

TPCODL

TP Central Odisha Distribution Limited

TPNODL

TP Northern Odisha Distribution Limited

TPSODL

TP Southern Odisha Distribution Limited

TPWODL

TP Western Odisha Distribution Limited

CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512**

**Open Tender Notification
For
Rate Contract - Supply of Three-Phase Smart Meters for Odisha
DISCOMs**

Tender Enquiry No.: TPCODL / CCG / 2025-26 / 1000002512,**Due Date for Tender Fee Submission: 01/05/2025 [15:00 Hrs.]****Due Date for Tender Bid Submission: 12/05/2025 [15:00 Hrs.]**

**Centralized Contracts Group
Tata Power Odisha DISCOMs
1st Floor, Anuj Building, Plot No. 29, Satya Nagar,
Bhubaneswar – 751007**

**TPCODL, TPNODL, TPSODL, TPWODL
(TATA Power and Odisha Government Joint Venture)**

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CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512****Centralized Contracts Group (CCG)**

The Centralized Contracts Group (CCG) is a shared service group of four Tata Power Odisha Distribution Companies (DISCOMs) - TPCODL, TPNODL, TPSODL & TPWODL. CCG is responsible for carrying out tendering activities to cater to the purchasing needs of all four DISCOMs.

1.0 Event Information

Bids are invited in Two Bid system from interested Bidders to establish a Rate Contract as below:

Tender Enquiry No.	Work Description	EMD (Rs.) *	Tender Fee inclusive of GST (Rs.) **	Last Date and Time for payment of Tender Fee
TPCODL / CCG / 2025-26 / 1000002512	Rate Contract - Supply of Three Phase Smart Meters for Odisha DISCOMs	11 Lakhs	5,000	01/05/2025 15:00 Hrs

* EMD exempted for MSMEs registered in the State of Odisha.

** Tender fee – Rs. 1,000/- including GST. for MSMEs registered in the State of Odisha (Ref. Odisha MSME Preferential Norms[^] for details on Odisha MSME support)

1.1 Scope of work

Bids are invited from interested Bidders to award Rate Contract (RC) for Procurement of Single-Phase Smart Meter (with NIC) and Meter Boxes for Tata Power Odisha DISCOMs as mentioned below:

Sl. No.		Material Description	UoM	TPCODL	TPNODL	TPSODL	TPWODL	Total
1	Group-A	METER SMART 3P4W LTCT 100/5A	Nos	1,500	0	8,465	100	10,065
2		METER SMART 3P4W LTCT 200/5A	Nos	500	0	120	50	670
3		METER SMART 3P4W LTCT -/5A 0.5s	Nos	0	2,000	0	0	2,000
4	Group-B	SMART HT METER (11KV -/5A) 0.5s	Nos	300	1,500	500	0	2,300
5		SMART HT METER (33KV -/5A) 0.5s Class	Nos	150	0	0	0	150
6		SMART HT METER (33KV -/5A) 0.2s Class	Nos	0	100	190	0	290
7	Group-C	SMART HT METER (-/1A, 110V) 0.2s Class	Nos	50	100	0	0	150
8		METER SMART W/C 3PH 20-100A with BOX	Nos	20,000	20,000	13,000	0	53,000

Detailed scope as stipulated elsewhere in this tender document.

[^] Odisha MSME Preferential Norms

- **Tender Fees Relaxation:** To participate in the tender, MSMEs registered in the State of Odisha shall pay Rs.1,000/- including GST towards cost of tender paper.
- **Earnest Money Deposit (EMD) Exemption:** EMD shall be exempted for MSME registered in the State of Odisha. However, Bidder shall be barred to participate in the tendering process for a period of 2 years in case it backs out post award of the contract.
- **Qualification Requirement Relaxation:** Qualification Requirement of Financial Turnover for MSME registered in the State of Odisha shall be reduced to 20% of the existing criteria.

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- **Past Experience Relaxation:** Instead of relying on the volumes / value of earlier Supplies / Projects, assessment of the Bidder shall be done on the basis of feedback from Customers. Past performance experience at Tata Power and its Group Companies shall supersede feedback from other Customers.
- **Reservation for MSME:** TP DISCOM shall procure at least 20% of the total volume of the procurement from MSME registered in the State of Odisha (however, it shall not apply where goods/services are not available with the MSME), subject to matching L1 discovered prices and meeting technical specifications including quality requirements.
- **Performance Bank Guarantee (PBG) Relaxation:** Performance Bank Guarantee for MSME registered in the State of Odisha shall be 25% of the value normally prescribed.

1.2 Availability of Tender Documents

The bidder can get primary information about the tender from the Newspaper advertisement. Tender documents can be downloaded from TP Odisha DISCOMs' websites: -

www.tpcentralodisha.com, www.tpnodl.com, www.tpsouthernodisha.com, www.tpwesternodisha.com

Non-Refundable Tender Participation Fee, as indicated in tender document, to be submitted before last date of tender fee payment, in the form of direct deposit / NEFT / RTGS in the following bank account.

Account Name: TP Central Odisha Distribution Limited

Bank Name: State Bank of India,

IDCO Towers, Bhubaneswar

Bank Account No.: 10835304915

IFSC Code: SBIN0007891

To receive online bidding link, eligible and Interested bidder shall send an email to Package Owner (Ref. Clause 4.0 for details) attaching duly signed and stamped letter on Bidder's letterhead, with following details, expressing their intent to bid against above tender in following format:

Sr No	Description	Bidder's Response
i)	Tender Enquiry No.	
ii)	Description of materials / Works Tendered	
iii)	Name and address of the bidding company	
iv)	Name of the authorized contact person	
v)	Contact No. of authorized person	
vi)	E-mail Id to which online ARIBA link to be sent	
vii)	Tender Fee details (Amount / NEFT-RTGS UTR No / Date) (Ref sec 1.2)	
viii)	GST No. of bidder	
ix)	MSME Certificate (if applicable)	
x)	Postal address of bidder for return of EMD BG	

E-mail has to be sent to <umesh.sahoo@tpnodl.com> with copy to <sony.jha@tpcentralodisha.com> before last date and time for payment of tender participation fee (Clause 1.3).

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On receipt of the above letter, after due verification, ARIBA link for participation in the tender will be sent to bidder's e-mail address from ARIBA system. Bids shall be submitted only through online e-procurement platform, ARIBA. Any other form of bid submission shall not be accepted. **(Ref. Annexure XII for detailed instructions on bid submission in ARIBA)**

1.3 Calendar of Events

(a)	Date of sale / availability of tender documents from Website	22-04-2025
(b)	Date by which Interested and Eligible Bidder to pay Tender Fee and confirm participation as mentioned in "Procedure to Participate in Tender"	01-05-2025 [15:00 Hrs]
(c)	Due Date and time of receipt of pre-bid queries by e-mail, if any	01-05-2025 [15:00 Hrs]
(d)	Due Date of Posting Consolidated replies to all the pre-bid queries as received	06-05-2025
(e)	Due date and time of receipt of Bids	12-05-2025 [15:00 Hrs]
(f)	Date & Time of opening technical bids	12-05-2025 [15:30 Hrs]
(g)	Due Date for receipt of Sample Meter for testing as per below address	12-05-2025
(h)	Date & Time of opening of Price of qualified bids	To be notified to the successful bidders

Meter Sample to be submitted on following address:

MRT Division

TP Central Odisha Distribution Limited

Power House Colony,

Unit – 8, Bhubaneswar,

Pin- 751012, Odisha

Contact Details:

Mrs. Tanuja Behera,

Superintending Engineer-II,

Meter Testing Lab & Material Management

Mob No. 7008270245

Note: In the event of last date specified for submission of bids and date of opening of bids is declared as a closed holiday for TP DISCOMs office, the last date of submission of bids and date of opening of bids will be the day following working day at appointed times.

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2.0 Pre- Qualification Criteria

Sl No	Parameter	Owner Requirement	Documents to be submitted by Bidder
A	Technical Pre-Qualification Requirements for Meter manufacturer (OEM)		
1	Technical Experience - Meter Manufacturer	Bidder(s) should be in the business of manufacturing Static Energy Meters/Smart meter and should have state of the art facility in India. Should be in this Business from the last 5 years in India as on date of Bid Submission.	Factory License Certificate / MoA mentioning nature of Business.
2	Performance	At least two (02) Performance Certificate by any DISCOMs / PSUs / Reputed companies is to be submitted. The work against these issued certificates should be completed in last 07 years from the date of bid submission. In case the bidder has got previous association with TP DISCOMs for supply of similar product, performance feedback of the same.	The performance certificate and contact details of the client need to be submitted
3	ISI Certification	Smart Meters offered shall have Certification for 'ISI marking as per IS:16444 with latest amendment. The certification should be valid on the date of Tender opening.	Copy of Certificate for the Smart Meter offered should be furnished.
4	In-house Testing Facility	The bidder should have in-house fully automatic smart meter testing Facility for last 3 years.	A valid registration certificate mentioning issue / renewal / expiry date
B	Financial Pre-Qualification Requirements		
1	Commercial Capability	The bidder should have Average Annual turnover of at least Rs. 150 Cr. for last 3 Financial Year (FY). Qualification Requirement of Financial Turnover for MSME registered in the State of Odisha shall be reduced to 20% of the existing criteria	Copy of audited P&L Account (with UDIN no.) to be submitted in this regard
2	Experience	The bidder must have supplied same / higher rating of tendered materials minimum cumulative orders of 50 % of tender qty. (line item wise) in last 5 years as from original bid submission date.	Individual Client's PO / WO needs to be submitted
3	Statutory Compliances	The bidder must have valid GST registration, valid PAN Card & Odisha State MSME Certificate (if applicable)	Copy of Certificates to be submitted in this regard

3.0 Evaluation Criteria

- The bids will be evaluated technically and on qualifying criteria of tender terms and conditions.
- The bids will be evaluated commercially on the **line item wise lowest cost basis** as calculated in Schedule of Items [Annexure I].
- Bidder has to mandatorily quote against each item of Schedule of Items [Annexure I]. Failing to do so, CCG may reject the bids.

