11.25 Detailed technical description of the complete unit of offered Inverter should be furnished with bid document Following Technical documents of Inverter shall be supplied for approval after placement of order.

- Detailed technical description of the complete unit
- Instructions for installation and operation
- Electrical diagrams of all internal cabling, necessary for installation, maintenance and fault finding.
- Description of electrical and mechanical characteristics of units.
- Maintenance and fault-finding procedures.
- Safety precautions.
- Software for data monitoring with detailed description.
- Details of data acquisition
- Details of Telemetry linking
- Factory test reports in details on various parameters.
- Trouble shooting procedures.
- All maintenance requirements and their schedules, including detailed instructions on how to perform each task.
- Detailed schematics of all power instrumentation and control equipment and subsystems along with their interconnection diagrams. Schematics shall indicate wiring diagrams, their numbers and quantities, type and ratings of all components and subsystems.
- A detailed bill of materials which shall list components model numbers, quantities and manufacturer of each supplied item.
- All documents and write ups shall be in English. They shall be clean and legible, and must be checked, signed, approved and dated by a competent representative of the contractor.

8.11.26 The Bidder should note that Inverters will be installed in Green area and Jorhat area is prone to rain and moisture, air of 35 degree centigrade. Thus, the room shelter, air blower/ fan (auto operated as per requirement) if required, for Inverter will be in scope of supply. Preference should be given to Inverter which does not require such protection being rain with extreme climatic conditions.

8.11.27 The Bidder shall provide data sheet for Inverter along with their offer as per Guaranteed Technical Particular (Bid Response Sheet-11).

8.12 DC DISTRIBUTION BOARD (DCDB)

DC distribution board shall be provided in between solar array and Inverter. It shall have MCCB of suitable rating for connection and disconnection of array section. It shall have meters for measuring the array voltage and array current. DCDB can also be integrated into INVERTER for space saving.

8.13 AC DISTRIBUTION BOARD (ACDB)

- 8.13.1 Inverter installed in a control room converts DC energy produced by the solar array to AC energy. The AC power output of the inverter shall be fed to the ACDB (metering panel & isolation panel) which also houses energy meter. The 433V AC output from isolation transformer shall be exported by cable of required capacity to OIL domestic station.
- 8.13.2 All the power cables shall be taken through top/ Bottom of the panel as per site requirement.
- 8.13.3 The ACDB shall fitted with suitable rating & size copper bus, MCCB, HRC fuses/circuit breaker/isolator, indicators for all incomer and outgoing terminals, LED voltmeter & Ammeter with suitable selector switches to monitor & measure the power to be evacuated.
- 8.13.4 Nut & bolts including metallic shall have to be adequately protected against atmosphere and weather prevailing in the area.
- 8.13.5 The overall dimension, weight, sheet thickness, painting etc. should be indicated by the Contractor.

8.14 PLANT MONITORING DESK

- 8.14.1 Computer aided data acquisition unit shall have features for simultaneous monitoring and recording of various parameters of different sub-systems, power supply of the Power Plant at the DC side and AC side.
- 8.14.2 Computer Aided Data Acquisition Unit shall be a separate & Individual system comprising of different transducers to read the different variable parameters, A/D converter, Multiplexer, De-multiplexors, Interfacing Hardware & Software, Industrial Type PC, which will be robust & rugged suitable to operate in the Control Room environment.
- 8.14.3 Reliable sensors for solar Radiation, Temperature & other electrical Parameters are to be supplied with the data logger unit.
- 8.14.4 The PC Shall of Industrial type, rugged & robust in nature to operate in hostile environment. The PC has minimum Intel 2 Duo processor having 2 x150 GB HDD with 2 GB RAM. The PC shall also have 21" TFT colour monitor, DVD Drive with writer, multimedia kit and UPS with 4 hours Power back up. The printer shall be of industrial type, rugged & robust in nature. The printer shall be equipped for printing, scanning, copying and fax.
- 8.14.5 The data acquisition system shall perform but not limited to the following operations
- Inverter per phase Voltage, current, kW, kVA and frequency,
 - Grid Voltage and frequency,
 - Inverter (Grid) on Line status,
 - PV panel voltage,
 - Solar charge current and ambient temperature,
 - Heat sink and cabinet temperature,

- Solar Radiation (with external pyranometer with in scope)
- System summation
 - Inverter Import export kWh
 - Solar kWh summation
 - Hours Run
- Ambient air temperature near array field
- Control room ambient air temperature
- Module back surface temperature
- Wind speed at the level of array plane
- Solar irradiation incidental to array plane
- Inverter efficiency
- Solar system efficiency
- Display of I-V curve of solar system dc bus output

8.14.6 All data shall be recorded chronologically date wise. The data file should be MS Excel compatible. The data logger shall have internal reliable battery backup to record all sorts of data simultaneously round the clock. All data shall be stored in a common work sheet chronologically. Representation of monitored data shall be in graphics mode and/or in tabulation form. All instantaneous data can be shown in the Computer Screen.

8.14.7 The Bill of Materials associated with the equipment must clearly indicate especially the detail about the PC, Modems, etc.

8.14.8 The data acquisition system should be housed in a desk made of sheet steel.

8.14.9 The performance and generation data shall be required to be recorded using a Computer. The monitoring system shall comprise of the following main components:

- Inverter to log the inverter performance data and transmits the same to the Computer.
- PC Data logging software should enable automatic long-time storage of measured data form PV- Plant. It should allow visualization, monitoring, commissioning and service of the installation.
- Communication interface the entire system can be operated and monitored via various interface viz. (RS232, RS485, MPI, Profit-bus, Telephone modem), in addition to the information indicated on the operator panel.
- Communication interface shall be an integral part of inverter and shall be suitable to be connected to local computer and also remotely via the web using WIFI modem.

8.14.10 Full fledge SCADA system for solar PV plant which includes continuous monitoring of strings as well as power output shall be provided.

8.15 ISOLATION TRANSFORMER

8.15.1 This technical specification covers the design, engineering, testing, supply, erection and commissioning of Isolation transformer of capacity 630 KVA

- Depending on the scheme- it may be a two / three winding Transformer to be used in Solar Power Project.
- The transformers shall be plinth mounted with cable terminations for both LV side windings.
- Transformer of capacity 630 kVA with output to suit OIL system of 433 Volt should be provided with all required accessories
- The transformer should operate satisfactorily, under the worst climatic conditions, with reference maximum ambient temperature as 50 °C and humidity.

8.15.2 CODES & STANDARDS

Unless otherwise modified in this specification, the transformer shall conform in all respects to the relevant Indian/International standards specifications with latest amendment thereof, some of them are listed below: -

Indian Standard	Title	International Standard
IS : 2026	Specification for Power transformer	IEC-76
IS : 335/1983	Insulating Oil for transformer & switch Gear	BS-148
IS : 3639 : 1968	Fittings and accessories for power Transformer	ASTM D-1275
IS : 2099 : 1986	High voltage porcelain bushings	IEC 296-1969
IS : 7421-1988	Low voltage porcelain bushings	
IS : 3347	Dimensions for outdoor bushings	DIN 42531 to 33
IS : 12444	Specification for copper wire rods	ASTM B-49
IS : 5/1961	Specifications for colours for ready mixed paints	
IS : 6600/1972	Guide for loading oil immersed Transformers	
IS : 3202	Climate Proofing	
IS : 2147	Degree of Protection	

8.15.3 TESTS AND LOSSES:

- The outdoor type oil filled transformer shall be suitable for satisfactory continuous operation under the climatic conditions of Jorhat, Assam, i.e. tropical humid conditions. The transformer shall comply with service conditions specified in IS 2026.
- No load and full load losses, as per IS 2026, shall not to exceed the values given in the following table: -

kVA	No load losses in Watts	Full load losses in Watts
-----	-------------------------	---------------------------

Rating	(Max.) at 75 deg. C	(Max.) at 75 deg. C
630	1600	6000

These losses are maximum allowable and there would not be any positive tolerance. However, the manufacturer can offer losses lesser than above.

TESTS:

The tests listed below will be carried out at bidder's works, as well as, at plant site as the case may be.

ROUTINE TESTS:

Routine tests as per specified IS/ IEC standards shall be performed on the transformer including the following.

- Measurement of winding resistance.
- Measurement of voltage ratio and check of voltage vector relationship.
- Measurement of impedance voltage/ short circuit impedance (principal tapping) and load loss.
- Impulse test and power frequency voltage withstand test.
- Oil sample test
- Visual examination and measurement of dimensions.
- Measurement of no-load loss and current.
- Measurement of insulation resistance.
- Dielectric tests
- Pressure test
- Oil leakage test
- Transformer tank test
- Vacuum test

TYPE TEST:

Type tests Certificates as per IS2026 and the test certificates for the following special tests shall be furnished by the Bidder before offering transformers for Inspection:

- Measurement of zero-sequence impedance of 3-phase transformers.
- Short circuit test
- Measurement of acoustic noise level
- Partial Discharge test
- Temperature rise test

- Measurement of the harmonics of the no-load current.
- Air pressure test.

8.15.4 TECHNICAL PARTICULARS OF TRANSFORMERS

Bidder should submit the same in BRS no. 12

IV. SCHEDULE OF REQUIREMENTS:

Requirement of switch gear should as per design of plant & compatible to OIL India existing system. Single line diagram will be approved by consultant/Owner

8.15.5 INDICATING AND INTEGRATING METERS/INSTRUMENTS: -

- a) All indicating instruments shall be of:
 - Switchboard type
 - Back connected
 - Suitable for flush mounting
 - With dust and vermin proof cases.
- b) All instruments shall have means for adjustment of accuracy.
- c) The limits of errors for ammeters/voltmeters shall be those, permissible for class 1.5 instruments as per IS: 1248.
- d) The ammeters and voltmeters shall be suitably scaled to indicate the current/ voltage for all the rating of current/ voltage transformers.
- e) A phase selector switch with four/six position shall be used to measure the current/voltage of each phase / line.
- f) The meters shall be located at eye level to facilitate observation of readings correctly.

8.15.6 MIMIC DIAGRAM:

For indoor panels painted colour bands shall be used for the mimic bus. The mimic diagram shall be on eye level. Equipment such as current transformers, voltage transformers etc. shall be represented by suitable symbols. The colour shall be Red Shade 537 of IS-5.

8.15.7 INDICATING LEDs / LAMPS:

Indicating LEDs shall be provided on the control board to indicate the following:

1. Visual indication of ON and OFF position of each circuit breaker.
2. Trip circuit healthy indication.
3. Auto trip indication for each circuit breaker panel.

4. VT supply indication.

8.15.8 TEST TERMINAL BLOCKS:

Two nos. test terminal blocks shall be provided one for testing of relays and other for testing meters. They shall be of switch board, back connected type for front of panel mounting. The test blocks shall provide complete isolation of meters, instruments, etc. and the arrangement shall be such that testing power could be connected at the test block from any external source or may be taken from the instrument transformers. Provision shall be made for short circuiting current transformers. Suitable sealing arrangement shall be provided in test terminal blocks.

8.15.9 FERRULES:

Ferrules engraved /printed with the same number, letters or symbols as indicated in the connection and wiring diagram shall be provided on the terminal ends of all wires for identification of circuits for inspection and maintenance. Ferrules shall be of strong and flexible insulating material with glossy finish to prevent adhesion. They shall be engraved / printed and clearly marked and shall not be effected by dampness. Ferrule numbering shall be in accordance with IS: 375. The same ferrule number shall not be used on wires in different circuits on a panel.

8.15.10 SPACE FOR CABLES AND CABLE GLANDS:

Sufficient space for receiving the cables inside the switch board at the bottom of the cubicles and mounting arrangement for the terminal cable glands shall be provided. Cable gland plates should be above the ground level for the ease of working.

8.15.11 TEMPERATURE RISE:

The maximum temperature rises of various parts of the circuit breakers when tested under rated conditions shall not exceed the specified values at a peak ambient temperature of 50 deg. c. The breakers may be provided with silver plated contacts if necessary to meet the requirement of IS: 13118 where higher temperature rise is permitted with silver plating contacts. The quantity of silver facing shall be such that after carrying out one tenth of the total number of operations specified for the mechanical endurance test, there is still continuous layer of silver on the contacts. The temperature rises of CTs and PTs shall also not exceed the permissible values as per relevant Indian Standards when corrected for max. ambient temperature at site.

8.15.12 INSPECTION AND TESTING:

Each equipment shall comply with and shall be subjected to all routine and acceptance tests prescribed in the relevant Indian Standard Specification/IEC.

A. TEST OF: MCCB

i) ROUTINE / ACCEPTANCE TESTS:

The following acceptance and routine tests shall be got conducted in presence of purchaser's representative as per stipulation of the relevant standards, on each unit.

- a) One minute power frequency voltage withstands dry test on main circuit.
- b) Voltage withstand test on control & auxiliary circuits.

- c) Measurement of the resistance of main circuit.
- d) Mechanical operating test.
- e) Design and visual checks.
- f) Any other tests not specified above but covered as per amendment/ latest edition of relevant IS / IEC.

The bidder must furnish type test reports along with bid in respect of the equipment (of the type and design offered) type tested in NABL approved test laboratory for which particular test the lab has been accredited (for Indian Bidders). These type tests must not have been conducted earlier than three years from the date of opening of bid. The bidder may furnish type test report latest up to 45 days after opening of tender.

- B. Routine & acceptance test as per relevant standard shall be carried out on each equipment covered by this specification in the presence of purchaser's representative. If so desired by the purchaser all test reports shall be submitted and got approved from the purchaser before dispatch of the equipment

8.15.13 INTER CHANGEABILITY:

All similar materials and removable parts of similar equipment shall be inter changeable with each other.

8.15.14 FAULT / TROUBLE ALARM SCHEME:

8.15.15 MAKE OF RELAYS: As per list given at Annexure VI

8.15.16 MAKE AND TYPE OF BOUGHT OUT ITEMS:

The following make of bought out items will be acceptable to department:

S. No.	Name of Item	Make
1	Indicating Instrument	AE/IMP/MECO (Analog type)
2	Indicating Instrument	AE/IMP/MECO (Digital type)
3	Control Switch for Circuit Breaker/Trip Transfer.	ALSTOM/RECOM/SWITRON/KAYCEE
4	Selector Switch for Voltmeter / Ammeter	SWITRON/KAYCEE/RECOM
5	Semaphore Indicator	ALSTOM/DAV IND./ER
6	Indicating Lamp	ALSTOM/TEKNIC/ VAISHNO/DAV
7	Enunciator	MINILEC/YESHMUN/ INSTALRAM/PROTON/ JVS/PRADEEP/ALAN
8	Push Button	TEKNIC/VAISHNO/ESSEN
9	A.C. Hooter/Bell	TARGET/INDUSTRIAL HOOTER/ALAN/JVS
10	D.C. Hooter	TARGET/INDUSTRIAL HOOTER/ALAN/JVS
11	Heater	SOFIA/ELTER/AIREX/KAYCEE

12	Link Type test terminal block for testing of TVM	IMP/CAPITAL
13	CFL Tube	PHILIPS/CROMPTON/BAJAJ
14	2 Pin / 3 Pin socket with	ISI MARK Switch (5/15A)

Other makes shall also acceptable if it is of "ISI MARK" or type tested for which bidders shall furnish attested Photostat copies of ISI Certificate/type test report not older than 5 years for the respective make offered along with tender.

8.15.17 Make / type of each relay, indicating instruments, integrating instruments, control switches, selector switches, indicating lamps, semaphore indicators, enunciator scheme, bell, hooter etc. shall be clearly and invariably indicated in the GTP (Guaranteed Technical Particulars), bill of material and unit price list. Only specific make accessories shall be indicated. The word "EQUIVALENT/REPUTED MAKE" will not be given for consideration.

8.15.18 MANDATORY SPARES:

The Bidder shall compulsorily quote for the following spares as mandatory spares. The item wise prices for spares shall be indicated in relevant price schedule. These prices shall be considered for Bid Evaluation:

One MCCB of each capacity

8.15.19 OPTIONAL SPARES:

In addition to above, the bidder shall also furnish list of recommended optional spares that will be required for Breakers along with their total and unit prices. However, the prices of optional spares will not be considered for bid evaluation.

8.16 LIGHTING

- The bidder will also design, supply and install lighting fixtures and accessories based on LED/ CFL Tubes energy saving concept technology required for control room building and entry points/ gates.
- The lighting system for outdoor and indoor areas of Solar Power Plant shall be designed in such a way that uniform illumination is achieved. In outdoor yard only equipment /bus-bar areas are to be illuminated and luminaries shall be aimed as far as possible towards transformers and circuit breakers
- Lighting Levels - the average LUX level of 10 is to be maintained in switchyard. However, a lux level of 20(10+10 additional switchable on requirement only) is to be maintained in switchyard/ transformer yard.
- Security Lights; 10 No's 100 Watt, 8000 lumens, LED Bay (Flood) Light with Aluminium fixture and PC glass fixed mounted on at least 15 M height Mast and to be fixed on all around Fencing and on Main Gate etc. so that entry of any unauthorized can be watched.