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NOTE: In case a new bidder is not registered with DISCOM, factory inspection and evaluation shall be carried out to ascertain bidder's manufacturing capability and quality procedures. However, DISCOM reserves the right to carry out factory inspection and evaluation for any bidder prior to technical qualification.

In case a bidder is found as Disqualified in the factory evaluation, their bid shall not be evaluated any further and shall be summarily rejected. The decision of DISCOM shall be final and binding on the bidder in this regard.

Based on adverse experiences of Tata Power / Tata Power group companies with BA, Odisha DISCOM reserves the right to disqualify the bidders during techno - commercial evaluation of the bid.

3.1 Price Basis: The prices shall remain FIRM during the entire contract period.

4.0 Contact Information: All the bidders are requested to send their pre-bid queries (if any) against this tender through e-mail within the stipulated timelines. The consolidated reply to all the queries received shall be posted on website by the stipulated timelines as detailed in calendar of events.

Communication Details:Package Owner:

Name: Umesh Prasad Sahoo
Contact No.: 8260447677
E-Mail ID: umesh.sahoo@tpnodl.com

Escalation Level I:

Name: Sony Jha, HoD- Contracts (TPCODL) & CCG
Contact No.: 9204752050
E-Mail ID: sony.jha@tpcentralodisha.com

Escalation Level II:

Name: Mr. Vipin Chauhan, Head - CCG, C&MM (TPCODL)
Contact No.: 9717393121
E-Mail ID: Vipin.Chauhan@tpnodl.com

5.0 Submission of Bid Documents**5.1 Bid Submission**

Bidders are requested to submit their offer in line with this Tender document through e-tendering process.

All future correspondence regarding the tender, bid submission, bid submission date extension, Pre-bid query etc. shall be through TPCODL E-Tender system (Ariba).

Bids shall be submitted in 3 (Three) parts:

5.1.1 First Part: EMD EMD as applicable shall be submitted. The EMD shall be valid for 210 days from the due date of bid submission in the form of Bank Guarantee / Bank Draft / Bankers Pay Order (issued from a Scheduled Bank) online NEFT/ RTGS transfer favoring 'TP Central Odisha Distribution Limited' payable at

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Bhubaneswar. The EMD BG has to be strictly in the format as mentioned in General Condition of Contract, failing which it shall not be accepted by CCG and the bid as submitted shall be liable for rejection. A separate **non-refundable tender fee** of stipulated amount also needs to be transferred **online through NEFT/ RTGS** in case the tender document is downloaded from our website.

TPCODL Bank Details for transferring Tender Fee and EMD is as below:

Account Name: TP CENTRAL ODISHA DISTRIBUTION LIMITED

Bank Name: SBI, IDCO Towers, Bhubaneswar

Bank Account No.: 10835304915

IFSC Code: SBIN0007891

Note- EMD is preferred in form of Bank Guarantee and to be delivered at the following address. However, in view of present situation if Bidder is finding it difficult to submit BG for EMD amount, they can do online transfer of EMD amount in the above-mentioned Account and submit proof of the same as part of Bid Submission.

-In such case, Tender Fee and EMD should be strictly 2 separate transactions else bids shall be rejected.

-Return of EMD from Bank Account is non-standard practice and the same may take more time than return of EMD BG.

EMD Original Hard Copy shall be delivered at the following address in Envelope clearly indicating Tender Reference/ Enquiry Number, Name of Tender and Bidder Name

“EMD (Earnest Money Deposit)”

“Rate Contract for Supply of Three Smart Meters for Odisha DISCOMs”

“Tender Enquiry No.: TPCODL / CCG / 2025-26 / 1000002512”

Chief –Centralized Contracts Group

TP Central Odisha Distribution Limited

1st Floor, Anuj Building, Plot No. 29, Satya Nagar, Bhubaneswar- 751007

Kind Attn.: Mr. Umesh Prasad Sahoo, Mob No.: 8260447677

**EMD shall be exempted for MSME registered in the State of Odisha. However, Bidder shall be barred to participate in the tendering process for a period of 2 years in case it backs out post award of the contract.*

The bidder shall furnish, as part of its bid, an EMD amounting as specified in the tender. The EMD is required to protect DISCOM against the risk of bidder's conduct which would warrant forfeiture.

The EMD shall be denominated in any of the following form:

- Bank Guarantee in favor of TP Central Odisha Distribution Limited payable at Bhubaneswar.
- Online transfer of requisite amount through NEFT/ RTGS.
- Bank Guarantee valid for 210 days after due date of submission.

Ref. GCC- TPCODL for Format of Bank Guarantee

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a) The bidder withdraws its bid during the period of specified bid validity.

Or

b) The successful Bidder does not

a) accept the Purchase Order, or

b) furnish the required Performance Security Bank Guarantee

5.1.2 Second Part: Techno-Commercial Bid

Techno-Commercial bid shall contain the following documents. Absence of any of these may attract bid rejection:

1. Index Stating Document name & Page No. / Document No. in bid. As illustrated below:

Sr No	Document	Page No/Document No
1	EMD	3
2	Authorization Letter (Power of Attorney)	4
3	Schedule of Deviations-III	5
4	...	...

2. Requisite Documents for compliance to Qualification Criteria mentioned in Clause 2.0 and clause no. 1.5.

3. Type Test Certificate* of same or higher rating.

4. Acceptance of Specification as per Annexure II.

5. Duly signed and stamped 'Schedule of Deviations' as per Annexure III on bidder's letter head.

6. Duly signed and stamped 'Schedule of Commercial Specifications' as per Annexure IV on bidder's letter head.

7. Duly filled in Annexure V and VI.

8. Proper authorization letter / Power of Attorney to sign the tender on the behalf of bidder.

9. Copy of PAN, GST registration (In case any of these documents is not available with the bidder, same to be explicitly mentioned in the 'Schedule of Deviations')

The type tests specified in technical specifications should have been carried out **within five years (unless otherwise explicitly stated) prior to the date of opening of technical bids and test reports are to be submitted along with the bids. If type tests carried out are not within the five years prior to the date of bidding, the bidder will arrange to carry out type tests specified, at his cost. The decision to accept/ reject such bids rests with DISCOM.*

The technical bid shall be submitted through CCG / TPCODL E-tender System (Ariba) only. Hard Copy of Technical Bids need not be submitted unless specifically asked for.

5.1.3 Third Part: Price Bid

Price Bid shall contain only the price details and strictly in format as mentioned in Annexure I along with explicit break up of basic prices and Taxes & duties etc. In case any discrepancy is observed between the item description stated in Schedule of Items mentioned in the tender and the price bid submitted by the bidder, the item description as mentioned in the tender document (to the extent modified through Corrigendum issued if any) shall prevail. The price bids containing any deviations/conditions shall be liable to be rejected.

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Price Bid is to be submitted in soft copy through CCG / TPCODL E-Tendering system (Ariba) only. Hard copy of Price Bid shall not be submitted.

The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and CCG, shall be written in the English Language. Any printed literature furnished by the Bidder may be written in another Language, provided that this literature is accompanied by an English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

5.2 Signing of Bid Documents

The bid must contain the name, residence and place of business of the person or persons making the bid and must be signed and sealed by the Bidder with his usual signature. The names of all persons signing should also be typed or printed below the signature.

The Bid being submitted must be signed by a person holding a **Power of Attorney** authorizing him to do so, certified copies of which shall be enclosed.

The Bid submitted on behalf of companies registered with the Indian Companies Act, for the time being in force, shall be signed by persons duly authorized to submit the Bid on behalf of the Company and shall be accompanied by certified true copies of the resolutions, extracts of Articles of Association, special or general Power of Attorney etc. to show clearly the title, authority and designation of persons signing the Bid on behalf of the Company. Satisfactory evidence of authority of the person signing on behalf of the Bidder shall be furnished with bid.

A bid by a person who affixes to his signature the word 'President', 'Managing Director', 'Secretary', 'Agent' or other designation without disclosing his principal will be rejected.

The Bidder's name stated on the Proposal shall be the exact legal name of the firm.

5.3 Mandatory documents required along with the Bid

- 1.4.1 EMD of requisite value and validity
- 1.4.2 Tender Fee.
- 1.4.3 Requisite Documents for compliance to Qualification Criteria mentioned in Clause 1.7.
- 1.4.4 Acceptance of Specification, drawing with filled in GTP as per Annexure II.
- 1.4.5 Duly signed and stamped 'Schedule of Deviations' as per Annexure III on bidder's letter head.
- 1.4.6 Duly signed and stamped 'Schedule of Commercial Specifications' as per Annexure IV on bidder's letter head.
- 1.4.7 Duly filled in Annexure V and VI.
- 1.4.8 Proper authorization letter/ Power of Attorney to sign the tender on the behalf of bidder.
- 1.4.9 Copy of PAN, GST registration (In case any of these documents is not available with the bidder, same to be explicitly mentioned in the 'Schedule of Deviations')

Please note that in absence of any of the above documents (as applicable), the bid submitted by a bidder shall be liable for rejection.

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Normally, the deviations to tender terms are not admissible and the bids with deviation are liable for rejection. Hence, the bidders are advised to refrain from taking any deviations on this Tender. Still in case of any deviations, all such deviations shall be set out by the Bidders, clause by clause in the 'Annexure III - Schedule of Deviations' and same shall be submitted as a part of the Technical Bid.

6.0 Bid Related Details**6.1 Bid Prices**

Bidders need to quote for all items as per the Price schedule attached in Annexure I. The bidder shall complete the appropriate Price Schedules included herein, stating the Unit Price for each item & total price with taxes, duties & freight up to destination at various DISCOMs' sites. The all-inclusive prices offered shall be inclusive of all costs –Insurance, Transport, duties, taxes, levies paid or payable etc. during the execution of the supply work. Applicable GST to be specified clearly.

The quantity break up shown else-where other than Price Schedule may tentative. The bidder shall ascertain himself regarding material required for completeness of the entire work. Any items not indicated in the price schedule but which are required to complete the job as per the Technical Specifications/ Scope of Work/ SLA mentioned in the tender, shall be deemed to be included in prices quoted.

6.2 Bid Currencies

Prices shall be quoted in Indian Rupees Only unless otherwise stated explicitly.

6.3 Period of Validity of Bids

Bids shall remain valid for **180 days** from the due date of submission of the bid.

Notwithstanding clause above, CCG may solicit the Bidder's consent to an extension of the Period of Bid Validity. The request and responses thereto shall be made in writing.

6.4 Alternative Bids

Bidders shall submit Bids, which comply with the Bidding documents. Alternative bids will not be considered. The attention of Bidders is drawn to the provisions regarding the rejection of Bids in the terms and conditions, which are not substantially responsive to the requirements of the bidding documents.

6.5 Modifications and Withdrawal of Bids

The bidder is not allowed to modify or withdraw its bid after the Bid's submission. The EMD as submitted along with the bid shall be liable for forfeiture in such event.

7.0 Bid Opening & Evaluation

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Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process. Any effort by a Bidder to influence CCG in processing of Bids or award decisions may result in rejection of the Bidder's Bid.

7.2 Technical Bid Opening

Technical Bids shall be opened online as per schedule mentioned in section 1.3, in CCG Office (1st Floor Conference room, Plot -29, Anuj Building Satya Nagar, Bhubaneswar). Bidders having authorization letter (format Annexed- XI) for attending bid opening from competent authority of respective Organizations, who may choose to be present physically / online at the time of tender opening. If the office is closed on the specified date of opening of the bids, the opening shall be done on the next working day at the same time. Technical bid must not contain any cost information whatsoever, else bids shall be liable to be rejected.

First the envelope marked "EMD" will be opened. Bids without EMD/cost of tender (if applicable) of required amount/ validity in prescribed format, shall be rejected.

Next, the technical bid of the bidders who have furnished the requisite EMD will be opened, one by one.

7.2.1 Preliminary Examination of Bids/Responsiveness

CCG will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are in order & format as detailed elsewhere in this document. CCG may ask for submission of original documents in order to verify the documents submitted in support of qualification criteria.

Arithmetical errors will be rectified on the following basis: If there is a discrepancy between the unit price and the total price per item that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price per item will be corrected. If there is a discrepancy between the Total Amount and the sum of the total price per item, the sum of the total price per item shall prevail and the Total Amount will be corrected.

Prior to the detailed evaluation, CCG will determine the substantial responsiveness of each Bid to the Bidding Documents including production capability and acceptable quality of the Goods offered. A substantially responsive Bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviation. CCG reserves the right to reject non-responsive bids.

7.2.2 Techno Commercial Clarifications

Bidders need to ensure that the bids submitted by them are complete in all respects. To assist in the examination, evaluation and comparison of Bids, CCG/Engineering may at its discretion, ask the Bidder for a clarification on its Bid for any deviations with respect to specifications and attempt will be made to bring all bids on a common footing. Any such clarification as sought shall have to be responded to bidder **within two working days**, post which the bids shall be liable to be rejected. All responses to requests for clarification shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted owing to any clarifications sought.

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Bids are liable for rejection in absence of following documents:

- i. EMD of requisite value and validity.
- ii. Tender fee of requisite value.
- iii. Price Bid as per the Price Schedule mentioned in Annexure I (BOQ)
- iv. Necessary documents against compliance to Qualification Requirements mentioned in Clause 2.0 of this Tender Document.
- v. Filled in Schedule of Deviations as per Annexure III.
- vi. Filled in Schedule of Commercial Specifications as per Annexure IV.
- vii. Signed and filled in Specification and GTP as per Annexure II.
- viii. Duly filled and signed Annexure V and VI.
- ix. Receipt of Bid within the due date and time.

CCG reserves the right to accept/reject any or all the bids without assigning any reason thereof.

7.3 Price Bid Opening

Price Bids will be opened online for all technically qualified bidders on the dates as shall be informed to qualified bidders in CCG Office (First Floor Conference room, Plot -29, Anuj Building Satya Nagar, and Bhubaneshwar). Bidders having authorization letter (format annexed) for attending bid opening from competent authority of respective Organizations shall be allowed to be present physically/online at the time of bid opening. If the office is closed on the specified date of opening of the bids, the opening shall be done on the next working day at the same time. The EMD of the bidder withdrawing or substantially altering his offer at any stage after the technical bid opening will be forfeited at the sole discretion of DISCOM without any further correspondence in this regard.

8.0 Market Integrity

We have a fair and competitive marketplace. The rules for bidders are outlined in the General Condition of Contracts. Bidders must agree to these rules prior to participating. In addition to other remedies available, CCG reserves the right to exclude a bidder from participating in future markets due to the bidder's violation of any of the rules or obligations contained in the General Condition of Contracts. A bidder who violates the market place rules or engages in behavior that disrupts the fair execution of the marketplace, may result in restriction of a bidder from further participation in the marketplace for a length of time, depending upon the seriousness of the violation. Examples of violations include, but are not limited to:

- Failure to honor prices submitted to the marketplace
- Breach of terms as published in TENDER / NIT

9.0 Supplier Confidentiality

All information contained in this tender is confidential and shall not be disclosed, published or advertised in any manner without written authorization from CCG. This includes all bidding information submitted to the DISCOM. All tender documents remain the property of DISCOM and all suppliers are required to return these

CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512**

documents to DISCOM upon request. Suppliers who do not honor these confidentiality provisions will be excluded from participating in future bidding events.

10.0 Reverse Auctions

CCG reserves the right to conduct the reverse auction for the products/ services being asked for in the tender. The terms and conditions for such reverse auction events shall be as per the Acceptance Form attached as Annexure VI of this document. The bidders along with the tender document shall mandatorily submit a duly signed copy of the Acceptance Form attached as Annexure VI as a token of acceptance for the same.

Bidders shall be allowed to participate in Reverse auction as per following criteria hence bidders are advised to quote their most competitive rates while submitting the bids to avoid disqualification from participation in Reverse Auction.

Reverse Auction shall be as per the below approach:

No of bidders allowed to participate in RA process shall be: Total No of bidders on whom tender would be split PLUS 2 more bidders

Illustrative example: Total no of qualified bidders is 10 & tender needs to split amongst 2 bidders.

PLUS 2 means (02 + 02 = 04) means lowest 4 bidders i.e., L1 to L4 bidders would be allowed in the RA process. Balance, H1 to H6 bidders would not be allowed in the RA process.

In case – Total no of qualified bidders is equal to or less than the PLUS 2 number, all qualified bidders shall be allowed in the RA process.

11.0 Award Decision

DISCOM will award the contract to the successful bidder whose bid has been determined to be the lowest-evaluated responsive bid as per the Evaluation Criterion mentioned at Clause 3.0. The Cost for the said calculation shall be taken as the all-inclusive cost quoted by bidder in Annexure I (Schedule of Items) subject to any corrections required in line with Clause 7.2.1. The decision to place purchase order/LOI solely depends on CCG on bidder qualification & cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that CCG may deem relevant.

CCG reserves the right to split the order quantity wise / Line item wise among **4 Nos Bidders**. All bidders are advised to quote their most competitive rates against each line item. However, CCG reserves the right to adjust the splitting as per bidders' participation/qualification/any other unforeseen condition in tender.

DISCOM reserves the rights to award contract to one or more bidders so as to meet the delivery requirement or nullify award decision without assigning any reason thereof.

In case any supplier is found unsatisfactory during delivery process, the award will be cancelled and DISCOM reserves right to award contract to other suppliers who are found fit.

CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512****12.0 Order of Preference / Contradiction**

In case of contradiction in any part of various documents in tender, following shall prevail in order of preference:

1. Schedule of Items – Price Bid (Annexure I)
2. Technical Specifications (Annexure II)
3. Special Conditions of Contract (Clause 13.1)
4. Submission of Bid Documents (Clause 5.0)
5. Acceptance Form for Participation in Reverse Auction (Annexure VI)
6. General Conditions of Contract (Annexure VII)

13.0 Post Award Contract Administration**13.1 Special Conditions of Contract**

1. Rate Contract shall be valid for a period of 12 months from the placement of the Contract. Release Order (RO) shall be placed as per the requirement of respective TP Odisha Discom. Rates shall remain firm throughout RC period.