8.17 TECHNICAL SPECIFICATIONS OF TOTAL PLANT EARTHING AND LIGHTENING PROTECTION

1. Each array structure of the SPV Yard/shed shall be grounded properly. The array structure is to be connected to earth pits as per IS standards. Junction boxes, lighting conduits shall be connected to the main earthing conductor/ electrode.
2. Total earthing system installation shall be in strict accordance with the latest editions of Indian Electricity Rules, relevant Indian Standards and code of practices and the local statutory authority regulations.
3. Neutral points of system metallic enclosures and frame works, not forming part of electric supply shall be connected to main earthing system.
4. Necessary Test Point provision shall be made for bolted isolating joints of each earthing pit for periodic checking of earth resistance.
5. In compliance of CEA notification no. CEI/1/59/CEA/EI dated 20th September 2010(as amended up to date) all non-current carrying metal parts shall be earthed with two separate and distinct earth continuity conductors to an efficient earth electrode.
6. Earth resistance of the earth pits shall be tested in presence of the representative of Oil India Ltd
7. Earthing Design and Layout:
 - The contractor shall submit earthing Design along with drawings showing the location of earthing rods and spacing of earthing conductors for approval of Oil India Ltd.
 - The earth mesh system consisting of 50X8 mm G.I Flat is to be provided in the total plant. There will be about 20 nos. or more earthing pits connected to the earth mesh.
 - Each equipment will be connected to earth mesh through 25X6 mm G.I Flat.
 - Total plant earthing system should be designed to give an earth resistance of less than 0.5 ohm all along the earth mesh.
 - Earthing conductors in outdoor areas shall be buried 600 mm below finished graded level and these buried conductors shall be brought 500 mm above ground level for making tap connections to the equipment.
 - All the electrodes shall be 38mm dia. GI pipe, 2.5 m long and shall strictly be as per IS : 3043 of latest revision.
8. Transformer Earthing:

Two separate earth electrodes shall be provided for transformer neutral and one earth electrode for transformer body earthing. Apart from body earthing control cubicle and radiator shall also be properly earthed.
9. Structure Earthing:

Each phase of LA shall be earthed through 50 x8 mm GI flat connected to an individual earth electrode.
10. Air break switches and DO fuses shall also be earthed through 50x8 mm GI flat to the main earthing flat.

11. Metallic conduits and pipes shall not be used as earth continuity conductor.
12. SWG GI conductors shall be provided for earthing the lighting fixtures, receptacles, junction boxes, lighting conduits and this conductor in turn shall be connected to the main earthing conductor / electrode.

8.18 OUTGOING FEEDER CABLE

Outgoing cable will be laid underground.

8.19 CABLES AND ACCESSORIES

8.19.1 POWER CABLES:

- 1.1 KV Grade, Armored, Al. Conductor XLPE cable of designed capacity, shall be used between solar plant isolation transformer to domestic substation. Size of cable should be got approved by Oil India Ltd.
- These cables shall be laid buried in the ground at specified depth. The cable shall be terminated using termination kits of adequate size. The cable should confirm to relevant ISS.

8.19.2 CONTROL CABLES:

- a. 1.1kV Grade, Cu. Conductor, PVC Armored Cables shall be used for all control cables required for the Solar Power Plant. These cables shall be laid on structural supports and using Galvanized Cable trays of adequate strength. The cable shall be terminated using Cu. Lugs of adequate cross section area.
- b. Cu. Conductor, PVC Armored with miller insulation between each pair and tinned copper screening. All cables shall be PVC insulated with appropriate grade conforming to IS.

8.19.3 DC SIDE CABLES

- a. Only copper conductor cables, PVC insulated with appropriate grade conforming to IS of reputed make shall be used in DC side of plant between interconnection of Modules, Junction box, Inverters, DC panel and other associated equipment.
- b. The wiring for module inters connection shall be with hard PVC conduit of approved make. All Tees, bends etc., shall be approved make. Before procurement, approval for materials should be obtained from Oil India Ltd.
- c. Cables of appropriate size to be used in the system shall have the following characteristics:
 - Will meet IS 694/1554 standards
 - Temp. Range –10 degree centigrade to +80 degree centigrade.
 - Voltage rating 660/1000V
 - Excellent resistance to Heat, Fire, oil, cold, water, abrasion, UV radiation.
 - Flexible Cabling on DC side of the system shall be as short as possible to minimize the voltage drop in the wiring. Components and hardware shall be

vandal and theft resistant. All parts shall be corrosion resistant. The system description, general/technical requirements etc. are given for general guidance only.

8.19.4 CABLE ACCESSORIES

- Only terminal cable joints shall be accepted. No cable joints to join two cable ends shall be accepted.
- Cables inside the control room shall be laid in suitable Cable Trays of approved type.
- Cable terminations shall be made with suitable cable lugs & sockets etc. crimped properly and passed through brass compression type cable glands at the entry and exit point of the cubicles. The panels' bottoms should be properly sealed to prevent entry of snakes/lizard etc. inside the panel.
- The terminal end of cables and wires are to be fitted with good quality letter and number ferrules of proper sizes so that the cables can be identified easily.

8.20 METERING ARRANGEMENT:

The bidder shall install metering arrangement in accordance with the prudent practice

	Features	Requirement
	Type:	ABT
	Supply System	3 phase, 4 wire
	Voltage:	110 V
	Class of accuracy:	0.2 S
	CT secondary Current	5 Amp
	Features	With TOD features, completely wire with TTB, as per Assam Power Distribution company Specification and mounted in the panel.
	Import and Export Energy meter system complete panel	
A	1no. complete panel comprising 2 nos. (MAIN + CHECK) Import-Export Energy ABT type meter with TTB's. Panel will be as per APDC specification. Meter will be supplied with complete testing and calibration from accredited agency.	
C	- Above Package also includes user manual, universal battery charger, RS 232 communication cable, rubber boot, carrying case.	
D	Software for meter for downloading of data 1no.	

8.21 WIRING:

8.21.1 All instruments and Panel wiring shall be of heat resisting and self-extinguishing type in compliance with IS Plastic or porcelain cleats of the limited compression type shall be used for holding wiring runs. All wires shall be suitable for bending to meet the terminal studs at right angles. Metal cases of all apparatus mounted on panels shall be separately earthed by means of copper wire or strips.

8.21.2 The following colour scheme of the wiring shall be used as per IS: 375.

a) AC three phase circuits:

- i) No.1 Phase : Red
- No.2 Phase : Yellow
- No.3 Phase : Blue

ii) Neutral Conductor : Black

iii) Connection to Earth : Green

b) D.C. circuits : Grey

8.22 LIGHTNING & OVER VOLTAGE PROTECTION

- a. The SPV Power Plant should be provided with Lightning and over voltage protection connected to proper earth mats. 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.
- b. The bidder shall ensure adequate lightning and over voltage protection to provide and acceptable degree of protection as per IS for the array yard/Shed.
- c. The lightning Masts / Conductors shall be made as per applicable Indian Standard/International Standard in order to protect the entire Array Yard/ Shed from Lightning stroke.
- d. Necessary concrete foundation for holding the lightning conductor, in position, to be made after giving due consideration to maximum wind speed and maintenance requirement at site in future.
- e. The lightning masts / conductor shall be earthed through flats and connected to the Earth mats as per applicable Indian Standards with earth pits. Each Lightning Conductor shall be fitted with individual earth pit as per required Standards including accessories, and providing masonry enclosure with cast iron cover plate having locking arrangement, watering pipe using charcoal or coke and salt as per required provisions of IS.
- f. Design calculations and detailed explanations (in 4 sets) shall be provided for approval of Oil India Ltd within 15 days of order.

8.23 MINIMUM TECHNICAL REQUIREMENT / STANDARD FOR SOLAR PHOTOVOLTAIC (PV) PLANT

8.23.1 PV MODULES:

8.23.1.1 The PV modules must conform to the latest edition of any of the following IEC/equivalent BIS Standards for PV module design qualification and type approval:

Crystalline Silicon Terrestrial PV Modules	IEC 61215 / IS14286
Thin film PV modules IEC	
Concentrator PV Modules & Assemblies	IEC 62108

8.23.1.2 In addition, the modules must conform to IEC 61730 Part 1- requirements for construction & Part 2 - requirements for testing, for safety qualification.

8.23.1.3 PV modules to be used in a highly corrosive atmosphere (coastal areas, etc.) Must qualify Salt Mist Corrosion Testing as per IEC 61701.

8.23.2 BALANCE OF Plant (BoP) ITEMS/ COMPONENTS:

8.23.2.1 The BoP items / components of the SPV power plants/ systems deployed Under the Mission must conform to the latest edition of IEC/ equivalent BIS Standards as specified below**:

BoP item / component	Applicable IEC / equivalent BIS Standard	
	Standard Description	Standard Number
Inverters*	Efficiency Measurements	IEC 61683
	Environmental Testing	IEC 60068 2
Charge controller/ MPPT units*	Design Qualification Environmental Testing	IEC 62093 IEC 60068 2 (6,21,27,30,75,78)
Storage Batteries	General Requirements & Methods of Test Tubular Lead Acid	IEC 61427 IS 1651/IS 133369
Cables	General Test and	IEC 60189
	Measuring Methods PVC insulated cables for working Voltages up to and including 1100 V-Do-, UV resistant for outdoor installation	IS 694/ IS 1554 IS/IEC 69947
Junction Boxes / Enclosures	General	Requirements IP 65 (for outdoor) / IP 21 (for indoor) IEC 62208
SPV System	Design PV Stand-alone System design verification	IEC 62124
Installation Practices	Electrical installation of buildings Requirements for SPV power supply systems	IEC 60364-7-712

* Must additionally conform to the relevant national/international Electrical Safety Standards.

** Also refer Addendum No. 32/49/2010-11-PVSE dated 19.08.2010 appearing at the end of this document.

8.23.3 AUTHORIZED TESTING LABORATORIES/ CENTERS

8.23.3.1 The PV modules must be tested and approved by one of the IEC authorized test centers. Test certificates can be from any of the NABL/ BIS Accredited Testing /Calibration Laboratories. Qualification test certificate as per IEC standard, issued by the Solar Energy Centre for small capacity modules up to 37Wp capacity will also be valid.

8.23.3.2 Test certificates for the BoP items/ components can be from any of the NABL/ BIS Accredited Testing-Calibration Laboratories/ MNRE approved test centers. The list of MNRE approved test centers will be reviewed and updated from time to time.

8.23.4 WARRANTY

8.23.4.1 The mechanical structures, electrical works including power conditioners / inverters / charge controllers/ maximum power point tracker units/Transformer, ACDB, LT DB, distribution boards / digital meters / switchgear / storage batteries, all equipment etc. and overall workmanship of the SPV power plants/ systems must be warranted against any manufacturing/ design/ installation defects for a minimum period of 10 years.

8.23.5 PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 12 years and 80% at the end of 25 years.

8.23.6 IDENTIFICATION AND TRACEABILITY

8.23.6.1 Each PV module used in any solar power project must use a RF identification tag (RFID), which must contain the following information. The RFID can be inside or outside the module laminate, but must be able to withstand harsh environmental conditions.

- (i) Name of the manufacturer of PV Module
- (ii) Name of the Manufacturer of Solar cells
- (iii) Month and year of the manufacture (separately for solar cells and module)
- (iv) Country of origin (separately for solar cells and module)
- (v) I-V curve for the module
- (vi) Peak Wattage, I_m , V_m and FF for the module
- (vii) Unique Serial No and Model No of the module
- (viii) Date and year of obtaining IEC PV module qualification certificate
- (ix) Name of the test lab issuing IEC certificate
- (x) Other relevant information on traceability of solar cells and module as per ISO 9000 series.

8.24 ERECTION, TESTING & COMMISSIONING

- a. The installation shall be carried out by an electrical contractor holding a valid license as required by the State Government Authorities.
- b. The contractor shall provide necessary drawings and documents required by statutory authorities and obtain the approval before taking up erection. It shall be the sole responsibility of the contractor in obtaining safety certificate / approval from local statutory authorities.
- c. Any modification in the equipment or installation that may be demanded by the inspecting authorities shall be carried out by the contractor at no additional cost to the Oil India Ltd
- d. In accordance with the specific installation instruction as per the manufacturers drawings or as directed by the Oil India Ltd, the successful Bidder shall unload, assemble, erect, install test, commission and hand over all electrical equipment included in this contract.
- e. Erection materials including all consumables, tools, testing instruments or any other equipment required for successful commissioning shall be arranged by the successful Bidder in a timely manner.
- f. Clearing the site after completion, of erection as well as regular clearance of

unwanted materials from site, returning excess materials supplied by the Oil India Ltd back to Oil India Ltd.'s stores shall also be included under this scope of work.

- g. All equipment and instruments, indoor and outdoor, shall be marked with Numbers and provided with suitable danger boards as per Indian electricity Rules/code etc. before commissioning.
- h. The contractor shall touch up the surface with paint of same shade for equipment, which are scratched and / or damaged during transportation and erection before commissioning.
- i. The contractor shall employ skilled and semi-skilled labours for erection, testing and commissioning as required. All the electricians, cable jointers, wiremen, welders and others employed shall possess valid certificates / license recognized by competent authorities.
- j. The contractor shall set up his own facilities at site at allocated place to undertake fabrication/assembly jobs etc.
- k. The Contractor shall carry out major civil engineering works as called for in scope of work pertaining to electrical equipment's like foundation for modules structures control room rooms for O & M staff etc. as per the latest relevant drawings. For this they may carry out minor civil works such as foundation bolts, cutting holes in walls, chipping of floor and ceiling etc. making good the same after installation of the equipment and any other minor civil works advised by Oil India Ltd for completion of the work has to be carried out without any extra charges.
- l. During erection, care is to be taken to see that painting does not peel off at any place and if so, it has to be given a 'Touch-up' after erection by the contract.

8.25 SPECIFICATION FOR TESTING & COMMISSIONING

The testing and commissioning for all electrical equipment at site shall be according to the procedures listed below:

- a) All electrical equipment shall be tested, installed and commissioned in accordance with the latest relevant standards and code of practices published by Indian Standards Institution wherever applicable and stipulations made in relevant general specifications.
- b) The testing of all electrical equipment as well as the system as a whole shall be carried out to ensure that the equipment and its components are in satisfactory condition and will successfully perform its functional operations. The inspection of the equipment shall be carried out to ensure that all materials, workmanship and installations conform to the accepted design, engineering and construction standards, as well as accepted code of practices and stipulations made in the relevant general specifications.
- c) The contractor in the presence of representative / Consultant of Oil India Ltd shall carry out all tests using his own calibrated instruments, testing equipment as well as qualified testing personnel.
- d) The results of all tests shall conform to the specification requirements as well as any specific performance data, guaranteed during finalization of the contract.

8.26 PREPARATION OF THE EQUIPMENT FOR COMMISSIONING:

- a) After completion of the installation at site and for the preparation of plant commissioning, the contractor shall check all the equipment and installation in accordance with the agreed standards, latest relevant code of practices of Indian

Standards and specific instructions furnished by the particular equipment suppliers as well as purchaser.

- b) Checking required to be made on all equipment and installations at site shall comprise, but not limited to, the following:
- Physical inspection Modules for removal of any foreign bodies, external defects, such as damaged, loose connection in Junction Boxes & Inverter etc. loose foundation bolts etc.
 - Check for the free movement of mechanism for the circuit – breaker, rotating parts of the rotating machines and devices.
 - Check for tightness of all cable joints and bus bar termination ends as well as earth connections in the main earthing network.
 - Check for clearance of live bus bars and connectors from the metal enclosure.
 - Check for proper alignment of all the modules etc.
 - Continuity checks in case of power and control cables.
 - Checking of all mechanical and electrical interlocks including tripping of breakers using manual operation of relay.
 - Checking of alarm and annunciation circuits by manual actuation of relevant relays.
 - Check and calibrate devices requiring field adjustment/calibration like adjustment of relay setting etc.
 - Check for proper connection to earth network of all non-current carrying parts of the equipment and installation.
- c) The relevant tests shall be carried out in accordance with relevant IS of latest issue. The tests which are to be carried out on the equipment shall include, but not be limited to, the following:
- i) Check for completeness of installation.
 - ii) Each pole to earth insulation resistance test.
- d) Cables
- i) Insulation resistance test shall be conducted by Megger for cables rated up to 1.1kV grade.
 - ii) All 1.1 kV cables shall be subjected to high voltage test after joining and terminating but before commissioning as per relevant standards.
 - iii) In each test, the metallic sheath / screen / armour should be connected to earth.
 - iv) Continuity of all the cores, correctness of all connections as per wiring diagram, correctness of polarity and phasing of power cables and proper earth connection of cable glands, cable boxes, armour and metallic sheath, shall be checked.
- e) Earthing
- i) Tests to ensure continuity of all earth connections.
 - ii) Tests to obtain earth resistance of the complete network by using earth tester. The test values obtained shall be within the limits.

8.27 CIVIL WORKS

8.27.1 Detailed Contour Survey & Soil Investigation of the Site

The turnkey contractor shall be responsible for detailed soil investigation and contour survey at required locations for the purposes of foundation design.

8.27.2 Land Development for site activities

-The turnkey contractor is responsible for making the site ready by clearing of bushes, felling of trees (if required), levelling of ground (wherever required) etc. for commencing the project.

- Ground clearance of the lowest point of module shall be minimum one meter.

8.27.3 Building Construction for the SCADA room and sitting arrangement of O&M staff. Detailed Extension of Domestic substation to accommodate incoming LT switchgear Specification needs to match with existing substation building Drawing shall be got approved from OIL India

8.28 ROADS WITHIN SOLAR POWER PLANT

Suitable approach road and internal Solar Photovoltaic plant elevated path /road, as per approved Design (Oil India Ltd norms), to carry safe and easy transportation of equipment and material shall be made within the complex boundary of Oil India Ltd.

The road should provide easy approach to location. These roads are to be designed optimally to carry the crane load with all necessary chambers, gradients, super elevation, and radius of curvatures for the easy movement of cranes, trucks and public transport.