2. HES Integration: The bidders whose meter are not integrated with DISCOMs' HES, they shall integrate their meter within 4 (four) month from issuance of Rate Contract. RO shall be issued post successful integration with existing HES system at DISCOM level.

Incase bidder is not able to integrate their Meter with existing HES within 4 (four) months, DISCOM reserve's the right to reduce the Contract Value (up to Zero) and same can be reallocated to other performing bidders.

3. Prices shall be inclusive of Transit Insurance/ Packing & Forwarding charges and shall be inclusive of unloading and stacking at any Discom site/store locations.

4. PBG of 5% of RC value shall be submitted within 21 days of issuance of RC. PBG submitted, shall be released after completion of applicable guarantee period plus one month. Performance Bank Guarantee for MSME registered in the State of Odisha shall be 25% of the value normally prescribed.

5. Bidder shall stand guarantee towards design, materials, workmanship & quality of process / manufacturing of items under this contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the TP(C/N/S/W)ODL up to a period of at least 60 months from the date of commissioning or 66 months from the date of last supplies made under the contract whichever is earlier, Bidder shall be liable to undertake to replace/rectify such defects at its own costs, within mutually agreed time frame, and to the entire satisfaction of the Company, failing which the TP(C/N/S/W)ODL will be at liberty to get it replaced/rectified at bidder's risks and costs and recover all such expenses plus the Company's own charges (@ 20% of expenses incurred), from the bidder or from the "Security cum Performance Deposit" as the case may be. Bidder shall own responsibility for all internal component with an end to end agreement with individual component manufacturer.

6. BA shall submit GTP/ Drawing within 07 days from issuance of rate contract. If drawing is not approved by competent authority due to document shortfall or any changes are suggested, vendor has to resubmit new drawing / GTP / documents within 03 days of such intimation. In case BA does not get necessary approvals for issuance

CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512**

of manufacturing clearances /CAT-A within mentioned /mutually agreed timelines, then CCG/other TP Odisha DISCOMs reserve the right to cancel issued rate contract / release order and also reserve the right to forfeit EMD/PBG.

7. Delivery period shall be 90 days from date of receipt of release order / CAT-A issuance, whichever is later.

8. Payment Terms: 100% payment within 60 days of submission of error-free Invoice complete in all respects. However, for MSME the payment cycle shall be 45 days.

9. Pre-dispatch inspection, MDCC and LD shall be applicable as per GCC.

Any request of LD waiver shall be submitted within thirty (30) days of deducting LD. Request submitted beyond the timeline shall not be entertained.

10. CCG / DISCOMs shall short close the issued Release Order / Rate contract, in case of any quality issues.

11. Any change in statutory taxes, duties and levies during the contract period shall be borne by respective TP Odisha Discom. However, in case of delay in supply owing to reasons not attributable to TP Odisha Discom, any increase in total liability shall be passed on the Bidder, whereas any benefits arising owing to such statutory variation in taxes and duties shall be passed on TP Odisha Discom.

12. In case of discrepancies between GCC & SCC, the clauses mentioned under SCC (Special Conditions of Contract) shall supersede GCC.

13. All other terms and conditions of Original Tender TPCODL / CCG / 2025-26 / 1000002512, GCC (of respective DISCOM), Corrigendum, Pre-Bid Query Responses, Post-bid discussions and accepted deviations (if any) shall be applicable.

13.2 Drawing Submission and Approval

As per SCC, Clause number 13.1

13.3 Payment Terms

As per SCC, Clause number 13.1

14.0 Climate Change

Significant quantities of waste are generated during the execution of project and an integrated approach for effective handling, storage, transportation and disposal of the same shall be adopted. This would ensure the minimization of environmental and social impact in order to combat the climate change. Please refer attached Environment Policy and Sustainability Policy (Annexure-X).

15.0 Ethics

TP DISCOMs are ethical organizations bound by Tata Code of Conduct. As a policy we lay emphasis on ethical practices across its entire domain. Bidder should ensure that they should abide by all the ethical norms and in no form either directly or indirectly be involved in unethical practice.

DISCOM work practices are governed by the Tata Code of Conduct which emphasizes on the following:

CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512**

- We shall select our suppliers and service providers fairly and transparently.
- We seek to work with suppliers and service providers who can demonstrate that they share similar values. We expect them to adopt ethical standards comparable to our own.
- Our suppliers and service providers shall represent our company only with duly authorized written permission from our company. They are expected to abide by the Code in their interactions with, and on behalf of us, including respecting the confidentiality of information shared with them.
- We shall ensure that any gifts or hospitality received from, or given to, our suppliers or service providers comply with our company's gifts and hospitality policy.
- We respect our obligations on the use of third-party intellectual property and data.

Bidder is advised to refer Tata Code of Conduct (TCOC) attached for more information. For details, refer link: <https://www.tata.com/about-us/tata-code-of-conduct>

Any ethical concerns with respect to this tender can be reported to Mr. Pourush Garg (Chief – CCG & Engineering): Pourush.Garg@tpcentralodisha.com

16.0 Specification and standards

As per Annexure II

17.0 General Condition of Contract

Any condition not mentioned above shall be applicable as per GCC attached as Annexure VII along with this tender.

18.0 Safety Policy and Safety Terms & Conditions

Annexure VIII attached along with this tender.

19.0 Tata Code of Conduct

Annexure IX attached along with this tender.

20.0 Environment & Sustainability Policy

Annexure X attached along with this tender.

CENTRALIZED CONTRACTS GROUP

NIT No.: TPCODL / CCG / 2025-26 / 1000002512

ANNEXURE-I : Price Schedule

Sr No	Lot Wise	Item Description	Unit	Quantity	HSN/ SAC Code	Unit Price (Rs. / Unit)	GST (Rs/ Unit)	All Inclusive Unit Rate (Rs.)	Total All Inclusive Value (Rs.)
1	Group-A	METER SMART 3P4W LTCT 100/5A	Nos	10,065					
2		METER SMART 3P4W LTCT 200/5A	Nos	670					
3		METER SMART 3P4W LTCT -/5A 0.5s	Nos	2,000					
4	Group-B	SMART HT METER (11KV- /5A) 0.5s	Nos	2,300					
5		SMART HT METER (33KV- /5A) 0.5s Class	Nos	150					
6		SMART HT METER (33KV- /5A) 0.2s Class	Nos	290					
7		SMART HT METER (-/1A, 110V) 0.2s Class	Nos	150					
8	Group-C	METER SMART W/C 3PH 20-100A with Box	Nos	53,000					
Total Package Cost (in Rs.)									

NOTE:

- The bids will be evaluated commercially on **the line item wise lowest cost** basis.
- Prices shall remain Firm and the prices mentioned above shall be on FOR basis for all the TPNODL, TPCODL, TPSODL & TPWODL locations.
- Issuance of Release Orders (RO) shall be done by respective DISCOMs as per their requirement.
- The material shall be delivered as per the location captured in the Release Order.
- The bidders are advised to quote prices strictly in the above format. Failing to do so, bids are liable for rejection.
- The bidder must fill each and every column of the above format. ***Mentioning “extra/inclusive”/other conditions in any of the column may lead for rejection of the price bid.***
- No cutting/ overwriting in the prices is permissible.
- The quantity mentioned above are for evaluation purpose only and may vary as per actual site requirement.
- HES Integration: The bidders whose meter are not integrated with DISCOMs' HES, they shall integrate their meter within 4 (four) month from issuance of Rate Contract.
- RO shall be issued post successful integration with existing HES system at DISCOM level.
- Incase bidder is not able to integrate their Meter with existing HES within 4 (four) months, DISCOM reserve's the right to reduce the Contract Value (up to Zero) and same can be reallocated to other performing bidders.
- Price Sensitivity: Bidder Shall quote the reasonable / workable price before and during the Reverse Auction. In case bidder will not able to deliver the material / perform due to the lower price factor, DISCOM will take the suitable action including backlisting for minimum 2 (two) years.

TPCODL

TP Central Odisha Distribution Limited

TPNODL

TP Northern Odisha Distribution Limited

TPSODL

TP Southern Odisha Distribution Limited

TPWODL

TP Western Odisha Distribution Limited

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NIT No.: TPCODL / CCG / 2025-26 / 1000002512

ANNEXURE-II : Technical Specification

Attached separately with Tender

CENTRALIZED CONTRACTS GROUP

NIT No.: TPCODL / CCG / 2025-26 / 1000002512

ANNEXURE III: Schedule of Deviations

Bidders are advised to refrain from taking any deviations on this TENDER. Still in case of any deviations, all such deviations from this tender document shall be set out by the Bidders, Clause by Clause in this schedule and submit the same as a part of the **Technical Bid**.

Unless specifically mentioned in this schedule, the tender shall be **deemed** to confirm the specifications:

S. No.	Clause No.	Tender Clause Details	Details of deviation with justifications

By signing this document we hereby withdraw all the deviations whatsoever taken anywhere in this bid document and comply to all the terms and conditions, technical specifications, scope of work etc. as mentioned in the standard document except those as mentioned above.

Seal of the Bidder:

Signature:

Name:

CENTRALIZED CONTRACTS GROUP

NIT No.: TPCODL / CCG / 2025-26 / 1000002512

ANNEXURE IV: Schedule of Commercial Specifications

(The bidders shall mandatorily fill in this schedule and enclose it with the offer Part I: Technical Bid. In the absence of all these details, the offer may not be acceptable.)