8.29 QUALITY ISSUES

- i. Contractor will submit and get finalized detailed comprehensive Standard Field Quality Plan (SFQP) within 7 days from date of issue of the order for bought out items and items manufactured by them. The Standard Field Quality Plan shall relate to the specific and objective erection practices right from storage of equipment till final inspection and testing to be followed for bought out items and items manufactured by Contractor. Accordingly, the Manufacturing Quality Plan shall be submitted broadly under following sub-heads: -
- ii. Raw material / Bought Out items and Components.
- iii. In process inspection and test / checks to establish successful completion/accomplishment of the process.
- iv. Final tests / checks in accordance with relevant national / international standards / specification.
- v. The quantum of check for each and every inspection/test items shall be based on an established sampling method and the quantum of check indicated in the SFQP should be designed adequate quality protection.
- vi. In case reference documents/acceptance norms are indicated as per plant standards then the same shall be duly substantiated/properly explained by well-established and proven engineering practices. All submissions will be in English language only.
- vii. Bidder will to allow Oil India Ltd to carry out Quality/Audit/Quality surveillance on bidders and our sub-vendor's work with reference to contractual obligations to

ensure that the quality management practices/norms as detailed out in the Quality Manual are adhered to. To facilitate this activity, you shall keep Oil India Ltd informed all progress of work in this contract on monthly basis.

- viii. Contractor will associate/fully witness in each inspection being carried out at their/their sub-vendor's works by our authorized inspection engineer(s).
- ix. Oil India Ltd shall also carry out quality audit and quality surveillance of your systems, procedures and quality control activities. However, this shall not relive you of any of your contractual responsibilities under the contract.
- x. A detailed 'QAP' for Manufacturing and Inspection shall be submitted by the Bidder for approval of Oil India Ltd
- xi. The shop test shall be carried out to prove the performance parameters of the offered model. The testing shall be done in the presence of the representatives of the department.
- xii. Manufacturer has to submit procedure and test records for Test carried out at their Factory.

SECTION-IX

FORMS AND FORMATS

CONTENTS

BID RESPONSE SHEETS

Bid Response Sheet No	Description	Page No.
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Bidder's General Information

To

Oil India Ltd;
Plot No 19, Sector-16,
NOIDA-201203

Sub: Bid No. ----- Engineering, Procurement and Construction (EPC) contract for 500 KW capacity Solar Energy Project at PS#3 Oil India campus Jorhat (Assam) including Comprehensive Operation & Maintenance for 5 years.

1. Name of the bidder -----
2. Status of Firm/ Company: Proprietorship Firm / Partnership Firm/
[Mark √] Company (Private or public)
3. Number of years in the business -----
4. Registered Office Address: -----

4. Operational Address: -----
[If different from above] -----

6. Telephone No. & Fax No.: -----
7. E-mail ID & Website: -----
8. Licensed capacity of manufacture: -----

Description of equipment	Size Capacity	Licensed Capacity	No. of units manufactured		
			Current Year	Last Year	Second Last Year

9. Plant Details:
 - a) Location
 - b) Description
10. Type of the equipment manufactured/supplied/installed during last 4 years.

Name of Equipment	Capacity/size/ Model	Nos. manufactured / supplied/ installed	Project to which supplies have been made	No. of orders in hand

Bid Response Sheet No 1 contd...

11. Details of testing facilities available at works:
 - a) List of testing equipment.
 - b) Tests, which are carried out on items offered
 - c) Details of the test organization available.
12. Describe Quality Control Organization, if any, and give the organization chart.
 - g) Are goods offered subject to batch test, random sampling, or full 100% test for Quality check?
 - h) Are tests carried out by factory employees or by a separate testing agency?
 - i) Are independent quality Control Organization checks made and certificates issued?
13. ISO Certification [If any] [If 'Yes', Please Furnish Details]:
14. Nearest service center to offered
Location with phone number
15. Names of three buyers to whom similar equipment have been supplied, installed and commissioned in the past to which reference could be made by us regarding the bidder's technical and delivery ability.

16. Schedule for furnishing technical data and certified drawings after receipt of orders.

Signature of Bidder

List of Enclosures

To

Oil India Ltd;
Plot No 19, Sector-16,
NOIDA-201203

Sub: Bid No. ----- Engineering, Procurement and Construction (EPC) contract for
500 KW capacity Solar Energy Project at PS#3 Oil India campus Jorhat (Assam)
including Comprehensive Operation & Maintenance for 5 years

Dear Sir,

We are enclosing the following documents as part of the bid:

- (i) Power of Attorney of the signatory to the Bidding Document along with Board Resolution.
- (ii) Documents showing Financial Situation Information for the last three years such as annual reports, profit and loss account, net worth etc. along with information as sought in Bid Response Sheet No 3
- (iii) Copy of Bidding Documents along with addendum/corrigendum signed in token of confirmation that Bid Documents are considered in full while preparing the bid and in case of award, work will be executed in accordance with the provisions detailed in Bid Documents.
- (iv) Documentary Evidences showing the Bidder's claim of meeting Bid Rejection Criteria as mentioned in Schedule ITB -1.
- (v) EMD in the form of DD/ BG in favor of Oil India Ltd, Payable at Noida from any Bank as per Annexure –V.
- (vi) Proof of payment towards Bid Fee.

Signature of Bidder

FINANCIAL INFORMATION**FINANCIAL DATA FOR LAST THREE AUDITED FINANCIAL YEAR**

Sl. No.	Description	FY2014-15	FY2015-16	FY2016-17
1	Current Assets			
2	Current Liabilities			
3	Working Capital (1-2)			
4	Annual Turnover			
5	Paid up share capital			
6	Free Reserves & Surplus			
7	Net Worth of bidder funds			
8	Profits before taxes			

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

- i) All such documents reflecting the financial situation of the bidder.
- ii) Historic financial statements must be audited by a certified accountant and must be complete, including all notes to the financial statements.
- iii) Historic financial statements must correspond to accounting periods already completed and audited (no statement for partial periods shall be accepted).

Signature of Bidder

Bid Response Sheet No 4**Format for Pre-bid Queries**

To
Oil India Ltd;
Plot No 19, Sector-16A,
NOIDA-201203

Sub: Tender No. :
Dear Sir,

Having examined the General and Special Conditions of Contract and the Terms of Reference including all attachments thereto, the receipt of which is hereby duly acknowledged, we have some queries and the same are submitted as per the format provided in the tender documents.

Sl. no	Section Reference of the Tender document	Clause No. of the Section Reference of Tender document	Clause as given in the Tender document	Description of queries raised	Clarification / changes suggested /amendment
1					
2					
3					

Signature

(In the capacity of)

DECLARATION

To

Oil India Ltd;
Plot No 19, Sector-16,
NOIDA-201203

Sub: Bid No. ----- Engineering, Procurement and Construction (EPC) contract for
500 KW capacity Solar Energy Project at PS#3 Oil India campus Jorhat (Assam)
including Comprehensive Operation & Maintenance for 5 years

Dear Sir,

We hereby confirm that we are not under any 'liquidation', any 'court receivership' or similar proceedings and 'bankruptcy' and we agree that if any noticed in future, our Bid may be rejected / terminated.

In case the bidder has any dispute in court of law of any kind which can affect the manufacturing, supply, installation, commissioning of solar plant & O&M Contract, in such case the bidder shall furnish the status of all cases along with all relevant documents.

Signature of Bidder

AGREED TERMS & CONDITIONS

Sub: Bid No. ----- Engineering, Procurement and Construction (EPC) contract for 500 KW capacity Solar Energy Project at PS#3 Oil India campus Jorhat (Assam) with its Comprehensive Operation & Maintenance for 5 years

Bidder's Name:

This Questionnaire duly filled in, signed & stamped must form part of Bidder's Bid and should be returned along with Un-priced Bid. Clauses confirmed hereunder need not be repeated in the Bid.

Sl. No.	DESCRIPTION	BIDDER'S CONFIRMATION
1.	Confirm that you have quoted for 500KW solar power plant as per foregoing Bid documents Confirm that you have quoted for comprehensive O&M for 5 years Confirm that quoted prices given in schedule P-1 & P-II are for 500 KW solar plant which is inclusive of comprehensive O&M for 25 years.	
2.	Confirm quoted prices will remain firm and fixed (except for Statutory Variation and imposition of new tax/levies) as per Bid document till complete execution of the order.	
3.	i) Confirm that rate/amount of State/Central GST has been indicated in Price Schedule. Statutory variation in GST within contractual delivery period shall be to Purchasers account. ii) If there is any variation in State/Central GST at the time of supplies for any reasons other than statutory variation the same will be borne by bidder. iii) Confirm in case of delay on account of bidder, any new or additional taxes and duties imposed after contractual delivery shall be to bidder's account.	
5.	Confirm transit insurance is included in the quoted prices.	
6.	Confirm acceptance of relevant Terms of Payment specified in the Bid Document.	
7.	Confirm that SPBG (10% of value of EPC contract without O&M) will be furnished as per Bid Document.	

Sl. No.	DESCRIPTION	BIDDER'S CONFIRMATION
8.	Confirm compliance to commissioning Schedule as specified in Bid document.	
9.	i) Confirm acceptance of price reduction schedule for delay in commissioning period specified in Bid document. ii) In case of delay, the bills shall be submitted after deducting the price reduction due to delay. Confirm.	
10	Confirm goods to be supplied by you shall be guaranteed for Performance as per Bid document.	
11.	Confirm your offer is valid for 90 days from the bid closing date or extension, if any, of Techno-commercial Bids.	
12.	(a) Confirm Documentation & Testing charges as per Technical Specifications/Bid Document are inclusive in your quoted prices. (b) Inspection shall be carried out by Owner/Third Party as envisaged in the bid document. Please confirm that no extra charges shall be payable to you on this account.	
13.	i) Confirm acceptance of complete Bid Document (all sections). ii) Confirm that printed terms and conditions of bidder are not applicable.	
14.	Confirm all the raw materials & components and those required to be imported for the manufacture and supply of items will be independently procured by you at your cost and expenses. Purchaser will not provide any Import License for the same.	
15.	Please furnish EMD details : a) DD/BG No. & date (i) Value (ii) Validity	

Bid Response Sheet No 6 contd...

Sl. No.	DESCRIPTION	BIDDER'S CONFIRMATION
16.	Confirm that Balance sheets and Profit & Loss A/c for the last three financial years are furnished along with the Un-priced Bid.	
17.	Confirm that, in case of contradiction between the confirmations provided in this format and terms & conditions mentioned elsewhere in the offer, the confirmations given in this format shall prevail.	
18.	The bidder is required to state whether any of the Directors of bidder is a relative of any Director of Owner or the bidder is a firm in which any Director of Owner or his relative is a partner.	
19.	Confirm that you have not been banned or de-listed by any Government or Quasi-Government agencies or Public Sector Undertakings. If you have been banned or de-listed by any Government or Quasi-Government agency or Public Sector Undertakings, then this fact must be clearly stated. If this declaration is not furnished bid shall be treated as non-responsive and liable for rejection.	
20.	Confirm that you have signed & attached the enclosed Integrity Pact (IP).	

Signature of Bidder

PROFORMA FOR FURNISHING DETAILS OF PAST EXPERIENCE IN SOLAR ENERGY PROJECTS DURING LAST THREE YEARS (TURNKEY PROJECT)

- a) Total Aggregate capacity of all solar farms executed on turnkey basis in India in the last three years in KW

Attach separate sheet for each Solar Projects (at least for three projects)

Sl. No.	Description	
1	Name of works & Owner's address, contact person with telephone numbers.	
2	Detailed scope of work.	
3	Type of technology used, make and rating of modules used, Inverters make and rating used	
4	Capacity of the plant	
5	Whether O&M is being looked after? Please indicate period of O&M contract.	
6	Completion time of solar project as per contract.	
7	Actual Completion of solar project.	
8	If delayed, then reasons for delay.	
9	Period of successful operation.	
10	Actual generation achieved month-wise per year since date of commissioning.	
11	Supporting documents for units exported to grid/LT system to be furnished	
12	Copies of Performance Reports from the prominent customers.	
13	Whether copy of work order & completion certificate for the above-mentioned work furnished.	
14	Additional information, if any.	

- b) O&M works of solar energy projects undertaken in India for total capacity
c) O&M contract for last three years in hand indicating capacity thereof.

Signature of Bidder

Annual Energy Production (AEP) for 25 Years Period

1. The Bidder shall provide AEP, based on the Performance Ratio considering offered design configuration and all local conditions, solar insolation, wind speed and direction, air temperature & relative humidity, barometric pressure, rainfall, sunshine duration, grid availability and grid related all other factors and losses due to near shading, incidence angle modifier, irradiance level, temperature loss array loss, Module quality loss, Module array mismatch loss, and various inverter losses, etc. To assess/verify feasibility of quoted AEP, bidders are required to provide computation documents along with considered factors based on which AEP has been computed.
2. Bidder shall furnish detailed calculations for estimated Annual Energy Production (AEP) FOR 25 YEARS PERIOD of the 500KW solar power plant based on solar irradiation, Total Generator area of the plant, efficiency of the modules, Performance Ratio (PR) etc.
3. Generator Area: _____m²

Sl. No.	Year	Nominal Annual Energy Production (KWh)	PR Ratio (%)	Annual Energy Production (KWh)	Module Efficiency
		(A)	(B)	C=(A X B)	D
1	1 st				
2	2 nd				
3	3 rd				
4	4 th				
5	5 th				
6	6 th				
7	7 th				
8	8 th				
9	9 th				
10	10 th				
11	11 th				
12	12 th				
13	13 th				
14	14 th				
15	15 th				
16	16 th				
17	17 th				
18	18 th				
19	19 th				
20	20 th				
21	21 th				
22	22 th				
23	23 th				
24	24 th				
25	25 th				
	TOTAL				

Signature of Bidder

BID REJECTION CRITERIA FORM (Technical & Financial)

Sl. No.	Item	Reference of supporting Document	Supporting document at Page Number of offer
A	TECHNICAL		
1	The stabilized output of the offered Solar PV plant should not be less than 500 KW under standard conditions.		
2	The 500 KW Solar PV Plant shall be a complete system and meet the Technical Specifications of the Bid Documents.		
3	<p>The bidder may be;</p> <p>a) A manufacturer of SPV modules with minimum designing, manufacturing and testing capabilities required for setting up the 500 KW Solar Project. And meets the experience criteria as described at sub clause (iv & v)</p> <p align="center">or</p> <p>b) System Integrator cum EPC contractor who have designed, engineered, installed tested and commissioned using tier one quality products for at least 250 KW Grid Connected Solar Power plants of offered technology and meeting required as described at sub clause (iv & v).</p>		
4	A bidder should have experience of Minimum one number Grid connected Solar PV power plant of not less than 250 KW or more capacity from concept to commissioning (i.e. designed, erected, tested and commissioned) during the last five (05) years from the original date of bid closing.		
5	Minimum one SPV Power Project of at least 100 KW capacity commissioned by the bidder in India, should be working successfully for at least one year from its date of commissioning from the original date of bid closing.		
B	FINANCIAL		
1	Annual financial turnover as per Audited Annual Reports for in any one of the last three		

Sl. No.	Item	Reference of supporting Document	Supporting document at Page Number of offer
	accounting years, must be at least Rs 2.95 Cr. as per the Audited Annual Reports Chartered Accountant Firm indicating their Membership/ Code number along with Profit and Loss Account. These documents are to be submitted with the Technical Bid .		
2	<p>"Net Worth" of the bidder should be positive for the preceding financial/ accounting year</p> <p>In case, Financial Statements of the preceding financial / accounting year are not available with the bidder, then the financial turnover of the previous three financial/accounting years excluding the preceding financial/ accounting year will be considered. In such cases, the Net worth of the previous financial/accounting year excluding the preceding financial/ accounting year will be considered. However, the bidder has to submit an affidavit/undertaking certifying that 'the balance sheet/Financial Statements for the financial year. (as the case may be) has actually not been audited so far.</p> <p>a) For proof of Annual Turnover & Net worth any one of the following document must be submitted along with the bid:-</p> <p>A certificate issued by a practicing Chartered /Cost Accountant (with Membership Number and Firm Registration Number), certifying the Annual turnover & Net worth as per Annexure-XIV attached.</p> <p style="text-align: center;">OR</p> <p>ii) Audited Balance Sheet along with Profit & Loss account. In case of foreign bidders, self-attested/digitally signed printed published accounts are also acceptable.</p> <p>b) In case the bidder is a Central Govt. Organization/PSU/State Govt. Organization/Semi-State Govt. Organization or any other Central/State Govt. Undertaking, where the auditor is appointed only after the</p>		

Sl. No.	Item	Reference of supporting Document	Supporting document at Page Number of offer
	<p>approval of Comptroller and Auditor General of India and the Central Government, their certificates may be accepted even though FRN is not available. However, bidder to provide documentary evidence for the same.</p> <p>In case the Audited Balance sheet and Profit Loss Account submitted along with the bid are in currencies other than INR or US\$, the bidder shall have to convert the figures in equivalent INR or US\$ considering the prevailing conversion rate on the date on which the Audited Balance Sheet and Profit & Loss Account is signed. A CA (Chartered Accountant) Certificate is to be submitted by the bidder regarding converted figures in equivalent INR.</p> <p>In case the bidder is a subsidiary company (should be a 100% subsidiary of the parent/ultimate parent/holding company) who does not meet financial criteria by itself and submits bid based on the financial strength of its parent/ultimate parent/holding company, then following documents need to be submitted along with the technical bid.</p> <p>(i) Audited Balance Sheet and Profit Loss Account of the parent/ ultimate parent/ holding company.</p> <p>(ii) Corporate Guarantee on parent/ultimate parent/holding company's letter head signed by an authorized official undertaking that they would financially support their 100% subsidiary company for executing the project/job in case the same is awarded to them, and</p> <p>(iii) The bidder is a 100% subsidiary company of the parent/ultimate/holding parent company.</p> <p>(iv) Documents proving that Net worth of the parent/ultimate parent company is positive for the accounting year preceding the bid closing date.</p>		