S. No.	Particulars	Remarks
1.	Prices firm or subject to variation (If variable indicate the price variation clause with the ceiling if applicable)	Firm / Variable
a.	If variable price variation on clause given	Yes / No
b.	Ceiling	----- %
c.	Inclusive of GST	Yes / No (If Yes, indicate % rate)
d.	Inclusive of transit insurance	Yes / No
2.	Delivery Clause acceptable	Yes / No
3.	Guarantee clause acceptable	Yes / No
4.	Terms of payment acceptable	Yes / No
5.	Performance Bank Guarantee Acceptable	Yes / No
6.	Liquidated damages clause acceptable	Yes / No
7.	Validity (180 days) (From the date of opening of bid)	Yes / No
8.	Inspection during stage of manufacture	Yes / No
9.	Covered under Small Scale and Ancillary Industrial Undertaking Act 1992	Yes / No (If Yes, indicate, SSI Reg'n No.)

Seal of the Bidder:

Signature:

Name:

CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512****ANNEXURE V: Checklist of all the documents to be submitted with the Bid**

Bidder has to mandatorily fill in the checklist mentioned below:

S. No.	Documents attached	Yes / No / Not Applicable
1	EMD of required value	
2	Tender Fee as mentioned in this tender	
3	Signed copy of this tender as an unconditional acceptance	
5	Duly filled schedule of commercial specifications (Annexure IV)	
6	Sheet of commercial/technical deviation if any (Annexure III)	
7	Balance sheet for the last completed three financial years; mandatorily enclosing Profit & loss account statement	
8	Acknowledgement for Testing facilities if available (duly mentioned on bidder letter head)	
9	List of Machine/tools with updated calibration certificates if applicable	
10	Details of order copy (duly mentioned on bidder letter head)	
11	Order copies as a proof of quantity executed	
12	Details of Type Tests if applicable (duly mentioned on bidder letter head)	
13	All the relevant Type test certificates as per relevant IS/IEC (CPRI/ERDA/other certified agency) if applicable	
14	Project/supply Completion certificates	
15	Performance certificates	
16	Client Testimonial/Performance Certificates	
17	Credit rating/solvency certificate	
18	Undertaking regarding non blacklisting (On company letter head)	
19	List of trained/untrained Manpower	

Seal of the Bidder:***Signature:******Name:***

CENTRALIZED CONTRACTS GROUP

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ANNEXURE VI: Acceptance form for Participation in Reverse Auction Event*(To be signed and stamped by the bidder)*

In a bid to make our entire procurement process more fair and transparent, CCG intends to use the reverse auctions as an integral part of the entire tendering process. All the bidders who are found as technically qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

The following terms and conditions are deemed as accepted by the bidder on participation in the bid event:

1. CCG shall provide the user id and password to the authorized representative of the bidder. *(Authorization Letter in lieu of the same shall be submitted along with the signed and stamped Acceptance Form).*
2. CCG will make every effort to make the bid process transparent. However, the award decision by CCG would be final and binding on the supplier.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of CCG, bid process, bid technology, bid documentation and bid details.
4. The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.
5. In case of bidding through Internet medium, bidders are further advised to ensure availability of the entire infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitch, internet response issues, software or hardware hangs, power failure or any other reason shall not be the responsibility of CCG.
6. In case of intranet medium, CCG shall provide the infrastructure to bidders. Further, CCG has sole discretion to extend or restart the auction event in case of any glitches in infrastructure observed which has restricted the bidders to submit the bids to ensure fair & transparent competitive bidding. In case of an auction event is restarted, the best bid as already available in the system shall become the start price for the new auction.
7. In case the bidder fails to participate in the auction event due any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be out-rightly rejected.
8. The bidder shall be prepared with competitive price quotes on the day of the bidding event.
9. The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR at Discom site / store.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder.
11. No requests for event time extension of auction event shall be considered by CCG.
12. The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all-inclusive prices offered during conclusion of the auction event for arriving at Contract amount.

[Signature & Stamp of Bidder]

TPCODL

TP Central Odisha Distribution Limited

TPNODL

TP Northern Odisha Distribution Limited

TPSODL

TP Southern Odisha Distribution Limited

TPWODL

TP Western Odisha Distribution Limited

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NIT No.: TPCODL / CCG / 2025-26 / 1000002512

ANNEXURE VII: General Conditions of Contract*Attached Separately with Tender***ANNEXURE VIII: Safety Policy and Safety Terms & Conditions***Attached Separately with Tender***ANNEXURE IX: Tata Code of Conduct***Attached Separately with Tender**Also Refer:* <https://www.tata.com/about-us/tata-code-of-conduct>**ANNEXURE X: Environment & Sustainability Policy***Attached Separately with Tender*

TPCODL

TP Central Odisha Distribution Limited

TPNODL

TP Northern Odisha Distribution Limited

TPSODL

TP Southern Odisha Distribution Limited

TPWODL

TP Western Odisha Distribution Limited

CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512****ANNEXURE XI: Authorization Letter Format**

(To be presented by the authorized person at the time of opening of Bid on the letter head of Bidder and should be signed by an Authorized Signatory with Name and Seal of the Company)

Chief - Central Contracts Group

Tata Power Odisha DISCOMs

Plot-29 Anuj Building

Satya Nagar Bhubaneshwar

SUB: Tender for**Ref: Tender No..... dated.**

Dear Sir,

This has reference to your above Tender. Mr. / Miss / Mrs. _____ is hereby authorized to attend the bid opening of the above Tender on _____ on behalf of our organization.

The specimen signature is attested below:

Specimen Signature of Representative

Signature of Authorizing Authority
Name & Designation of Authorizing Authority

NOTE: This Authorization letter is to be carried at the time of Bid Opening

CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512****ANNEXURE XII: Instructions to Bidder for participation in ARIBA System**

Bids are to be submitted only through online e-procurement platform, ARIBA. Any other form of bid submission will not be accepted. Online Link for submission of bid through ARIBA will be sent only after confirmation of payment of tender fee from bidder.

Step 1: The bidder can get primary information about the tender from the Newspaper advertisement. Tender documents can be downloaded from TP Odisha DISCOMs' websites:-

www.tpcentralodisha.com, www.tpnodl.com, www.tpsouthernodisha.com, www.tpwesternodisha.com

Step 2: Non-Refundable Tender Participation Fee, as indicated in tender document, to be submitted before last date of tender fee payment, in the form of direct deposit / NEFT / RTGS in the following bank account.

Account Name: TP Central Odisha Distribution Limited

Bank Name: State Bank of India,

IDCO Towers, Bhubaneswar

Bank Account No. : 10835304915

IFSC Code: SBIN0007891

Step 3: Eligible and Interested bidder shall send an email to Package Owner (Ref. Clause 4.0 for details) attaching duly signed and stamped letter on Bidder's letterhead, with following details, expressing their intent to bid against above tender:

Sr. No	Description	Bidder's Response
i)	Tender Enquiry No.	
ii)	Description of materials / Works Tendered	
iii)	Name and address of the bidding company	
iv)	Name of the authorized contact person	
v)	Contact No. of authorized person	
vi)	E-mail Id to which online ARIBA link to be sent	
vii)	Tender Fee details (Amount / NEFT-RTGS UTR No / Date) (Ref sec 1.2)	
viii)	GST No. of bidder	
ix)	MSME Certificate (if applicable)	
x)	Postal address of bidder for return of EMD BG	

CENTRALIZED CONTRACTS GROUP**NIT No.: TPCODL / CCG / 2025-26 / 1000002512**

E-mail has to be sent to umesh.sahoo@tpnodl.com with copy to sony.jha@tpcentralodisha.com before “Last date and time for payment of Tender Participation Fee”.

Step 4: On receipt of the document as mentioned in Step 3 above and after due verification of the same, ARIBA link for participation in the tender will be sent to bidder's e-mail address from ARIBA system.

Step 5: In this e-mail online link as “**Click Here**” shall be there to access the event & participate in the tender.

Step 6: First time bidders need to **Sign Up** for accessing the event. Create User Name and password as mentioned in Sign Up page. A one-page registration screen will open for first time user. All * mark mandatory field to be filled in.

Those who are already having User Name and password for accessing events, may LOGIN using same User Name and password. (Bidder's user name and password for their other customer shall not be applicable for TPCODL / TPWODL / TPNODL / TPSODL)

Step 7: Post login, access the RFQ

Step 8: After review and downloading of all documents click on “**Review Pre-requisites**”

Step 9: Review and accept “**Bidder Agreement**”.

Step 10: Tender document (PDF) can be downloaded from relevant section in Ariba Portal

Step 11: Technical Bid Submission: Bidder has to attach pdf version of technical bid in section relevant to technical bid submission. Uploading any price related information in this section shall lead to bidder rejection.

Step 12: Price Bid Submission: Price schedule as attached in relevant section has to be downloaded. Price and tax details to be filled-in as per the format. PDF version of duly filled price bid to be uploaded in relevant section. Price bid to be mandatorily signature & sealed by authorized person on Company letter head. For Price Bid put all the unit price and taxes and duties in provided field. Put "NA" in not applicable field.