Enclose documentary evidence in support of above

Tender No.: CLI 5100P18

Page **144** of **212**

Signature of the Bidder

TECHNICAL PARTICULARS OF QUOTED SOLAR PV MODULE FOR 500 KW
SOLAR POWER PLANT

Technology offered: Crystalline
Details of offered crystalline PV Modules

S. N.	Particulars	Offered
1.	PV Module Manufacture name & Country	
2.	PV Module type	
3.	Product Code	
4.	No. of PV cells per Module	
5.	Solar Module frame material	
6.	Module dimensions	
7.	Output Cables	
8.	Junction Box	
9.	Construction Front Back	
10.	Max Temperature rise of solar cells under severe working conditions over Max. Ambient Temp.	
11.	Nominal voltage	
12.	Nominal Wattage	
13.	Power Tolerance	
14.	Peak power voltage (Vmp)	
15.	Peak power current (Imp)	
16.	Open circuit voltage (Voc)	
17.	Short circuit current (Isc)	
18.	Weight of each module (Kg)	
19.	Fill Factor	
20.	Standards/Approvals from International Agencies	
21.	Module is suitable to operate at 50° ambient	
22.	Cell efficiency	
23.	Module efficiency	
24.	Temp cycling range	
25.	Maximum System Voltage 600/1000V	
26.	Temp coefficient of Isc	
27.	Temp coefficient of Voc	

28	Temp coefficient of power	
----	---------------------------	--

Signature of the Bidder

TECHNICAL PARTICULAR FOR INVERTER

Details	Offered
Make	
Nominal Output AC voltage	
Output Frequency	
Continuous Rating	
AC over / under voltage over / under frequency protection	
Total Harmonic Distortion	
DC Side	
Continuous Rating	
Maximum DC voltage Range	
MPPT range	
Control Type	
Waveform	
Parallel Operation	
Power Control	
THD	
Efficiency	
Internal Protection System (using electronic detection)	
Alarm Signals	
Front Panel Display(LCD)	
Front Panel Controls (via keypad)	
Front Panel Indicators	
RFI	
Circuit Breakers	
Earthing Provisions	
ENVIRONMENTAL Operating Temperature Range Humidity Enclosure	
Parameters Dimensions Weight	

DATA LOGGING Communication Interface	
System Features	
Logging Attributes	

Signature of the Bidder

TECHNICAL DATA FOR TRANSFORMER

Sl. No	Description	Unit	Specification
1.	Service	Outdoor / indoor	
2.	Type	Outdoor / indoor	
3.	Rating	kVA	
4.	Rated frequency	Hz	
5	Number of phases:		
	LV 1	No	
	LV2	No	
	Neutral (separate outside)	No	
6.	Rated Voltage		
	a) LV1 winding	V	
	b) LV2 winding	V	
7.	Vector group	Star / Delta	
8.	Type of cooling	ONAN/ ONAF	
9.	Insulation level:		
	a) Power frequency withstands	kV rms	
	b) Impulse withstand voltage	kV	
	c) Power frequency withstands (neutral)	kV rms	
10.	Method of earthing		
11.	Duty		
12.	Short circuit level	kA	
13.	Off circuit tap changer:		
	a) Range	%	
	b) In steps of		
	c) Tapping provided on LV side		
14.	Tap changer type		
15.	Temperature rise above 40 ^o C ambient:		
	a) Top of oil by thermometer	^o C	
	b) Winding by resistance	^o C	
16.	Terminal details:		
	a) LV -1 side		
	b) LV -2 side		
Sl. No	Description	Unit	Requirement

17.	Losses (at 75°C and principal tapping):		
	a) No load loss at rated voltage and frequency	kW	
	b) Load loss at rated current (ONAN)	kW	
	c) Total loss maximum rated power	kW	
18.	Efficiency at 75 °C and 0.9 PF:		
	a) At full load (ONAN)	%	
	b) At 75% load (ONAN)	%	
	c) At 50% load (ONAN)	%	
19.	Hot spot temperature in winding limit to	°C	
20.	Shipping dimensions:		
	a) Height	mm	
	b) Breadth	mm	
	c) Length	mm	
21.	Painting		
22.	Reference standards		
23.	Make		
24.	Minimum creep age distance	mm/kV	
25.	Overall dimensions (L x B x H)	mm	
26.	% Impedance (±10% Tolerance)	%	
27.	Quantity of Oil	liters	
28.	Details of Instruments and protection provided with the Transformer(Make & Type)		

Signature of Bidder

SOURCE OF COMPONENTS

Sl. No.	Item Description	Vendor	Type offered	Source country
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				

Signature of Bidder

DRAFT ACTIVITY CHART

Bidder shall furnish Bar Chart for the following activities and his plan to for implementation of the project to meet the commissioning date. This information shall be in addition to detailed project schedule and other information he is required to furnish as part of his offer. The activities indicated herein are minimum activities for which bidder shall furnish the required information. Bidders are encouraged to furnish more detailed information in their offer.

Sl. No.	Activity
1	Site grading, levelling, clearing of vegetation
2	Design of structures, foundation, control room and other associated buildings boundary wall ,security hut ,overall plant design and drawings , submission to OIL and arranging approval from OIL
3	Construction of Approach Road & Internal Road, foundations of module structures, transformers, Inverter , construction of control Room Extension of Domestic substation and various buildings , Water storage Tank etc.
4	Clearance from Aviation Department, if applicable
5	Clearance from Defense, if applicable
6	Any other clearance as required
7	Supply of modules , mounting structures, Inverters associated DC Equipment and Materials
8	Supply of balance materials& items of Solar Plant
9	Transformers , AC Distribution Board , D C distribution Board , 433 V XLPE Power cables, control cables , DC side Cables and Termination of line
10	Permanent Water Supply
11	Commissioning of Plant Erection of Modules, Mounting
12	Approval from Chief Electrical inspector of State Govt
13	Completion of plant in all respect
14	Central Monitoring and Control System SCADA

Signature of the Bidder

LIST OF COMPONENTS HAVING LIFE LESS THAN 25 YEARS

Sl. No.	Description of Item	Make	Expected Life

Signature of the Bidder

DRAWINGS TO BE ENCLOSED BY THE BIDDER

The Bidder should enclose the following drawings with the bid:

- i. Single line schematic diagram of electrical system for grid interfacing and grid interconnection from solar plant.
- ii. General arrangement drawings and circuit diagrams of Module, Inverters, Transformers, and overall solar plant arrangement.
- iii. Drawings of similar type of project already commissioned by bidder.

Signature of the Bidder

Tender No.

SCHEDULE OF PRICE-I

Sl. No.	Particulars (Firm)	Price In INR
1	Design, engineering, manufacture, supply & delivery at site(s) of Solar plant consisting of PV modules, inverters, Supporting structure, etc.; Central Monitoring and Control System (CMCS), control panels, power & control cables, LT switch gear , Isolation transformer DC system etc. carrying out required civil work; erection & commissioning of solar plant and associated line from solar plant to OILs domestic power station-arranging transit insurance of all equipment; storage at site(s) and other auxiliaries till commissioning and take over, and all other works enabling Solar power project work complete in all respects as per the scope of work inclusive of all types of taxes, duties, levies etc. for 500 KW .	

NOTE:

1. The Price should be written in both in words & figures. No correction in price should be done.
2. Any item of work not mentioned in the above particulars but written elsewhere in the scope of work or in Technical Specification or essentially required for completion of works, proper operation and maintenance of Solar Plant, safety of equipment and operating personnel shall be deemed to have been included in the above particulars.
3. The prices mentioned at this page shall be taken into consideration for evaluation of bids. Any variation observed elsewhere in the bids shall be ignored while evaluation the bids.
4. The prices quoted should be inclusive of all taxes, duties and levies including GST-However, the break-up of taxes and other statutory levies included above should be indicated separately.

Signature of Bidder

Tender No.

SCHEDULE OF PRICE-II

Comprehensive charges of operation and maintenance of the solar plant facility project after the date of successful completion.

A) Comprehensive Operation & Maintenance Charges:

(In Rs.)

<i>Particulars</i>						
Year	Basic Annual O&M Charges	GST	O&M charges (inclusive of taxes & Duties)	CEIG Charges	Any other charges, if any	Total O&M Charges
A	B	C	D =(B+C)	E	F	G=D+E+F
1 st						
2 nd						
3 rd						
4 th						
5 th						
TOTAL						
TOTAL in words						

Note:

1. The Price should be written in both in words & figures. No correction in price should be done.
2. The O&M charges should be quoted on 'Firm' Basis.
3. Statutory & other charges should be indicated separately as per the above format, prevailing as on bid due date or extension if any. These charges shall be directly paid by OIL INDIA.
4. Any item of work not mentioned in the above particulars but written elsewhere in the scope of work or technical specifications or essentially required for efficient operation and maintenance of Solar Plant, safety of equipment and operating personnel, shall be deemed

to have been included in the above particulars.

5. The prices mentioned at this page shall be taken into consideration for evaluation of bids. Any variation observed elsewhere in the bid shall not be applicable.
6. Any incentive subsidy granted by Central/State Government shall be to the benefit of OIL INDIA's.

Signature of Bidder

Tender No.

SCHEDULE OF PRICE-III
BREAK-UP OF PRICE FOR SUPPLY OF EQUIPMENT FOR CAPACITY OFFERED

Sl. No.	Item	Basic Price	Custom Duty / Excise Duty	GST	Total
1	Supply of Solar power system complete in all respect (total cost) Break up price:				
	a) Module				
	b) Inverter				
	c) Structure				
	d) Transformer				
2	Supply of Central Monitoring & Control System (CMCS) complete in all respect with necessary software, hardware, cables etc.				
3	Supply of balance equipment, material and associated electrical work complete in all respects				
4	Supply of equipment, and material for Domestic control room				
5	Any other item not covered above (to be clearly specified by the Bidder)				
	Total				

Note:

1. The Price should be written in both in words & figures. No correction in price should be done.
2. The work shall be carried out as per the I. E. Rules & Code of practice and prudent utility practices along with the approvals of statutory authority
3. Providing of any / all items as required by the power utility for interconnection of Solar Plant with grid is deemed to be inclusive in above rates.
4. The total of the break-up price (PIII + PIV) should match with the lump sum total price quoted on turnkey basis in the price bid (Bid Response Sheet No. PI). In case of any discrepancy, the price quoted in the price bid (Bid Response Sheet No. PI) shall be considered final for evaluation of bids.
5. Any statutory changes in taxes and duties will be to OIL INDIA's account.

Signature of the Bidder

Bid Response Sheet No. P-IV

Tender No.

SCHEDULE OF PRICE-IV**BREAK-UP OF COST FOR CONSTRUCTION, ERECTION & COMMISSIONING FOR CAPACITY OFFERED**

Sl. No.	ITEM	Basic Price	GST	Total
1	Civil works within the Solar Plant complete in all respect			
2	Erection, Testing & Commissioning of Solar power project			
3	Erection, Testing & Commissioning of evacuation system and line extension work up to Domestic substation			
4	All fees/charges towards application, approval, clearances etc.			
5	Any other item			
	Total			

Note: - (1) The total of the break-up price (PIII + PIV) should match with the lump sum total price quoted on turnkey basis in the price bid (Bid Response Sheet No. PI). In case of any discrepancy, the price quoted in the price bid (Bid Response Sheet No. PI) shall be considered final for evaluation of bids. Any statutory changes in taxes and duties will be to OIL INDIA's account

Signature of the Bidder

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BID FORM

Do not insert
price here

Oil India Ltd;
Plot No 19, Sector-16,
NOIDA-201203

Sub: Bid No. ----- Engineering, Procurement and Construction (EPC) contract for 500 KW capacity Solar Energy Project at PS#3 Oil India campus Jorhat (Assam) including Comprehensive Operation & Maintenance for 5 years

Gentlemen,

Having examined the General and Special Conditions of Contract and the Terms of Reference including all attachments thereto, the receipt of which is hereby duly acknowledged, we the undersigned offer to perform the services in conformity with the said conditions of Contract and Terms of Reference for the **total sum** as mentioned in price bid BRS-I& BRS-II or such other sums as may be ascertained in accordance with the Schedule of Prices attached in Priced bid and made part of this Bid.

We undertake, if our Bid is accepted, to commence the work within () days calculated from the date of award of Contract.

If our Bid is accepted, we will obtain the guarantee of a bank as per tender requirement for the due performance of the Contract.

We agree to abide by this Bid for a period of 90 days from the date fixed for Bid Closing and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof in your notification of award shall constitute a binding Contract between us.

We understand that you are not bound to accept the lowest or any Bid you may receive.

Dated this _____ day of _____ 2017.

Signature

(In the capacity of)

FORM OF BID SECURITY (BANK GUARANTEE)

To:

Oil India Ltd;
Plot No 19, Sector-16,
NOIDA-201203

WHEREAS, (Name of Bidder) _____ (hereinafter called "the Bidder") has submitted their offer Dated _____ for the provision of solar project (hereinafter called "the Bid") against OIL INDIA LIMITED, Plot No 19, Sector-16 NOIDA-201203 India (hereinafter called the Company)'s tender No.: _____. KNOW ALL MEN BY these presents that we (Name of Bank) _____ of (Name of Country) _____ having our registered office at _____ (hereinafter called "Bank") are bound unto the Company in the sum of (*) for which payment well and truly to be made to Company, the Bank binds itself, its successors and assignees by these presents. SEALED with the seal of the said Bank this _____ day of _____ 2017.

THE CONDITIONS of these obligations are:

- (1) If the Bidder withdraws / modifies their Bid during the period of Bid validity specified by the Bidder; or
- (2) If the Bidder, having been notified of acceptance of their Bid by the Company during the period of Bid validity:
 - (a) Fails or refuses to execute the form of Contract in accordance with the Instructions to Bidders; or
 - (b) Fails or refuses to furnish the Performance Security in accordance with the Instructions to Bidders;
- (3) If the Bidder furnished fraudulent document/information in their bid.

We undertake to pay to Company up to the above amount upon receipt of its first written demand (by way of letter/fax/cable), without Company having to substantiate its demand provided that in its demand Company will note that the amount claimed by it is due to it owing to the occurrence of one or all of the conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including the date (**) and any demand in respect thereof should reach the Bank not later than the above date.

SIGNATURE AND SEAL OF THE GUARANTORS _____

Name of Bank & Address _____

Date..... Place _____

* The Bidder should insert the amount of the guarantee in words and figures.

** Date of expiry of Bank Guarantee should be minimum 30 days after the end of the validity period of the Bid.

FORMAT OF PERFORMANCE BANK GUARANTEE

To:
Oil India Ltd;
Plot No 19, Sector-16A,
NOIDA-201301.

WHEREAS _____ (Name and address of Contractor) (hereinafter called "Contractor") had undertaken, in pursuance of Contract No. _____ to execute (Name of Contract and Brief Description of the Work) _____ (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said contract that the Contractor shall furnish you with a Bank Guarantee as security for compliance with Contractor's obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee; NOW THEREFORE we hereby affirm that we are Guarantors on behalf of the Contractor, up to a total of (Amount of Guarantee in figures) _____ in words) (_____), such amount being payable in the types and proportions of currencies in which the Contract price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of guarantee sum as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein. We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or the work to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way cease us from any liability under this guarantee, and we hereby waive notice of such change, addition or modification.