Step 13: After successfully uploading Techno commercial offer and price part, click - “**Submit Entire Response**”

TECHNICAL SPECIFICATION THREE PHASE LTCT METER

CONTENTS

- 1.0 SCOPE**
- 2.0 APPLICABLE STANDARDS**
- 3.0 CLIMATIC CONDITIONS OF THE INSTALLATION**
- 4.0 GENERAL TECHNICAL REQUIREMENTS**
- 5.0 GENERAL CONSTRUCTIONS**
- 6.0 NAME PLATE AND MARKING**
- 7.0 TESTS**
- 8.0 TYPE TEST CERTIFICATES**
- 9.0 PRE-DESPATCH INSPECTION**
- 10.0 INSPECTION AFTER RECEIPT AT STORE**
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- 12.0 PACKING**
- 13.0 TENDER SAMPLE**
- 14.0 QUALITY CONTROL**
- 15.0 MINIMUM TESTING FACILITIES**
- 16.0 MANUFACTURING ACTIVITIES**
- 17.0 SPARES, ACCESSORIES AND TOOLS**
- 18.0 DRAWING AND DOCUMENTS**
- 19.0 GURANTEED TECHNICAL PARTICULARS**

1	SCOPE	This specification covers the technical requirements of design, manufacturing, testing at meter manufacturer's works ,packing, forwarding, supply and unloading at store/site of three phase four Wire,3x230 voltage,100/5A, 200/5A current transformer operated ac static meters of accuracy class 0.5S (here after referred as meters) complete with all accessories for efficient and trouble free operation with communication module (NIC) compatible with 4G technology. It is not the intent to specify completely herein all the details of tech design and construction of material. However, the material shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in manner acceptable to the TPXODL, who will interpret the meanings of drawings and specification and shall have the power to reject any work or material which, in his judgment is not in accordance therewith. The offered material shall be complete with all components necessary for their effective and trouble free operation. Such components shall be deemed to be within the scope of Bidder's supply irrespective of whether those are specifically brought out in this specification and/or the commercial order or not.																														
2	APPLICABLE STANDARDS	The equipment covered by this specification shall conform to the requirements stated in latest editions & amendments of relevant Indian/ IEC Standards and shall conform to the regulations of local statutory authorities. <table border="1"> <tr> <td>a</td><td>IS 16444 part 2 : 2017</td><td>A.C. Static Transformer operated watt hour and VAR-hour meters, class 0.2s, 0.5s & 1.0S</td></tr> <tr> <td>b</td><td>IS 15959 Part 3 :2017</td><td>Data exchange for electricity meter reading, tariff and load control</td></tr> <tr> <td>c</td><td>IS 9000</td><td>Basic Environmental testing procedure for electrical and electronic items.</td></tr> <tr> <td>d</td><td>IS 12346:1999</td><td>Testing Equipment For Ac Electrical Energy Meters</td></tr> <tr> <td>e</td><td>IS 11000</td><td>Fire Hazard Testing</td></tr> <tr> <td>f</td><td>IEC 62052 Part 11 : 2003</td><td>Electricity metering equipment (AC) - General requirements , tests and test conditions – metering equipment</td></tr> <tr> <td>g</td><td>IEC 62053 Part 22 : 2003</td><td>Electricity metering equipment (a.c.) - Particular Requirements - Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)</td></tr> <tr> <td>h</td><td>IS 15707 : 2006</td><td>Testing Evaluation installation and maintenance of AC Electricity Meters- Code of practice.</td></tr> <tr> <td>I</td><td>IEC 60068</td><td>Environmental testing.</td></tr> <tr> <td>J</td><td>CBIP–TR No.325</td><td>Specification for A.C. Static Electrical Energy Meters (latest amendment)</td></tr> </table>	a	IS 16444 part 2 : 2017	A.C. Static Transformer operated watt hour and VAR-hour meters, class 0.2s, 0.5s & 1.0S	b	IS 15959 Part 3 :2017	Data exchange for electricity meter reading, tariff and load control	c	IS 9000	Basic Environmental testing procedure for electrical and electronic items.	d	IS 12346:1999	Testing Equipment For Ac Electrical Energy Meters	e	IS 11000	Fire Hazard Testing	f	IEC 62052 Part 11 : 2003	Electricity metering equipment (AC) - General requirements , tests and test conditions – metering equipment	g	IEC 62053 Part 22 : 2003	Electricity metering equipment (a.c.) - Particular Requirements - Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)	h	IS 15707 : 2006	Testing Evaluation installation and maintenance of AC Electricity Meters- Code of practice.	I	IEC 60068	Environmental testing.	J	CBIP–TR No.325	Specification for A.C. Static Electrical Energy Meters (latest amendment)
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3	CLIMATE CONDITIONS OF THE INSTALLATION	a) Max. Ambient Temperature : 70 deg.C b) Max. Daily average ambient temp.: 40 deg.C c) Min Ambient Temp : -10 deg C d) Maximum Humidity : 100% e) Minimum Humidity : 10% f) Average No. of thunderstorm days per annum : 50 g) Maximum Annual Rainfall : 760 mm h) Average No. of rainy days per annum : 60 i) Rainy months : June to Oct. j) Altitude above MSL not exceeding : 300 meters k) Wind Pressure : 126 kg/sq m up to an elevation at 10 m. The atmosphere is generally laden with mild acid and dust in suspension during the dry months and is subjected to fog in cold months. The design of equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.3 g.																		
4	GENERAL TECHNICAL REQUIREMENTS	<table> <tr> <th>S.No.</th><th>DESCRIPTION</th><th>REQUIREMENT</th></tr> <tr> <td>4.01</td><td>Type of the meter</td><td>Three phase four wire, current transformer operated static watt-hour meter. It consisting of measuring elements(s), time of use of register(s) and display and plug in type bi-directional communication module all integral within the meter housing.</td></tr> <tr> <td>4.02</td><td>Accuracy Class of the meter</td><td>0.5S</td></tr> <tr> <td>4.03</td><td>Basic Current (Ib) & rated Maximum current (Imax)</td><td>Ib= 5A; Imax= 10 Amps</td></tr> <tr> <td>4.04</td><td>Reference Conditions for testing the performance of the meter</td><td>Vref = 230 V Frequency = 50Hz Temperature= 27 °C</td></tr> <tr> <td>4.05</td><td>Operating Voltage</td><td>Meter shall be operational with required accuracy from 0.6 Vref to 1.2 Vref. However meter shall withstand the maximum system Voltage of</td></tr> </table>	S.No.	DESCRIPTION	REQUIREMENT	4.01	Type of the meter	Three phase four wire, current transformer operated static watt-hour meter. It consisting of measuring elements(s), time of use of register(s) and display and plug in type bi-directional communication module all integral within the meter housing.	4.02	Accuracy Class of the meter	0.5S	4.03	Basic Current (Ib) & rated Maximum current (Imax)	Ib= 5A; Imax= 10 Amps	4.04	Reference Conditions for testing the performance of the meter	Vref = 230 V Frequency = 50Hz Temperature= 27 °C	4.05	Operating Voltage	Meter shall be operational with required accuracy from 0.6 Vref to 1.2 Vref. However meter shall withstand the maximum system Voltage of
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				440V between phase and neutral (for minimum 5 min).
		4.06	Operating Frequency	50 Hz $\pm$ 5%.
		4.07	Power Consumption	Voltage circuit: Maximum 5W and 15 VA Current Circuit :Maximum 1VA (The additional power requirement during data transmission shall not exceed 7W as mentioned in IS 16444 whichever is lower, per communication module)
		4.08	Starting Current	5mA (0.1% of Ib)
		4.09	Short time over Current	200 A for 0.5sec (20Imax)
		4.10	Influence of heating	Temperature rise at any point of the external surface of the meter shall not exceed by more than 20K with an ambient temperature at 50° C.
		4.11	Rated Impulse withstand voltage	6KV (shall be applied ten times with one polarity and then repeated with the other polarity and minimum time between each impulse to be 3 sec)
		4.12	AC withstand Voltage for 1 min	4 KV
		4.13	Minimum Insulation resistance at test voltage 500 $\pm$ 50 V dc a) Between frame & current ,voltage circuits as well as auxiliary circuits connected together: b) Between each current (or voltage circuit) & each and every other circuit. :	a) 5 M ohm b) 50 M ohm.
		4.14	Mechanical requirements	Meter shall be in compliance with clause 12.3 of IS 14697 and IS16444 part 2
		4.15	Resistance to heat and fire	The terminal block and Meter case shall ensure safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them as per clause 6.8 of IS 14697. Fire retardant material shall be used.
		4.16	Protection against penetration of dust and water.	Degree of protection:IP 51 as per IS 12063/60529, but Without suction in the meter. Meter shall comply with clause 6.9 and 12.5 of IS 14697

		4.17	Resistance against Climatic influence.	Meter shall be in compliance with clause 12.6 of IS 14697.
		4.18	Electromagnetic Compatibility (EMC)	Meter shall be in compliance with clause CBIP report 325 and IS14697
		4.19	Accuracy requirements	Meter shall be in compliance with clause 11 of IS 14697& IS16444 part-2.
		4.20	Power factor range	Zero lag to Zero lead. & meter shall be programed at default 'lag only configuration i.e. Lead to be treated as unity for kVA&KVAh calculations'
		4.21	Energy measurement	Fundamental energy +Energy due to Harmonics
		4.22	Connection Diagram	The connection diagram for the system shall be provided on terminal cover.
		4.23	Self Diagnostic feature	The meter shall have logging with date and time in memory for un satisfactory /non-functioning of (i)Real Time Clock (ii) RTC battery (iii) Non Volatile Memory (iv) NIC card status
		4.24	Initial start up of meter	Meter shall be fully functional within 5 sec after reference voltage is applied to the meter terminals.
		4.25	Alternate mode of supply to the meters	In case of meter power failure , reading/data should be retrieved with the help of battery.
		4.26	Sleep Mode	Meter shall not go in sleep mode. Display should not be 'off' at any point of time when power up.
		4.27	Internal diameter of the terminal holes Depth of the terminal holes	5mm (minimum) 20 mm (minimum)
		4.28	Clearance between adjacent terminals	10 mm (minimum)
		4.29	Display	Backlit LCD, Scrolling, 10 seconds for each parameter minimum 8 digits for reading LCD display
		4.30	Security feature	Programmable facility to restrict the access to the information recorded at different security level such as read communication, write communication, firmware selection from remote etc.
		4.31	Software and communication compatibility	The bidder shall supply software required for local (MRI – conventional/4G) & remote (AMI) connectivity& Mobile Apk & BCS including required training to use the software free of cost. Following parameters may be updated multiple times during life cycle of meters over the air :