This guarantee is valid until the date _____

SIGNATURE AND SEAL OF THE GUARANTORS _____

Designation _____

Name of Bank _____

Address _____

Date..... Place _____

LIST OF APPROVED BANKS

<u>SCHEDULED PUBLIC SECTOR BANKS (INDIAN)</u>	<u>(i)SCHEDULED FOREIGN BANKS</u>
<ol style="list-style-type: none"> 1. State Bank of India. 2. State Bank of Bikaner and Jaipur 3. State Bank of Hyderabad 4. State Bank of Mysore. 5. State Bank of Patiala. 6. State Bank of Travancore. 7. Allahabad Bank 8. Andhra Bank 9. Bank of Baroda 10. Bank of India 11. Bank of Maharashtra 12. Canara Bank 13. Central Bank of India 14. Corporation Bank 15. Dena Bank 16. Indian Bank 17. Oriental Bank of Commerce 18. Punjab National Bank 19. Punjab and Sind Bank 20. Syndicate Bank 21. Union Bank of India 22. UCO Bank 23. Vijaya Bank. 24. IDBI Bank 	<ol style="list-style-type: none"> 1. American Express Bank Ltd. 2. Bank of American NT & SA 3. Bank of Tokyo Ltd. 4. BNP Paribas 5. Barclays Bank Plc 6. Citi Bank NA. 7. Deutsche Bank A.G. 8. Hong Kong & Shanghai Banking Corporation. 9. Standard Chartered Bank 10. JP Morgan Chase Bank NA
<u>(b) SCHEDULED PRIVATE SECTOR BANKS (INDIAN)</u> <ol style="list-style-type: none"> 1. ING Vysya Bank 2. Axis Bank Ltd. 3. SBI Commercial & International Bank Ltd. 4. ICICI Bank 5. HDFC Bank 6. Yes Bank 7. Indus Ind bank 8. Kotak Mahindra Bank 	

PREFERRED VENDOR LIST FOR ELECTRICAL ITEMS

SL No.	Item Description	Approved Vendor List
1.	Solar Module	1.Jinko 2.Trina 3. Canadian solar 4. Renesola
2.	Inverter	1.SMA 2.ABB 3.AEG 4. DELTA
3.	D C Cables	1.Polycab 2.KEI 3.Havells 4.Lapp
4	Pyranometer	1. KeppZonen CMP11 2. Huksa Flux SR22 3.EKO MS802/802F
5.	Cables: Control-PVC	1. Associated Flexibles And Wires (P) Ltd 2. Cmi Ltd 3. Cords Cables Industries Ltd 4. Delton Cables Ltd 5. Elkay Telelinks Ltd 6. Evershine Electricals 7. Finolex Cables Ltd 8. Gemscab Industries Ltd 9. Goyolene Fibres (India) Pvt. Ltd 10. Havell's India Pvt. Ltd 11. Kei Industries Ltd 12. Nicco Corporation Ltd. 13. North Eastern Cables Pvt. Ltd 14. Paramount Communications Ltd (Manufacturing Unit- Paramount Cables Corporations) 15 Polycab Wires Pvt. Ltd 16. Radiant Cables Pvt. Ltd 17. Ravin Cables Ltd. 18. Suyog Electricals Ltd. 19. Torrent Cables Ltd 20. Universal Cables Ltd. 21. Associated Cables Pvt. Ltd. 22. Ecko Cables Pvt. Ltd. 23. Hindustan Vidyut Product 24. Thermo Cables Ltd. 25 Lapp India Ltd.
6.	SWITCH BOARDS- MV:MCC/PCC/PMCC- DRAWOUT (13BC)	1. Bch Electric Ltd 2. Controls &Schematics Ltd (Type:Mcc,Pcc,Pmcc) 3. Controls & Switchgear Ltd 4. Ge India Industrial (P) Ltd 5. Larsen & Toubro Ltd

SL No.	Item Description	Approved Vendor List
		6. Schneider Electric India Pvt. Ltd 7. Siemens Ltd
7.	SWITCH BOARDS- MV:MCC/ASB/LDB- FIXED TYPE (13BB)	1. Bch Electric Ltd 2. Controls & Schematics Ltd 3. Controls & Switchgear Ltd 4. Ge India Industrial (P) Ltd 5. Larsen & Toubro Ltd 6. M.K. Engineers & Controls Pvt. Ltd 7. Schneider Electric India Pvt. Ltd
8.	TRANSFORMERS-	1. Bharat Bijlee Ltd 2. Crompton Greaves Ltd 3. Emco Ltd 4. Indo Tech Transformers Ltd 5. Kanohar Electrical Pvt. Ltd 6. Kirloskar Power Equipment Ltd. 7. Transformers & Rectifiers (I) Ltd. 8. Vijay Electricals Ltd. 9. Voltamp Transformers (P) Ltd 10. Areva T&D India Ltd. 11. Rime Transformers & Conductors Pvt. Ltd 12. Esennar Transformers Pvt Ltd
9.	SIGNAL CABLES	1. Associated Flexibles And Wires (P) Ltd 2. Cmi Limited 3. Cords Cables Industries Ltd. 4. Delton Cables Limited 5. Elkay Telelinks Ltd. 6. Fine Core Cables Pvt. 7. Goyolene Fibres (India) Pvt. Ltd 8. Kei Industries Limited 9. Lapp Cables India Ltd, Bangalore 10. Netco Cable Industries Pvt. Ltd 11. Nicco Corporation Ltd. 12. Paramount Communications Ltd 13. Polycab Wires Pvt. Ltd 14. Radiant Cables Pvt. Ltd 15. Suyog Electricals Ltd. 16. Thermocables Ltd. 17. Universal Cables Ltd. 18. Associated Cables Pvt. Ltd.
10.	NEUTRAL GROUNDING RESISTORS	1. Bch Electric Ltd. 2. Resiitech Electricals Pvt. Ltd. 3. Rsi Switchgear Pvt. Ltd. 4. Sr Narkheede Engineering Pvt. Ltd.
11.	LIGHTING FIXTURES FOR NON- HAZARDOUS AREA	1. Bajaj Electricals Ltd Alpine Electrical Mfg.Co.Pvt.Ltd) 2. Crompton Greaves Ltd. 3. Philips India Ltd. 4. Havell's India Ltd. 5. M/S Venture Lighting India, Chennai
12.	CABLES: HIGH VOLTAGE- XLPE	1. Industrial Cables (I) Ltd 2. Nicco Corporation Ltd. 3. Polycab Wires Pvt. Ltd. 4. Torrent Cables Ltd.

SL No.	Item Description	Approved Vendor List
		5. Uniflex Cables Ltd. 6. Universal Cables Ltd.
13.	H.V. – CAPACITORS	1. ABB Ltd, Bangalore 2. Bhel, Bhopal 3. Kapsales Electricals Ltd. 4. Shreem Capacitors Pvt. Ltd. 5. Universals Cables Ltd. 6. Madhav Capacitors (P) Ltd., Pune
14.	SWITCH BOARDS- (INDOOR) WITH MCCB ITEM	1. ABB Ltd., Nasik 2. BHEL, Bhopal 3. Crompton Greaves Ltd. 4. Siemens Ltd. 5. Areva T&D India Ltd. 6. Jyoti Ltd.
15	Relay	1.C/S electric 2.Honeywell 3.Power Relay

ANNEXURE –VII

(To be submitted in duplicate)

MANDATE FORM FOR ELECTRONIC PAYMENT THROUGH INTERNET & RBI

To

Oil India Limited,

Dear Sir,

Sub: Authorization for release of payment due from OIL INDIA, -----
----- through Electronic fund transfer (RBI-EFT)/Internet / RTGS.

Refer Order No..... dtand/or Tender/Enquiry/Letter No..... dt.....

(Please fill in the information in CAPITAL LETTERS. Please TICK wherever it is applicable)

1. Name of the Party :

2. Address of the party :

.....

.....

City: Pin Code:

E-mail Id:

Permanent Account Number:

3. Particulars of Bank:

Bank Name		Branch Name	
Branch Place		Branch City	
Pin Code		Branch Code	
MICR No			
(9 Digits code number appearing on the MICR Band of the cheque supplied by the Bank. Please attach Xerox copy of a cheque of your bank for ensuring accuracy of the bank name, branch name and code number)			
Account Type	Savings	Current	Cash Credit

Account Number (as appearing in the Cheque Book)																	
RTGS / IFSC Code																	

4. Date from which the mandate should be effective:

I hereby declare that the particulars given above are correct and complete. If any transaction is delayed or not effected for reasons of incomplete or incorrect information, I shall not hold Oil India Limited responsible. I also undertake to advise any change in the particulars of my account to facilitate updating of records for purpose of credit of amount through RBI EFT / Internet / RTGS.

Place:

Date:

Signature of the party / Authorized Signatory

Certified that particulars furnished above are correct as per our records.

Bank's Stamp:

Date:

(Signature of the Authorized Official from the Banks)

N.B.: RTGS charges if any, is to be borne by the contractor.

Social Accountability 8000 Compliance Format

A. Basic information

Name of the organization		
Address		
Telephone No		
Name of the Proprietor		
Nature of Business		
License Number and date of expiry		
Employees	Staff (Total Number)	Workmen (Total Number)
• Permanent		
• Casual		
• Badli		
• Temporary		
• Contracted		

B. Information regarding Social Accountability

- What is the minimum age required to join your organization?

_____ Years
- What types of certificates (Like mark sheet, birth certificate) you keep with you?

Original Copy / Xerox
- Do you require to keep any kind of deposit inform of cash at the time of employment?

Yes/No
- Do you provide safe & healthy work environment as per statutory requirement?

Yes/No

- If directly not provided by you, do you get health & safety benefits from OIL INDIA? Yes/No
- Do you provide personal protective equipment(s) to your employees free of cost? Yes/No
- Do you provide safety training to your employees? Yes/No
- Do you ensure canteen facility for your employees? Yes/No
- If not, do you get the facilities from OIL INDIA Yes/No
- What types of medical benefits you provide to your employees?

- Do you allow trade union and collective bargaining in your organization? Yes/No

If no, how do you ensure freedom of expression?

- In case of non-performance of any employee, how do you deal with such situations?

- What are the procedures of hiring/promotion/ remuneration in your organization?

- Do you provide appointment letter to your employees? Yes/No
- Do you maintain a documented terms and conditions of employment? Yes/No
- Do you maintain a disciplinary procedure? Yes/No
- If no, how do you terminate your employee?

- How do you ensure that your employees are not discriminated on the basis of caste, creed, gender, religion, age and dieses?

- How many shift you have? _____ shifts
- What is the official working time? _____ hours
- Which day is off day in your organization? _____

- In case, a person works in off day or holiday, how is he/she compensated?

- Do you pay overtime to your employees as per law? Yes/No
- What is the lowest amount (salary/wage) you pay to your employees? Rs. _____/-
- Is there any case of deduction in wage? Yes/No
- In case, it is yes, what are the general reasons for such deduction?

- Is there any apprentice period in your organization? Yes/No
- If yes, what is the apprentice period in your organization? _____
- Do you have any international certification Yes/No
- If yes, please specify

- Do you receive, handle or promote goods and/or services from supplier/subcontractors or sub-suppliers Yes/No
- Do you receive, handle or promote goods and/or services from supplier/subcontractors or sub-suppliers who are classified as home worker? Yes/No

- If yes, what steps you have taken to ensure that they get similar level of protection as afforded to directly employed employees?

- Have you taken care to look into issues related to child labour
Forced labour, health & safety, working hours and remuneration
of your suppliers Yes/No

We do hereby declare that our organization is committed to social accountability. We will promptly implement remedial/corrective actions identified against the requirement and promptly inform your organization. We also declare that the sub-contractors/sub supplier's performances are monitored by us. Moreover, we declare that if invited, we shall participate in awareness program as well as monitoring program organized by you.

We declare that the above-mentioned information is correct.

Signature:

Designation:

Date

Seal of the organization

BIDDER INFORMATION

1. Name of the bidder(s)

2. Address :

Street

City

Postal Code

State

Country

3. Contact numbers :

Tel No

Mobile

Fax No

E mail id

4. Currency :

5. Excise Details :

ECC No

Excise Reg No

Excise Range

Excise Division

Excise Commissioner ate

6. SSI Status

7. CGST No

8. SGST No

9. Permanent Account Number

10. TIN No

11. Bank Account No

Signature of the Bidder

CONTRACT FORM

This Contract is made on ____ day of _____ between Oil India Limited, a Government of India Enterprise, incorporated under the Companies Act 1956, having its registered office at Plot No 19, Sector-16, NOIDA-201203, hereinafter called the "Company" which expression unless repugnant to the context shall include executors, administrators and assignees on the one part, and M/s. _____ (Name and address of Contractor), hereinafter called the "Contractor" which expression unless repugnant to the context shall include executors, administrators and assignees on the other part.

WHEREAS the Company desires that Services _____ (brief description of services) should be provided by the Contractor as detailed hereinafter or as Company may requires.

WHEREAS, Contractor engaged themselves in the business of offering such services represents that they have adequate resources and equipment, material etc. in good working order and fully trained personnel capable of efficiently undertaking the operations and is ready, willing and able to carry out the said services for the Company as per Section- __ attached herewith for this purpose.

WHEREAS, Company issued a firm Letter of Award No. _____ based on Offer No. _____ submitted by the Contractor against Company's Tender No. _____.

WHEREAS Contractor has accepted Company's Letter of Award vide their letter no. _____.

All these aforesaid documents shall be deemed to form and be read and construed as part of this Contract. However, should there be any dispute arising out of interpretation of this contract in regard to the terms and conditions with those mentioned in Company's tender document and subsequent letters including the Letter of Award and Contractor's offer and their subsequent letters, the terms and conditions attached hereto shall prevail. Changes, additions or deletions to the terms of the contract shall be authorised solely by an amendment to the contract executed in the same manner as this contract.

NOW WHEREAS, in consideration of the mutual covenants and agreements hereinafter contained, it is hereby agreed as follows -

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the General Conditions of Contract referred to.

2. In addition to documents hereinabove, the following Sections and Annexures attached herewith shall be deemed to form and be read and construed as part of this agreement viz.:

- (a) Section-I indicating the General Conditions of Contract,
- (b) Section-II indicating the Terms of Reference / Technical Specifications,
- (c) Section-III indicating the Schedule of rates and
- (d) Section – IV indicating the Special Conditions of Contract.

3. In consideration of the payments to be made by the Company to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Company to provide the Services and to remedy defects therein in conformity in all respect with the provisions of this Contract.

4. The Company hereby covenants to pay the Contractor in consideration of the provision of the Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of this Contract at the times and in the manner prescribed by this Contract.

IN WITNESS thereof, each party has executed this contract at Noida, UP as of the date shown above.

Signed, Sealed and Delivered,

For and on behalf of
Company (Oil India Limited)

For and on behalf of
Contractor
(M/s. _____)

Name:

Name:

Status:

Status:

In presence of

In presence of

1.

1.

2.

2.

INTEGRITY PACT

Between

Oil India Limited (OIL) hereinafter referred to as "The Principal"

And

(Name of the bidder).....hereinafter referred to as "The Bidder/Consultant"

Preamble:

The Principal intends to award, under laid down organizational procedures, contract/s for **TENDER NO. CLI 5100 P18**. The Principal values full compliance with all relevant laws and regulations, and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder/s and Consultant/s.

In order to achieve these goals, the Principal cooperates with the renowned international Non-Governmental Organization "Transparency International" (TI). Following TI's national and international experience, the Principal will appoint an external independent Monitor who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

Section: 1 -Commitments of the Principal

(1) The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:

1. No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for him/herself or third person, any material or immaterial benefit which he/she is not legally entitled to.
2. The Principal will, during the tender process treat all Bidders with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidders the same information and will not provide to any Bidder confidential/additional information through which the Bidder could obtain an advantage in relation to the tender process or the contract execution.
3. The Principal will exclude from the process all known prejudiced persons.

(2) If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the relevant Anti-Corruption Laws of India, or if there be a Page 2 of 6 substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

Section: 2 -Commitments of the Bidder/Consultant

(1) The Bidder/Consultant commits itself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

1. The Bidder/Consultant will not, directly or through any other person or firm, offer, promise or give to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material or immaterial benefit which h e/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

2. The Bidder/Consultant will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, Subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

3. The Bidder/Consultant will not commit any offence under the relevant Anticorruption Laws of India; further the Bidder/Consultant will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

4. The Bidder/Consultant will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

(2) The Bidder/Consultant will not instigate third persons to commit offences outlined above or be an accessory to such offences.

Section 3 -Disqualification from tender process and exclusion from future Contracts

If the Bidder, before contract award has committed a transgression through a violation of Section 2 or in any other form such as to put his reliability or risibility as Bidder into question, the Principal is entitled to disqualify the Bidder from the tender process or to terminate the contract, if already signed, for such reason.

1. If the Bidder/Consultant has committed a transgression through a violation of Section 2 such as to put his reliability or credibility into question, the Principal is entitled also to exclude the Bidder/Consultant from future contract

award processes. The imposition and duration of the exclusion will be determined by the severity of the transgression. The severity will be determined by the circumstances of the case, in particular the number of transgressions, the position of the transgressions within the company hierarchy of the Bidder and the amount of the damage. The exclusion will be imposed for a minimum of 6 months and maximum of 3 years.

2. The Bidder accepts and undertakes to respect and uphold the Principal's Absolute right to resort to and impose such exclusion and further accepts and undertakes not to challenge or question such exclusion on any ground, including the lack of any hearing before the decision to resort to such exclusion is taken. This undertaking is given freely and after obtaining independent legal advice.

3. If the Bidder/Consultant can prove that he has restored/recouped the Damage caused by him and has installed a suitable corruption prevention system, the Principal may revoke the exclusion prematurely.

4. A transgression is considered to have occurred if in light of available evidence no reasonable doubt is possible.

Section 4 -Compensation for Damages

1. If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover from the Bidder liquidated damages equivalent to 3 % of the value of the offer or the amount equivalent to Earnest Money Deposit/Bid Security, whichever is higher.

2. If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to section 3, the Principal shall be entitled to demand and recover from the Consultant liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/Performance Bank Guarantee, whichever is higher.

3. The bidder agrees and undertakes to pay the said amounts without protest or demur subject only to condition that if the Bidder/Consultant can prove and establish that the exclusion of the Bidder from the tender process or the termination of the contract after the contract award has caused no damage or less damage than the amount or the liquidated damages, the Bidder/Consultant shall compensate the Principal only to the extent of the damage in the amount proved.

Section 5 -Previous transgression

1. The Bidder declares that no previous transgression occurred in the last 3 years with any other Company in any country conforming to the TI approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

2. If the Bidder makes incorrect statement on this subject, he can be

disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

Section: 6 -Equal treatment of all Bidders/Consultant/Sub Consultants

1. The Bidder/Consultant undertakes to demand from all subConsultants a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.
2. The Principal will enter into agreements with identical conditions as this one with all Bidders, Consultants and Sub Consultants.
3. The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions.