			Import mode to export Mode and vice versa. Accordingly Display parameters shall be updated remotely.
	4.32	Calibration	Meters shall be software calibrated at factory and modifications in calibration shall not be possible at site by any means. However parameters like RTC,TOD slots, DIP(billing & load survey), display parameters, billing date, etc. shall be reconfigure through MRI and remotely over the air (OTA)and any other support will be provided without any additional cost to TPXODL till the useful life of the meters.
	4.33	Usage Application	Indoor and Outdoor
	4.34	Chemical Bonding	Meter cover and body should have seamless chemically bonded, so that meter should not open without leaving clear mark.
	4.35	Communication module of meter for AMI	As per clause no 1.4 (b) of IS 16444 part 2. Meter should have provision of communication module compatible with both the variant mentioned in IS 16444 part 2. This module should be able to get connected to the WAN network of service provider (4G) of TPXODL. TPXODL intends to leverage 4G as the primary communication technology with hot swappable . Meter should be able to provide required power supply to NIC card provided by communication provider recommended by TPXODL. Size /form factor of NIC card will be provided by TPXODL to the bidder and bidder should make necessary arrangement for the same.
	4.36	Communication Layer Protocol	Should be as per clause 8.3 of IS 16444 part 2
	4.37	Key Management and Security Feature	Should be as per IS 15959 part 2 and 3
	4.38	Harmonics recording	The meter should record the current and voltage THD.The meter should record harmonics up to 20th harmonic Average THD of all phase for voltage THD and current THD. THD values shall have 15 minutes integration period in load survey. Accuracy of

				harmonics recording shall be as per meter accuracy class. The meter shall generate a flag/event whenever the threshold (user configurable) of the 5% THD of the load current and voltage is breached.
		4.39	The terminal pin arrangement	The terminal pin shall be 12 pin, zig zag arrangement with phase voltage terminal in between current terminals as mentioned in clause no. 5.2.12&13 (LTCT Box Sample to be taken from TPCODL for Terminal Fitment Check).
		4.40	The preferred meter size shall be	235x300x120mm (further the bidder can check details space available in existing LTCT box at our TPCODL MMG store before design)
4.1	NIC MODULE DETAILS & INTEGRATION	With the service providers offering 4G services, TPXODL intends to leverage 4G as the communication technology - The Network Interface Card for 4G shall be modular and pluggable. The NIC shall be interoperable for service provider - NIC card shall support remote Device Management Capability such as Reset, Configuration, Log Check, Ping, and over the air Firmware upgrade - NIC shall support two-way communications between smart meter & head-end system such as data exchange, configuration parameters exchange, alarms, operational commands, firmware upgrade of the meter as defined in IS16444 and IS15959. - NIC shall support push services, alarms services of the smart meter as defined in IS16444 and IS15959. 4G NIC card shall support communication protocols as prescribed by 4G HES supplier. - NIC shall also support on-demand / schedule reading, time sync, configuration and over the air firmware upgrade from the head-end system. - NIC shall have persistent network connectivity throughout as defined by 4G standards. It shall support self-configuring features. - NIC shall operate 24*7 and shall recover from any deadlock situation immediately in the field. - Support for possibility for provision of a unique certificate/key in each card for mutual authentication with the HES from security point of view. - NIC shall support standard security protocols. - NIC shall be compliant with cyber security norms. - NIC shall register with network i.e. login and logout of each terminal to the HES. It shall be recognized in the HES as authorized node. - Attributes such as Firmware version Billing profile, Events and Instantaneous parameter, Midnight Profile Hardware version, Signal strength values, packet error rate, should be pushed periodically to HES for effective communication management. - Billing profile once in a month Instantaneous parameter 4 times a day, Events once a day and alert as and when logged by meter, midnight profile once a day. Parameter Time of pushing of these profiles will be shared in GTP. - Data must be encrypted with AES-256 bit. - LED indication for System, Power ON indicator. - Colour coded LED (a) For latching on to the network (b) For latched on to the network (c) For data flow indication. - Meter display should have provision for showing if NIC card if : 1. Installed, 2. Getting Network, 3. Latched with HES, 4. Communicating with HES		

4.2	Communication capabilities and software feasibilities	4.3.1 The meter shall have facilities for data transfer locally through Meter Reading Instrument (MRI) (Using optical port/NIC card) and remotely by 4G with proper security via Plug in type NIC. Data transfer locally through optical port via MRI is desired along with data transfer through NIC card. The data downloaded in MRI/hand held device shall be integrated to HES data base. 4.3.2 It should be the responsibility of the bidder to ensure integration of meter into HES. For cellular fallback, the Module should have backward compatibility. The fall back provision shall be taken through optical port with external modem by TPXODL. Meter should be capable for sending all data from 4G NIC and optical port. 4.3.3 It shall be possible to reconfigure the meters for RTC, TOD slots reprogramming, DIP (Demand Integration period), billing date ,display parameters etc. through proper authentication process locally through MRI & BCS and remotely over the air (OTA). Meter data should remain intact with timings. And billing should be done whenever any above mentioned attribute is changed. The change should be recorded as upgrade event. 4.3.4 Necessary keys if required for performing this reconfiguration operation should also be provided along with supply of meter lot & training to TPXODL staff on how to use it free of cost. Bidder to provide this support on a later stage also on the request of TPXODL without any cost implication. 4.3.5 Optical Communication port shall be available for communication. Communication ports shall not be affected by any type of injection /unauthenticated signals and having proper sealing arrangement. The complete data shall be downloaded within 5 minutes OTA. 4.3.6 Bidder to ensure integration of meter data with head end for data transfer as mentioned in specification. 4.3.7 Meter should be supplied to TPXODL along with integrated NIC card. NIC card should be plug in type with proper sealing arrangement. 4.3.8 The bidder shall supply software required for local (MRI) & remote (AMI) connectivity including required training to use the software free of cost. Bidder shall provide the communication protocol / APIs for communication with meter through local (MRI) / remote (AMI) as and when required by TPXODL free of cost during life time of meter. The bidder should provide DLMS compliance for Communication with the meter at Optical port and at HES. 4.3.9 Bidder should also provide software for changing/upgrading meter firmware in mass and should support integration of this software with HES. Bidder should also provide base computer software (BCS) for viewing the data downloaded through HES/MRI/laptop/HHU in separate PC/laptop. Android based or windows based HHU shall be preferred.
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		4.3.10 For purpose of exercising control, like outage management, the meter should send abnormalities at the consumers' end like Power failure (Last Gasp) instantly, Power Restoration (First Breath) as event. Additional exceptional events should also be communicated to HES by meter immediately after the occurrence through 4.3.11 List of events to be reported should be configurable over the air(OTA).The meter should have "Last Gasp" and "First Breath" feature to facilitate sending alerts to the HES during fully powered off / On condition. 4.3.12 If there are 2 requests given for communication one from HES and other from local device, request from local device should supersede. 4.3.13 Last mile mesh network must support auto-registration and self-healing feature to continue operation using easiest possible available route in case of failure of any communication device in the mesh. Self-registrations in first communication. 4.3.14 Meter Serial no will be used for tagging of all data of the meters in all database (at HES / MDM/ DCU level etc). However, it will be the responsibility of the Bidder to establish the complete communication solution involving all the meters in the system. Bidder should come out with it requirements for integration of meter with HES and MDMS clearly during tender submission. 4.3.15 The Bidder's supplied meter with third party communication module should have suitable hand-shaking features to allow a third-party MDMS(procured by TPXODL) to configure, command, read and control smart meters installed at site.The Bidder shall extend all necessary assistance in developing the adaptor software through a third-party for facilitating the above. 4.3.16 Integration of meter software's with HES / MDMS for seamless transfer of data will also be in scope of bidder till the expiry of warranty of the meters. It is desired meter firmware up gradation/selection should be available over the air. Meter should be able to change to import/export mode if required with firmware upgrade/Profile Activation. In Import/Export Mode meter should work in Lag only configuration during import Instances and forward metering mode should get deactivated The required firmware and any required support for integration with HES shall be provided free of cost till the useful life of the meter. 4.3.17 Communication of the meter at optical port /OTA (WAN) should be as per IS 15959 (Part-2):2016. The optical port should be with proper lockable mechanism 4.3.18 Communication NIC/network should be immune with any external Magnetic field/ESD/Jammer/HV voltage influence such that it shall not affect the normal overall functionality. 4.3.19 Meter once powered up with NIC card should be self-detected by network and its basic name plate details & current readings are transferred to HES.Note- TPXODL Is also going to develop provision of downloading instantaneous data immediately after installation of the meter
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4.3.20 The required OBIS codes will be finalized with successful bidder. The bidder can offer desired codes from Blue Book ensuing the codes reserved or standardized by Bureau of Indian standards. The reserved codes in BIS are to be used/utilized as per guidelines of BIS and remaining codes from blue book can be used for communication of additional features mentioned in this specifications. This is to be done strictly with written approval from TPXODL after verification of proposed codes by manufacturer. In future if BIS adds any OBIS codes then the bidders to provide upgraded firmware with desired changes after in consultation and approval of TPXODL competent authority.