Section: 7 -Criminal charges against violating Bidders/Consultants/ Sub Consultants

If the Principal obtains knowledge of conduct of a Bidder, Consultant or SubConsultant, or of an employee or a representative or an associate of a Bidder, Consultant or SubConsultant, which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

Section: 8 -External Independent Monitor/Monitors

(three in number depending on the size of the contract)

(to be decided by the Chairperson of the Principal)

1. The Principal appoints competent and credible external independent Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
2. The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the Chairperson of the Board of the Principal.
3. The Consultant accepts that the Monitor has the right to access without restriction to all Project documentation of the Principal including that provided by the Consultant. The Consultant will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Sub Consultants. The Monitor is under contractual obligation to treat the information and documents of the Bidder/Consultant/Sub Consultant with confidentiality.
4. The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Consultant. The parties offer to the Monitor the option to participate in such meetings.
5. As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to

discontinue or heal the violation, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

6. The Monitor will submit a written report to the Chairperson of the Board of the Principal within 8 to 10 weeks from the date of reference or intimation to him by the 'Principal' and, should the occasion arise, submit proposals for correcting problematic situations.

7. If the Monitor has reported to the Chairperson of the Board a Substantiated suspicion of an offence under relevant Anti-Corruption Laws of India, and the Chairperson has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.

8. The word 'Monitor' would include both singular and plural.

Section:9 -Pact Duration

This Pact begins when both parties have legally signed it. It expires for the Consultant 12 months after the last payment under the respective contract, and for all other Bidders 6 months after the contract has been awarded.

If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/determined by Chairperson of the Principal.

Section:10 -Other provisions

1. This agreement is subject to Indian Law. Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.

2. Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

3. If the Consultant is a partnership or a consortium, this agreement must be, signed by all partners or consortium members.

4. Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

(Binita Deka Borah)

.....

For the Principal

.....

For the Bidder

Witness 1:

Witness 2:

Place. NOIDA.

Date . .2017

SAFETY GUIDELINES

GENERAL HSE POINTS TO BE INCORPORATED IN THE CONTRACT

1. It will be solely the Contractor's responsibility to fulfill all the legal formalities with respect to the Health, Safety and Environmental aspects of the entire job (namely; the person employed by him, the equipment, the environment, etc.) under the jurisdiction of the district of that state where it is operating. . All sub-contractors hired by him must comply with the same requirement as the contractor himself and shall be liable for ensuring compliance all HSE laws by the sub or sub-sub-contractors.
2. Every person deployed by the contractor in the project must wear safety gadgets to be provided by the contractor. The Contractor shall provide proper Personnel Protective Equipment as per the hazard identified and risk assessed for the job and conforming to statutory requirement and company PPE schedule. Safety appliances like protective footwear, Safety Helmet and Full Body harness has to be DGMS/BIS approved. Necessary supportive document shall have to be submitted as proof. If the Contractor fails to provide the safety items as mentioned above to the working personnel, the Contractor may apply to the Company (OIL) for providing the same. OIL will provide the safety items, if available. But in turn, OIL will recover the actual cost of the items by deducting from Contractor's Bill. However, it will be the Contractor's sole responsibility to ensure that the persons engaged by him in the site(s) use the proper PPE while at work.

All the safety gears mentioned above are to be provided to the working personnel before commencement of the work.

3. The Contractor shall prepare written Safe Operating Procedure (SOP) for the work to be carried out, including an assessment of risk, wherever possible and safe methods to deal with it/them. The SOP should clearly state the risk arising to men, machineries & material from the operations to be done by the contractor and how it is to be managed.
4. The contractor shall provide a copy of the SOP to the person designated by the owner i.e Site Engineer who shall be supervising the contractor's work.
5. Keep an up to date SOP and provide a copy of changes to a person designated by the Engineer In charge.
6. Contractor has to ensure that all work is carried out in accordance with the Statute 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. For work of a specified scope/nature, he should develop and provide to the owner a site(s) specific code of practice.
7. All persons deployed by the contractor for working in the project must undergo Tower climbing training initial medical examination, PME. They should be issued cards stating the name of the contractor and the work and its validity period, indicating status of IME & PME.
8. The contractor shall ensure that the person working must have electrical Supervisor, certificate from competent authority of state Government such as Chief Electrical Inspector or equivalent as provided in the act
9. The return shall be submitted quarterly (by 10th of April, July, October & January) for contracts of more than one year. However, for contracts of less than one year, returns shall be submitted monthly.
10. It will be entirely the responsibility of the Contractor/his Supervisor/representative to ensure strict adherence to all HSE measures and statutory rules during operation in project site(s) and safety of workers engaged by him. The crew members will not refuse to follow any instruction given by

Company's Site Engineer / Official for safe operation.

11. Any compensation arising out of the job carried out by the Contractor whether related to pollution, Safety or Health will be paid by the contractor only.
12. Any compensation arising due to accident of the Contractor's personnel while carrying out the job, will be payable by the contractor.
13. The contractor shall have to report all incidents including near miss to Site Engineer of OIL India within 24 hours of any such occurrence.
14. The contractor has to keep a register of the persons employed by him/her. The contractor's Work Site Supervisor shall take and maintain attendance of his men every day for the work, punctually.
15. If the company arranges any safety class / training for the working personnel at site (company employee, contractor worker, etc.) the contractor will not have any objection to any such training.
16. The health checkup of contractor's personnel is to be done by the contractor in authorized Health Centers as per OIL's requirement & proof of such test(s) is to be submitted to OIL. The frequency of periodic medical examinations should be every five years for the employees below 45 years of age and every three years for employees of 45 years of age and above.
17. To arrange daily tool box meeting and regular site safety meetings and maintain records.
18. A contractor 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.
19. A contractor employee must, while at work, cooperate 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.
20. Contractor's arrangements for health and safety management shall be consistent with those for the project owner.
21. In case Contractor is found non-compliant of HSE laws as required company will have the right for directing the contractor to take action to comply with the requirements, and for further non-compliance, the contractor will be penalized prevailing relevant Acts/Rules/Regulations.
22. When there is a significant risk to health, environment or safety of a person or place arising because of a non-compliance of HSE Measures Company will have the right to direct the contractor to cease work until the non-compliance is corrected.
23. The contractor should prevent the frequent change of his contractual employees as far as practicable.
24. The contractor should frame a mutually agreed bridging document between OIL & the contractor with roles and responsibilities clearly defined.
25. For any HSE matters not specified in the contract document, the contractor will abide the relevant and prevailing Acts/rules/regulations/ pertaining to Health, Safety and Environment.

(A) LETTER OF AUTHORITY FOR ATTENDING SUBSEQUENT
'NEGOTIATIONS' / 'PRE-BID MEETINGS' / 'UN-PRICED BID OPENING' /
'PRICE BID OPENING'

[Performa for Letter of Authority for Attending Subsequent 'Negotiations' / 'Pre-Bid Meetings' / 'Un-priced Bid Opening' / 'Price Bid Opening']

Ref:

Date:

To

Oil India Ltd;
 Plot No 19, Sector-16A,
 NOIDA-201301

Sub: Bid No. ----- Engineering, Procurement and Construction (EPC) contract for 500 KW capacity Solar Energy Project at PS#3 Oil India campus Jorhat (Assam) with its Comprehensive Operation & Maintenance for 5 years

Dear Sir,

I/We, -----hereby authorize the following representative(s) for attending any 'Negotiations' / 'Meetings', 'Un-priced Bid Opening', 'Price Bid Opening' and for any subsequent correspondence / communication against the above Bidding Documents:

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

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

We confirm that we shall be bound by all commitments made by aforementioned authorised representative(s).

Yours faithfully,

Place:

[Signature of Authorized Signatory of Bidder]

Date:

Name:
 Designation & SEAL

Note: This "Letter of Authority for attending subsequent 'negotiations' / 'Pre-bid meetings' / 'Un-priced bid opening' / 'Price bid opening' " should be on the "letterhead" of the Firm / Bidder and should be signed by a person competent and having the 'Power of Attorney' to bind the Bidder. Not more than 'two [02] persons per Bidder' are permitted to attend Pre-bid meeting, "Techno-commercial / Un-priced" & "Price Bid" Openings.

(B) PERFORMA OF LETTER OF AUTHORITY

TO

Oil India Ltd;
Plot No 19, Sector-16,
NOIDA-201203

Sir,

Sub: Bid No. ----- Engineering, Procurement and Construction (EPC) contract for 500 KW capacity Solar Energy Project at PS#3 Oil India campus Jorhat (Assam) with its Comprehensive Operation & Maintenance for 5 years

We _____ confirm that Mr. _____ (Name and address) as authorized to represent us to Bid, negotiate and conclude the agreement on our behalf with you against Bid Invitation No. _____ for hiring of services for _____.

We confirm that we shall be bound by all and whatsoever our said representative shall commit.

Yours Faithfully,

Signature: _____

Name & Designation: _____

For & on behalf of: _____

Note : This letter of authority shall be on printed letter head of the Bidder and shall be signed by a person competent and having the power of attorney (power of attorney shall be annexed) to bind such Bidder. If signed by a consortium, it shall be signed by members of the consortium.

ANNEXURE-XIV

TENDER NO.

(a) STATEMENT OF NON COMPLIANCE (Excepting BRC)
(Only exceptions/deviations to be rendered)

SECTION NO. (PAGE NO.)	CLAUSE NO. SUB-CLAUSE NO.	NON COMPLIANCE	REMARKS

NOTE:

OIL INDIA LIMITED expects the bidders to fully accept the terms and conditions of the bid document. However, should the bidders still envisage some exceptions/ deviations to the terms and conditions of the bid document, the same should be indicated as per above format and submit along with their technical bids. If the proforma is left blank or not submitted, then it would be construed that the bidder has not taken any exception/deviation to the terms and conditions of the bid document

Signature of Bidder

Name of the Bidder

CERTIFICATE OF ANNUAL TURNOVER & NET WORTH**TO BE ISSUED BY PRACTISING CHARTERED ACCOUNTANT' FIRM ON
THEIR LETTER HEAD****TO WHOM IT MAY CONCERN**

This is to certify that the following financial positions extracted from the audited financial statement of(Name of the Bidder) for the last three (3) completed accounting years upto(as the case may be) are correct.

<u>YEAR</u>	<u>TURNOVER</u> (In INR)	<u>NET WORTH</u> (In INR)

Place :

Date :

Seal :

Membership Number and Firm Registration Number :

Signature :

Guidelines to Bidders for participating in OIL's e-Procurement tenders

OIL INDIA LIMITED (OIL) has upgraded its E-tender Portal. As part of the new system, the intending bidder must have Encryption Certificate along with Digital Signature Certificate (DSC) of Class III [Organization]. The date for implementation of new system is 12th April 2017 and the requirement of the new DSC will be applicable for the tenders floated from 12th April 2017 onwards. All our current and prospective esteemed bidders are therefore requested to acquire Class III DSC [Organization] along with Encryption Certificate issued by any of the Licensed Certifying Authorities (CA) operating under Controller of Certifying Authorities (CCA) of India as per Indian IT Act 2000. Guideline for getting Digital Signature , New procedure for submission of response in system , system setting & other related information are available on the website www.oil-india.com .

Bid invitations (Tenders)

1. The details of e-Procurement tenders can be accessed from our **e-Procurement** site <https://etender.srm.oilindia.in/irj/portal>
- 2.If you do not have a user id, please click on Guest login button to view available open tenders.
- 3.For obtaining User ID and Password , interested bidders are requested to go for Online Registration. Please do go to the url: <https://etender.srm.oilindia.in/irj/portal> And go to the link Supplier Enlistment for E-Tender .

Pre-requisites to submit tenders on line

- 1.Bidder should have a valid User Id to access OIL e-Procurement site.
2. Bidder should have a legally valid digital certificate with Organization Name alone with Encryption Certificate as per Indian IT Act from the Licensed Certifying Authorities operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India as per Indian IT Act 2000.
3. Bidder should have paid the requisite tender fee, if applicable for the Bid Invitation. If you are exempt from paying tender fee, you should have got an exemption from the Tender Officer.
4. Bidder should fulfill any other pre-requisites mentioned in the tender documents of a specific tender.

Obtaining User Id to access OIL e-Procurement site

1. For obtaining User ID and Password, interested bidders are requested to go for Online Registration. Please do go to the url: <https://etender.srm.oilindia.in/irj/portal> And go to the link Supplier Enlistment for E-Tender. Other details can be viewed in www.oil-india.com.

Bidders are advised to apply for user ID at least 7 days prior to the last date of tender fee payment for their own interests. User ID's shall be processed within 4 days subject to furnish complete information by the bidder. OIL shall not be responsible for any delays in allocation of user ID/password and other tender related formalities.

2. Once the registration is completed Initially user id and password will be assigned to the bidder.

Instructions for obtaining Digital Signature & Encryption Certificate (DSC)

1. In order to bid for OIL e-tenders all the vendors are required to obtain a legally valid Digital Certificate Class III [Organization] along with Encryption Certificate as per Indian IT Act from the licensed Certifying Authorities (CA) operating under the Root Certifying Authority of India (RCAI), Controller of Certifying Authorities (CCA) of India.

Digital Signature Certificate comes in a pair of Signing/verification and encryption/decryption certificate. Bidder should have both the Signing/verification and Encryption/Decryption certificate for Signing and encryption, decryption purpose respectively. The driver needs to be installed once, without which the DSC will not be recognized. While participating on e-Tendering the DSC token should be connected to your system.

The cost of obtaining the digital certificate shall be borne by the vendor.

2.Steps for obtaining Digital Certificate & Encryption Certificate

Visit the site of the licensed CA* using internet browser (<http://www.cca.gov.in/>)

Apply online for Digital Certificate Class III [Organization] along with Encryption Certificate for the designated individual with organization name. Ensure the Digital Certificate is legally valid in India.

For making payment and submission of documents required for issue of the Digital Certificate & Encryption, follow the instructions on the CA's website.

Use the class III Digital Certificate [Organization] & Encryption Certificate thus obtained for online bidding on OIL e-Procurement site.

*Links to some licensed CA's are provided below

1. <http://www.safescrypt.com/>
2. <http://www.tcs-ca.tcs.co.in/>
3. <http://www.mtnltrustline.com/>
4. <http://www.gnvfc.com/etc>

3. Technical Settings

Web Browser: Internet explorer ver8.0 or higher recommended.

Proxy: If you are unable to access OIL e-Procurement site or Bid Documents, check if you are using proxy to connect to internet or if your PC is behind any firewall. Contact your system administrator to enable connectivity. Please note that Port for HTTPS connectivity should be enabled on your proxy/firewall. Dial-up internet connectivity without Proxy settings is another option.

Pop-ups : Pop-ups should be enabled on OIL e-Procurement URL and Bid Documents URLs. This is required to view tender documents.

Active-X Controls: Maintain the settings as described in Internet Explorer settings document to enable digital signature signing and verification.

Recommended Screen Resolution: 1024 by 768 pixels.

Internet Speeds: If you are experiencing slow connectivity to OIL e-Procurement, then contact your system administrator or ISP provider for desirable speeds.

INTERNET EXPLORER SETTING

The system requirement for e-bidding is PC/Laptop having windows Operating System, Internet explorer browser & internet broadband connectivity. Following settings are required to be carried out in pc/laptop for proper functioning of digital signature in OIL e-tender application. Before using etender site for bidding, ensure that the below mentioned settings in Internet

Explorer are properly configured.

Step1

Open internet explorer-> tools-> internet options ->security tab: trusted sites->add the site :-> <https://etender.srm.oilindia.in/irj/portal>

Step2

Open internet explorer->tools->internet options->security tab->trusted sites ->custom level ->disable the „use pop-up blocker“ option. Under the head „miscellaneous“ set custom setting to low or medium. Press ok button to save the settings.

Step3

Open internet explorer->tools->internet options->privacy tab->untick the Turn on pop-up Blocker check box. Open internet explorer->tools->internet options->privacy tab ->set the level to „Accept all cookies“

Press ok button to save the settings.

Step4

Turn off pop-up blocker / remove any toolbar programs like rediff toolbar, yahoo toolbar etc. from your PC using add/remove programs. Restart the computer.

Step5

Changing the zoom level of IE to exactly 100%. The „Zoom level“ option is available on the right side bottom of the internet explorer screen. Set the zoom level to 100%.

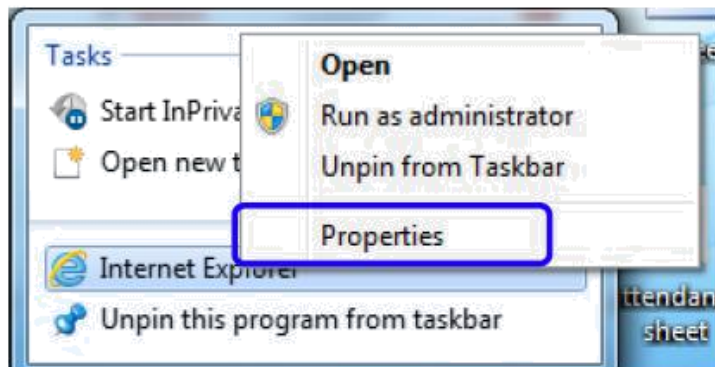
Step5

Go to Tools- Compatibility View Settings and perform the setting and add “OILINDIA.IN” below.

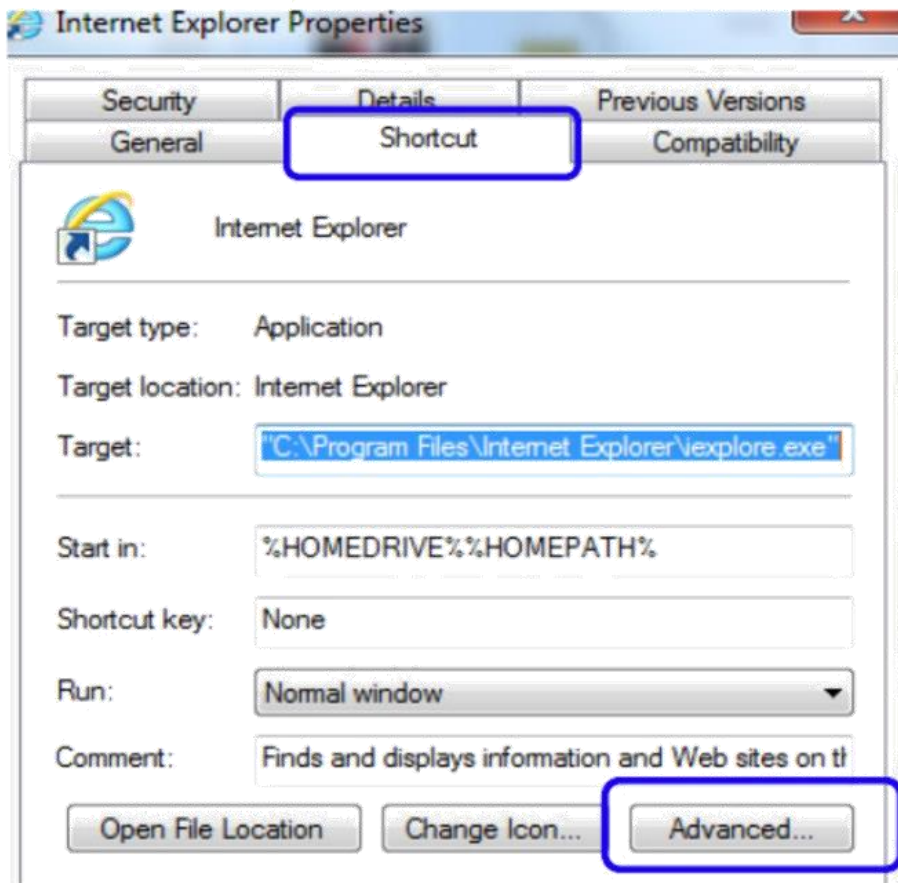


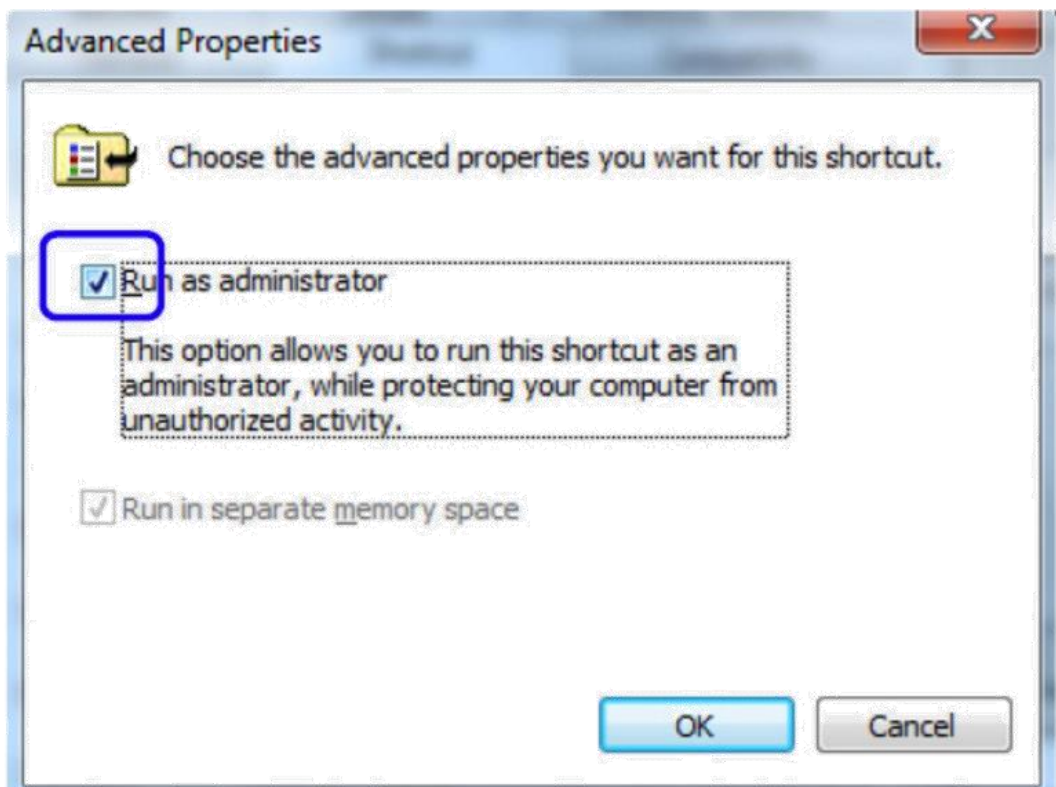
INTERNET EXPLORER Run in administrator mode

Set the browser to run in administrator mode as per the steps given below. - Go to properties of Internet explorer by right clicking the Internet explorer icon



Click Advanced button from the shortcut tab as shown below



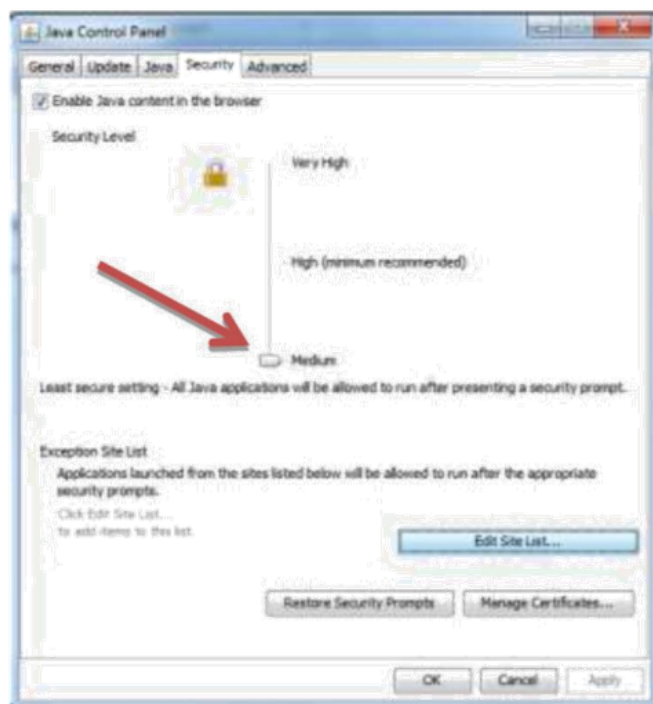


Java Requirement: Bidders are requested use only 32 Bit Java. Bidders may use any version Upto JAVA 1.8 updated 112. After downloading the Java components make sure that you start your internet browser again. Please ensure that your computer does not have multiple versions of Java

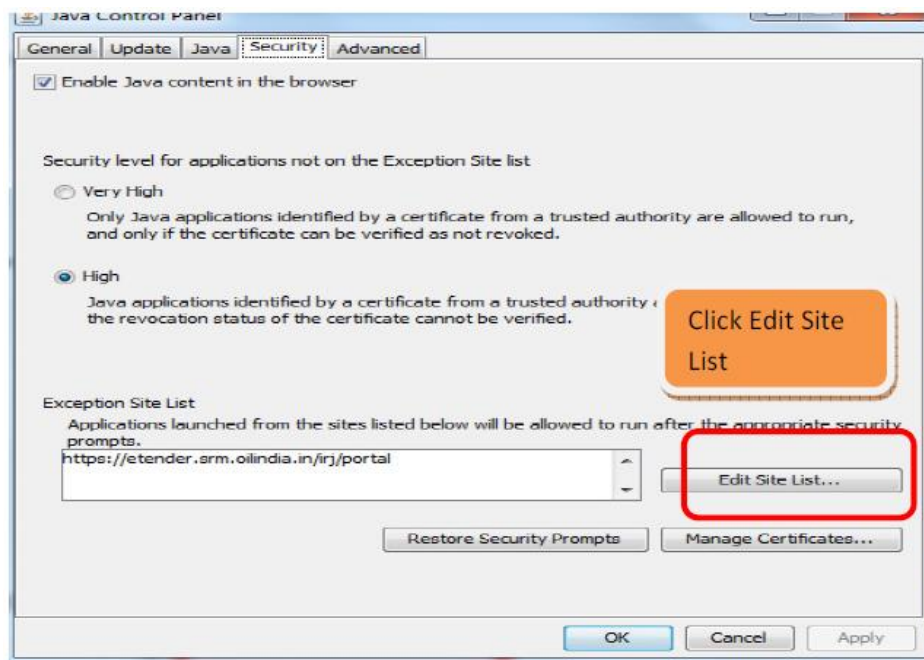
NOTE:

And after installation make some settings as under:

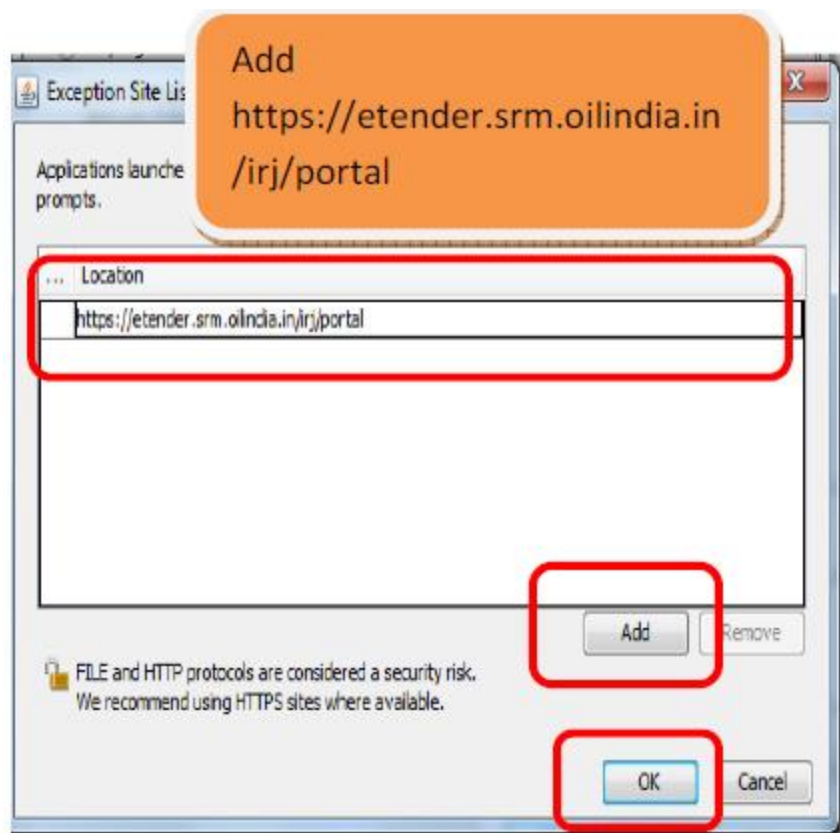
- 1) Go to Start->Control panel
- 2) Java->Security
- 3) Security level-> Medium



Click 'Edit Site List' button under 'Exception Site List'



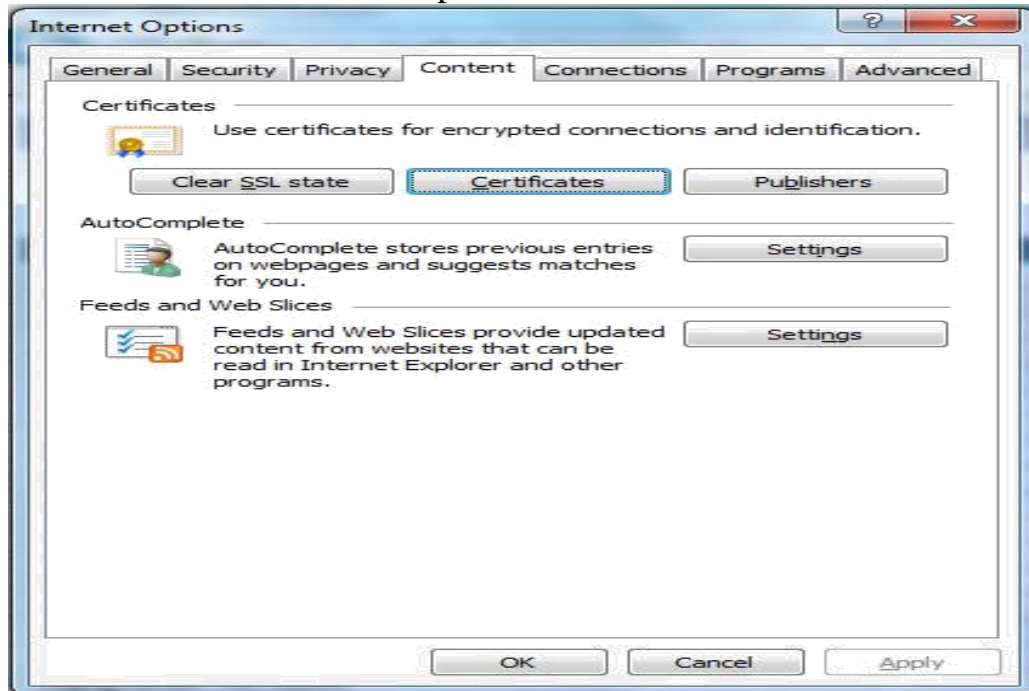
Click 'Add' button > Enter <https://etender.srm.oilindia.in/irj/portal> under 'Location' > Click **OK** to save the location



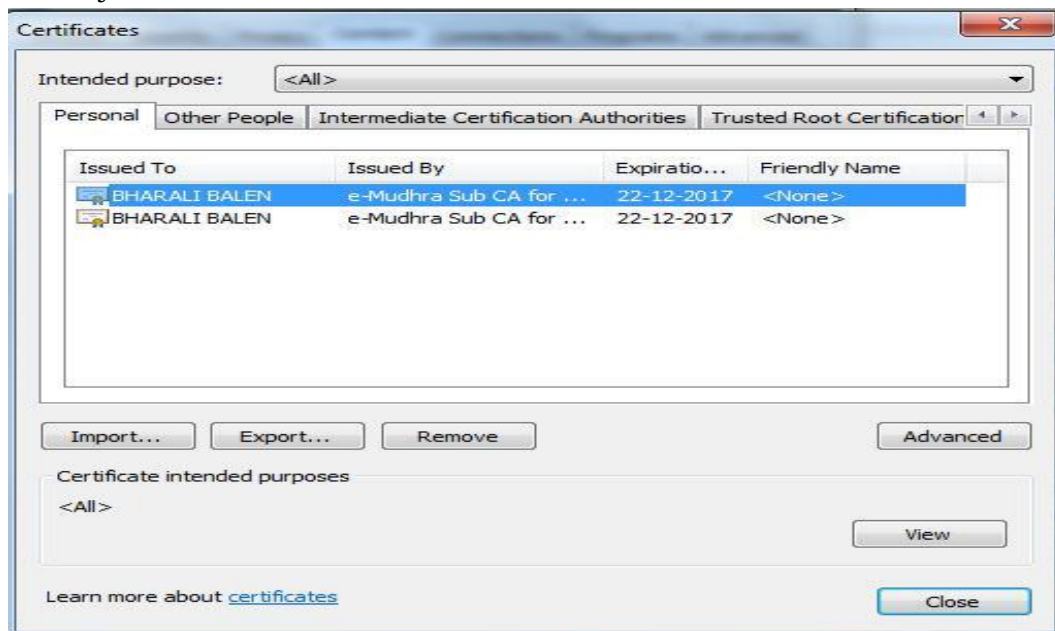
INSTALLATION OF DIGITAL SIGNATURE E-TOKEN

Install the driver signature e-token in consultation with the vendor from where the digital signature certificate is purchased. After installation , attach the e-token in your system USB port. Check to ensure that the digital signature & Encryption certificate is installed properly:

1. Go to tools ->internet options->contents->certificates, click on certificate.



2. After clicking the certificate , the installed certificate details will be appeared . Check Validity of the certificates.



In case of any clarification pertaining to e-procurement process, the vendor may contact the following

ERP DEPARTMENT
OIL INDIA LIMITED
PO:DULIAJAN
PIN:786602
Email: erp_mm@oilindia.in
Contact: (0374) 280-7178/7171/7192 /4903

- A. OIL INDIA LIMITED (OIL) has upgraded its E-tender Portal. As part of the new system, the intending bidder must have Encryption Certificate along with Digital Signature Certificate (DSC) of Class III [Organization]. The date for implementation of new system is 12th April 2017 and the requirement of the new DSC will be applicable for the tenders floated on 12th April 2017 onwards. All our current and prospective esteemed bidders are therefore requested to acquire Class III DSC [Organization] along with Encryption Certificate issued by any of the Licensed Certifying Authorities (CA) operating under Controller of Certifying Authorities (CCA) of India as per Indian IT Act 2000. Guideline for getting Digital Signature and other related information are available on the e-tender website www.oil-india.com.
- B. Bidders are requested to go through “New Vendor Manual” effective date:12.04.2017 before submitting offer in system.
- C. Bidders are requested to go for “Guidelines to Bidders for participating in OIL” before submitting offer in system.

Upload Technical Bid / Price Bid.

1.

Response - Oil India Ltd - SRM QAS Portal - Internet Explorer

http://srmqas.oilindia.in:30100/ij/portal

Response

Display RFX Response:

Edit Print Preview Check

RFX Response Number: 60005572 RFX Number: Status: Saved Submission Deadline: Opening Date: 11.04.2017 00:00:00

Total Value: XXXXX INR RFX Response Number: Active Version: 1

RFX Information Items Notes and Attachments Conditions Summary Tracking

Basic Data Questions **Technical Attachments**

Event Parameters

Currency: Indian Rupee

Detailed Price Information: Price with Conditions

Terms of Payment: OTH Others (Please specify under attributes)

Service and Delivery

Incoterms: FOB SINGAPORE

Partners and Delivery Information

Details: Send E-Mail Call Clear

Function Number Name

The table does not contain any data

Area for uploading "Priced Bid" if the detailed price information is "No Price"

Area for uploading "Priced Bid" if the detailed price information is "Price with Condition"

Area for uploading "Techno-commercial Unpriced Bid"

Please do not upload price under "Technical Attachment"

2. On “EDIT” Mode- The following screen will appear. Bidders are advised to Upload “Techno-Commercial Unpriced Bid” and “Priced Bid” in the places as indicated above:

Response - Oil India Ltd - SRM QAS Portal - Internet Explorer

http://srmqas.oilindia.in:50100/rg/portal?NavigationTarget=navurl%3A%2F%2F3a21214-747e-7e5001a-546a-51a7107781dnn=D7F1cent-70RNF1cent+R47TechnicalName=qte&BCSystemAlias=SAP_SRM&Operation=displayresponseBis08N=true&APPLID=SA

Response

Display RFx Response:

[Edit](#) [Print Preview](#) [Check](#) [Technical RFx Response](#) [Close](#) [Verify Signature](#) [Sign Response](#) [Refresh Smartform](#) [Decrypt Data](#) [System Information](#) [Create Memory Snapshot](#)

RFx Response Number: 61005572 RFx Number: 951 Status: Saved Submission Deadline: 11.04.2017 00:00:00 INDIA Opening Date: 11.04.2017 00:00:00 INDIA Remaining Time: 0 Days 14:02:13 RFx Owner: BHARALI

Total Value: XXXXX INR RFx Response Version Number: Active Version RFx Version Number: 1

RFx Information Items Notes and Attachments Conditions Summary Tracking

Basic Data Questions Technical Attachments

▼ Notes

Clear [Filter](#) [Settings](#)

Category	Description
Conditions of Participation	-Empty-
Bid Invitation/Auction Text	-Empty-
Bidder's Remarks	-Empty-
Purchaser's Remarks	-Empty-

▼ Attachments

▼ Folder Attachments

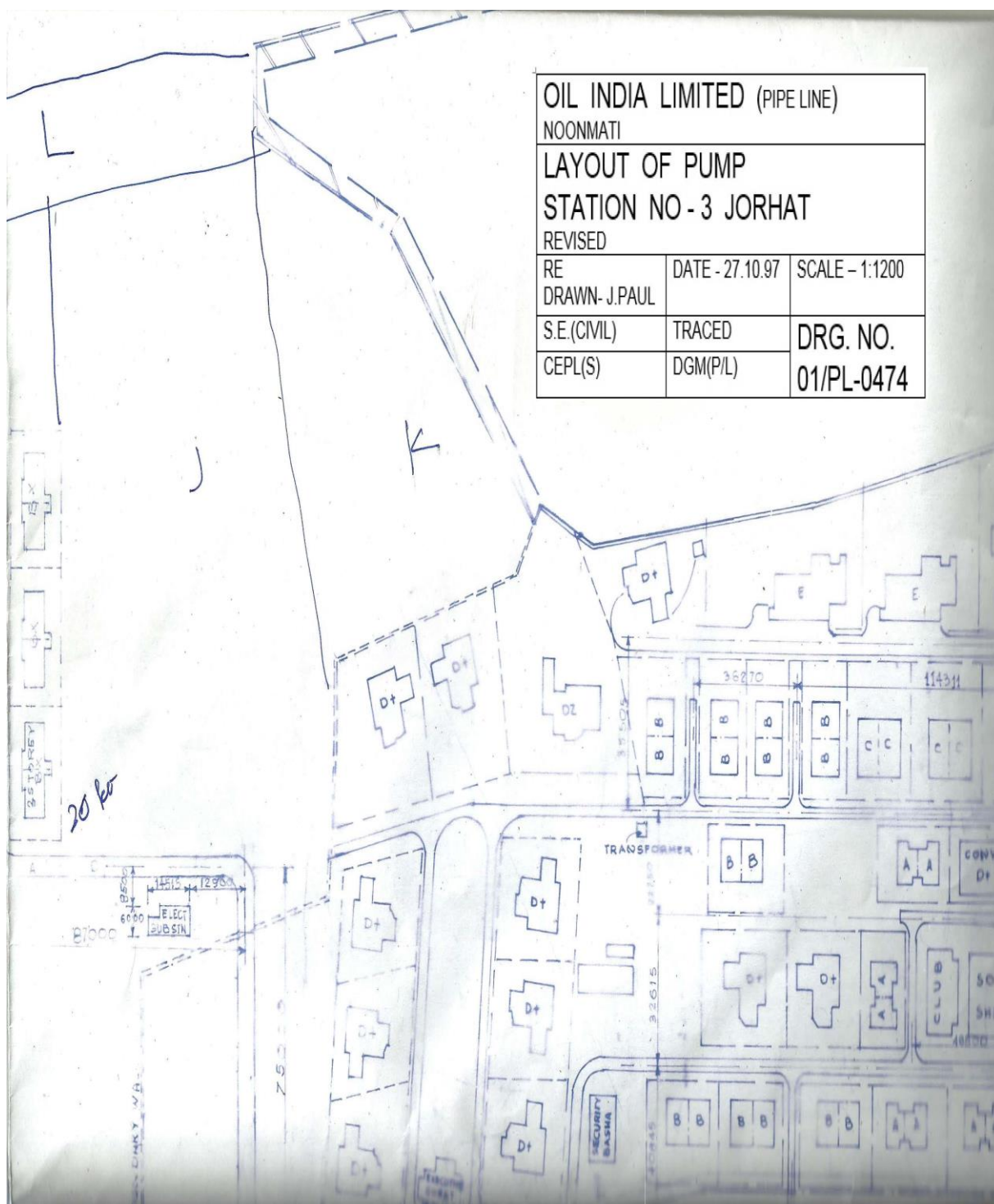
Add Attachment Delete Verify Signature [Filter](#) [Settings](#)

cFolder Name	Category	Description	File Name	Version	Processor	Checked Out	Type	Size (KB)	Changed by	Changed on
The table does not contain any data										


***The “Techno-Commercial Unpriced Bid” shall contain all technocommercial details except the prices.**

**** Please follow the instructions as per Vendor User Manual for Uploading Price under “Notes and Attachment” or “Condition”**

Appendix-II



Appendix-III



ऑयल इंडिया लिमिटेड
(भारत सरकार का सस्मान) पंजीकृत कार्यालय : दुलियाजान, आसाम
Oil India Limited
(A Government of India Enterprise) Registered Office : Dulaijan, Assam
Conquering Newer Horizons

CHEMICAL LABORATORY
(An ISO 9001 : 2008 Certified Laboratory)

CHEMICAL DEPARTMENT, DULIAJAN - 786 602, ASSAM, INDIA
(Phone : 91-374-2800439, Fax : 91-374-2801680/2800633, Email : chemical@oilindia.in)

Ref. No.: Chem/Ana/DW/280/DJN/17.

For internal use only

Date: 09.03.2017

DGM - PS -3(Jorhat)

Attn:- Sr.Chemist , PS-3 , (Jorhat - Lab)

Sub: DRINKING WATER ANALYSIS REPORT.

Ref.: Your letter : JORHAT /004/2016 - 17/PS-3 of Date : 03.03.2017

Characteristics	Unit	Acceptable limit as per Bureau of Indian Standards (IS-10500:2012)	Raw water	Housing area	Test method/ Instrument used
Odour	-	Agreeable	Agreeable	Agreeable	By sniffing
Turbidity	NTU	1.0 (max)	4.4*	6.59*	Hach turbidity meter
pH	-	6.5 to 8.5	7.3	7.4	Hach water checker
Total Hardness as CaCO ₃	mg/l	200.0(max.)	108	118	Titration with EDTA
Iron as Fe	mg/l	0.3(max.)	0.6*	0.4*	UV - spectrophotometer
Chloride as Cl	mg/l	250.0 (max.)	5	4	Titration with silver nitrate
Free chlorine	mg/l	0.2 (max)	Nil	Nil	Colorimetric
Total dissolved solids	mg/l	500 (max.)	176	175	Gravimetric
Calcium as Ca	mg/l	75.0(max)	23.2	24.0	Titration with EDTA
Manganese as Mn	mg/l	0.1(max)	0.04	0.08	UV - spectrophotometer
Sulphate as SO ₄	mg/l	200.0(max)	5	4.0	UV - spectrophotometer
Fluoride as F	mg/l	1.0(max)	BDL	BDL	UV - spectrophotometer
Nitrate as NO ₃	mg/l	45.0(max)	0.72	0.61	UV - spectrophotometer
Arsenic as As	mg/l	0.01(max)	BDL	BDL	UV - spectrophotometer
Cyanides as CN	mg/l	0.05(max)	BDL	BDL	UV - spectrophotometer
Phenolic Compounds as C ₆ H ₅ OH	mg/l	0.001(max)	BDL	BDL	UV - spectrophotometer
Lead as Pb	mg/l	0.01(max)	BDL	BDL	UV - spectrophotometer
Zinc as Zn	mg/l	5.0(max)	3.11	0.245	UV - spectrophotometer
Alkalinity (as CaCO ₃)	mg/l	200(max.)	215*	210*	Titration with HCl
Aluminium as Al	mg/l	0.03(max)	0.006	0.005	UV - spectrophotometer
Boron as B	mg/l	0.5(max)	BDL	BDL	UV - spectrophotometer
Copper as Cu	mg/l	0.05(max)	0.03	0.03	UV - spectrophotometer
Mineral Oil	mg/l	0.5(max.)	Nil	Nil	Horiba oil content analyser

Sample details:- Two nos. of drinking water sample collected from of PS -3 on 03.03.2017 at 07.05 & 07.10am and received at our lab. on 03.03.2017

N.B.:-1) * Not within acceptable limit.

2) BDL - Below detectable limit

Tested by : AAM/KG/UB

Copy : Analytical & Environmental sec. File.


ChemLab/ Ana/ Report /Water

U.S.Deka

Dy.Suptdg.Chemist (L)

For GM Chemical

Appendix-IV

		ABB India Limited Survey No 88/3 & 88/4, Basavanahalli, Kasaba Hobli, Nelamangala Taluk - 562123, Ph: +91-80-22948929, 22948975					
CUSTOMER		: OIL INDIA LIMITED					
CONSULTANT		: ENGINEERS INDIA LIMITED, NEW DELHI					
PROJECT DESCRIPTION		: UPGRADATIONS OF PUMP STATION/TERMINALS(NBPS)					
MANUFACTURED BY		: ABB INDIA LIMITED, LV SYSTEMS, BANGALORE					
APPLICATION		: SLD FOR 003-PC-303					
SYSTEM CONFIGURATION		: 415V,800A,3PH+N,25kA FOR 1SEC					
DRAWING NUMBER		: MNS01000211P007					
REVISION NUMBER		: R2					
REVISION COMMENT		: FOR APPROVAL					
CREATED ON :		3/18/2015	BY :		HN		
CHECKED ON :		3/18/2015	BY :		KJ	TOTAL NUMBER OF PAGES : 9	
APPROVED ON :		3/18/2015	BY :		DNR		

Engineer approved SLD dated 08/05/15 shall not be considered further. This drawing shall be inspected in relation with email sent by ABB dated 15/05/15.

ABB India Limited Survey No 88/3 & 88/4, Basavanahalli, Kasaba Hobli, Nelamangala Taluk - 562123, Ph: +91-80-22948929, 22948975		Resp. Dept. : ENGINEERING Approved by : DNR Checked by : KJ Drawn by : HN	Project : UPGRADATIONS OF PUMP STATION/TERMINALS(NBPS) Consultant : ENGINEERS INDIA LIMITED, NEW DELHI	Customer : OIL INDIA LIMITED CUSTOMER DOCUMENT REF.NO: A415-000-16-50-DS-0067 REV.B SCHEME DESCRIPTION: TITLE COVER SHEET 003-PC-303	DRG NO: MNS01000211P007 Rev No: R2 Scale: 1 Format: A3 Sheet: 1 Total Sheets: 9
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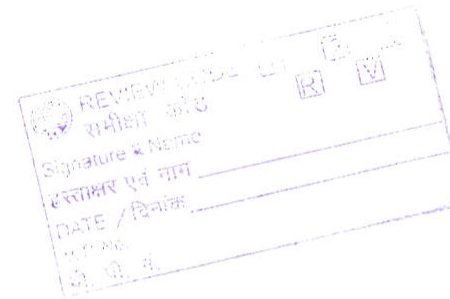
Table of contents					
Higher-Level Function	Mounting Location	Page	Page Description	Date	Revision
	INFO	1	TITLE COVER SHEET 003-PC-303	5/15/2015	R2
	INFO	2	TABLE OF CONTENTS FOR (003-PC-303)	5/15/2015	R2
	INFO	3	STRUCTURE IDENTIFIER OVERVIEW	5/15/2015	R2
	INFO	4	REVISION LIST 003-PC-303	5/15/2015	R2
	INFO	5	SLD LEGENDS 003-PC-303	5/15/2015	R2
	SLD	6	SINGLE LINE DIAGRAM FOR 003-PC-303	5/15/2015	R2
	SLD	7	SINGLE LINE DIAGRAM FOR 003-PC-303	5/15/2015	R2
	SLD	8	SINGLE LINE DIAGRAM FOR 003-PC-303	5/15/2015	R2
	SLD	9	SINGLE LINE DIAGRAM FOR 003-PC-303	5/15/2015	R2

REVIEW CODE ☒ ☒ ☒ ☒ ☒ ☒
समीक्षा कोड
Signature & Name
हस्ताक्षर एवं नाम
DATE / दिनांक
V.P. No.
वी. पी. नं.

ABB India Limited Survey No 88/3 & 88/4, Basavanahalli, Kasaba Hobli, Nelamangala Taluk - 562123, Ph: +91-80-22948929, 22948975		Resp. Dept. ENGINEERING Approved by DNR Checked by KJ Drawn by HN	Project : UPGRADATIONS OF PUMP STATION/TERMINALS(NBPS) Consultant : ENGINEERS INDIA LIMITED, NEW DELHI Customer : OIL INDIA LIMITED	CUSTOMER DOCUMENT REF.NO: A415-000-16-50-DS-0067 REV.B SCHEME DESCRIPTION: TABLE OF CONTENTS FOR (003-PC-303)	DRG NO: MNS01000211P007	Rev No R2 Scale 1 Format A3	= + INFO Sheet: 2 Total Sheets: 9
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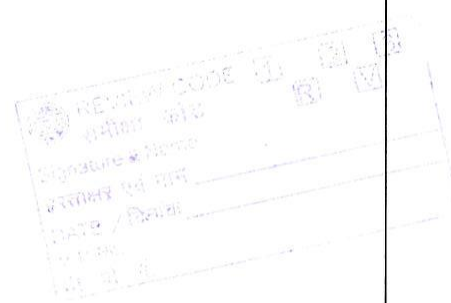
Structure identifier overview



Full designation	Structure description
Mounting location	
+INFO	INFORMATION SHEET
+SLD	SINGLE LINE DIAGRAM



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DATE 15.06.2015 24.06.2015 18.03.2015	REVISION COMMENTS REVISED FOR CORRECTIONS REVISED AS PER COMMENTS FOR APPROVAL	REV R2 R1 R0	Format: A3 Sheet: 3 Total Sheets: 9						

1	2	3	4	5	6	7	8
REVISION HISTORY							
Rev. No.	Date	Engineer	Remarks				
R0	18.03.2015	HN	First Release - For Approval Only				
R1	04.05.2015	HN	Second Release - For Approval Only				
R2	15.05.2015	HN	Third Release - For Approval Only				
							

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<h2>LEGENDS</h2>				<h2>INDICATING LAMPS</h2>			
	MCCB WITH SHORT CKT & OVERLOAD PROTECTION		CTTB		VSS	VOLTMETER SELECTOR SWITCH	R=RED 'R' PHASE ON /BREAKER ON /AC FAILURE Y=YELLOW 'Y' PHASE ON B=BLUE 'B' PHASE ON /DC FAILURE /SPRING CHARGED A=AMBER MOTOR TRIP /BREAKER TRIP W=WHITE TRIP CHK HEALTHY CHK G=GREEN BREAKER OFF /MOTOR OFF
	MCCB WITH SHORT CKT PROTECTION		SYNCHROSCOPE		MFM	MFM (MWH,MW,MVAR,MVA MVAH,A,V,HZ,COSΦ)	
	DP SWITCH		AIR CIRCUIT BREAKER		ELR	EARTH LEAKAGE RELAY	
	HRC FUSE		MCB 4P		NGR	NEUTRAL GROUNDING RESISTOR	<h2>PUSH BUTTONS</h2>
	MCB DP		MCB TP			TRAF0 SELECTOR SWITCH	PB1 TEST PUSH BUTTON PB2 STOP PUSH BUTTON PB3 RESET PUSH BUTTON PB4 DG START PUSH BUTTON PB5 DG STOP PUSH BUTTON PB6 VOLTAGE INC.PUSH BUTTON PB7 VOLTAGE DEC.PUSH BUTTON PB8 FREQUENCY INC.PUSH BUTTON PB9 FREQUENCY DEC.PUSH BUTTON
	CORE BALANCE CURRENT TRANSFORMER		CURRENT TRANSFORMER			TNC SWITCH	
	POWER CONTACTOR		AMMETER		T2	TRIP CKT HEALTHY BREAKER	
	DRAWOUT TERMINAL		VOLTMETER		H	HOOTER	
	FIXED TERMINAL		AMMETER SELECTOR SWITCH				