4.3.21 Meter display should have provision for showing if NIC card if : 1. Installed, 2. Getting Network, 3. Latched with HES, 4. Communicating with HES If there are any other codes OEM to specify the same. Preferred codes as given in the table below.

Table : Error Details:-		
Sr. No	Error Details	
1	All Good	Err 00
2	Meter NIC Communication failure	Err 01
3	Modem Initialization failure	Err 02
4	SIM not detected	Err 03
5	SIM invalid	Err 04
6	No GSM Network Coverage	Err 05
7	GPRS Network Registration Failure	Err 06
8	GPRS Registration denied	Err 07
9	No APN Configured	Err 08
10	GPRS Connection not establish	Err 09
11	HES IP/Port not configured	Err 10
12	HES Port not Open	Err 11

4.3.22

4.3.23 If any tamper occurs in power off situation, it should be pushed as soon as the meter is powered on.

4.3.24 Bidder to provide facility for Up-gradation / Modification of Firmware till the usefull life of meter which is assumed to be atleast 10 years

4.3.25 Following parameters may be updated multiple times during life cycle of meters over the air :

Import mode to export Mode and vice versa

Accordingly Display parameters shall be updated remotely.

4.3	Immunity against external influencing signals	4.3.1 Magnetic Field: Meter shall record accurate energy in case of any external influencing signals in line with IS 14697:1999 Cl.11.2 and variation in limits of error (upto 100% I_{max}) shall be as per the table 13 of IS 14697. Meter shall be immune to any magnetic field such that it shall not affect the normal overall functionality. However, in case of abnormal magnetic field as defined below meter shall perform as per the following actions: a. Meter shall log the event in its memory as "Magnet" with date and time stamp along with snapshot and the event logging threshold values as per table no. 1 in 4.5 b. The energy recording to shift on I_{max}, V_{ref}. with UPF. Abnormal Magnetic field is defined as below; a. Continuous DC magnetic induction: >0.20 Tesla ± 5% (Value of the magneto motive force to be applied shall be generally >10000 AT. b. AC magnetic induction: >10 milli Tesla (if produced with circular metal core with square cross section as specified in CBIP latest report with 2800 AT) c. Permanent Magnet: Immune up to 0.5T and Event logging >0.5T. 4.3.2 Electrostatic Discharge (ESD)
		Meter shall be immune up to 50 kV and shall record accurate energy as per IS-14697:1999/CBIP-325. Meter shall log the event into memory as 'ESD' with date & time stamp for any ESD greater than 50 kV with snap shot, the event logging threshold values as per table no. 1 in 4.5. 4.3.3 The shielding around the meter shall be such that it does not get affected by high Voltage and high energy or low energy impulse when comes in contact with meter from any side. 4.3.4 Meter should immune to high/low frequency jammer devices. Meter shall log the event in its memory as "JAMMER" with date and time stamp along with snapshot, the threshold values as per table no. 1 in 4.5. 4.3.5 The meter should be immune or log the tamper on application of any other higher magnetic field of any frequency waves, micro waves like magnetron etc. the threshold values as per table no. 1 in 4.5.

4.4	Neutral Disturbance & other tampers	4.4.1 The meter shall not saturate on passage of direct current, which can cause the meter either to stop recording/ record inaccurately. DC injection shall be tested both in phase and neutral. Measurement by meter shall not get influenced by injection of Chopped signal/ DC signal/ DC pulse upto 330V and for any value beyond this. Meter shall log the event into memory as 'Neutral Disturbance' with date & time stamp the thresholds are as per table no. 1 in 4.5 4.4.2 The meter should log event with snapshot when all three phase currents are zero and neutral current is present. 4.4.3 An event to be provided for invalid phase association with name 'Invalid phase association'										
4.5	Abnormal Tamper conditions	4.5.1 The meter shall record forward energy under all abnormal tampering conditions and shall be capable of recording occurrence and restoration of abnormal events listed below along with date & time and snap shots of individual voltages, currents, power factors, active energy and apparent energy at the time of occurrence of abnormal event and restoration of normal supply. 4.5.2 For all tamper events the time stamp and snapshot parameters shall be recorded at the start time of event for occurrence (T1) and for restoration the time stamp and snapshot parameters shall be recorded at the end time of the event (T3). 4.5.3 During abnormal & tamper conditions, the current shall be recorded as active current and line current. Each such event shall be provided with minimum count										
		of as per table no.1 to avoid missing of data amidst usual events (like power failure) due to the limitation of FIFO. Persistence time for occurrence and restoration for the events along with their threshold values shall be as per table no. 1 given below. 4.5.4 The events for which the restoration not occurred those should not be removed from meter memory and FIFO should not be applicable for unrestored event. 4.5.5 Tamper event logging along with snapshot during occurrences & restorations shall be as per table no.1. The smart meters manufacturing samples should start recording the abnormal influencing signals with intensity values as defined in the specifications. 4.5.6 All tamper/event logging thresholds values shall be configurable from remotes. Table No.1 <table><tr><td>Persistence Time for Occurrences</td><td>Persistence Time for Restoration</td><td>Threshold Value for Occurrence of Events</td><td>Threshold Value for Restoration of Events</td><td>Compartment Size</td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table>	Persistence Time for Occurrences	Persistence Time for Restoration	Threshold Value for Occurrence of Events	Threshold Value for Restoration of Events	Compartment Size					
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ESD/JAMMER=immediate (record only 1 event on first application & only one event for next 1min) (ESD)	ESD/JAMMER = 0 Hr 01 Min 0 sec (ESD) (should restore after 1 min. of last application)	Immunity up to 50 KV with NIC and logging of event>50 KV	Removal of ESD/JAMMER signal	25
Magnet = 0 Hr 2 Min 0 sec (MAG)	Magnet = 0 Hr 2 Min 0 sec (MAG)	>0.5 Tesla for permanent magnet OR DC magnetic induction >0.2T OR AC magnetic induction > 10 mT (of any frequency)	<0.5 Tesla for permanent magnet OR DC magnetic induction < 0.2T or AC magnetic induction <10 mT	25
Meter Top Cover Open (TC Open) Immediate	Meter Top Cover Open (TC Open) Immediate	If meter top cover is opened	NA	05 (Stay put Type)
Potential Missing = 0 Hr 10 Min 0 sec (PM)	Potential Missing = 0 Hr 2 Min 0 sec	Voltage < 70% of Vref AND current > 2% Ibasic	Voltage > 80% of Vref AND current > 2% Ibasic	25
Voltage Unbalance = 0 Hr 30 Min 0 sec (VU)	Voltage Unbalance = 0 Hr 2 Min 0 sec	20% or more between the phases and current > 2% Ibasic	Shall be less than 10 % between the phases and current > 2% Ibasic	25
CT Open (phase wise) = 0 Hr 10 Min 0 sec	CT Open (phase wise) = 0 Hr 2 Min 0 sec	$I_r + I_y + I_b + I_n \geq 10\%$ of Ibasic (vector Sum) AND Phase current < 1% of Ibasic with All current positive	$I_r + I_y + I_b + I_n < 5\%$ of Ibasic. (vector Sum) AND Phase current > 10% of Ibasic with All current positive	25
CT Reversal = 0 Hr 30 Min 0 sec (CTR)	CT Reversal = 0 Hr 2 Min 0 sec	Active current negative	Active current positive AND > 2 % Ibasic	25
Current Unbalance = 0 Hr 30 Min 0 sec (CU)	Current Unbalance = 0 Hr 2 Min 0 sec	Current difference $\geq 20\%$ between phases for 100/5A (10% for 200/5A ratio) and I min 10% of Ibasic	Current difference <10% between the phases for 100/5A (5% for 200/5A) and I min >5% of Ib	25

		Low Power Factor = 0 Hr 30 Min 0 sec (LPF)	Low Power Factor = 0 Hr 2 Min 0sec	I >1% of Ib and Power Factor ≤ 0.5 in any phase	I >1% of Ib and Power Factor ≤ 0.7 in respective phase	25
		Neutral Disturbance = 0 Hr 01 Min 0 sec (ND)	Neutral Disturbance = 0 Hr 2 Min 0 sec (ND)	Voltage >145% of Vref&Current >10% Ib OR Frequency < 47 Hz OR Frequency > 53 Hz OR DC voltage / signal/ pulse/ chopped signal injection	Voltage <115% of Vref&Current > 10% Ib AND Frequency > 47 Hz OR Frequency < 53 Hz	25
		Power On Off = 0 Hr 02 Min 0 sec	Power On Off = immediate	Actual Voltage off	Actual Voltage On	25
		Over Voltage = 0 Hr 30 Min 0 sec	Over Voltage = 0 Hr 2 Min 0 sec	Voltage > 130% of Vref	Voltage <110% of Vref	25

Over current= 0hr 30min 0sec (OL)	Over Current = 0hr 2min 0sec	>Preset value (default value set at 120%Ib)	I<100%Ib	25
Microwave immediate (record only 1 event on first application & only one event for next 1min)	Microwave 0 Hr 01 Min 0 sec (should restore after 1 min. of last application)	Any higher frequency magnetic waves, micro waves > 10 mT (or mutually decided)	Removal of device	25
Temperature Rise = 0 Hr 30 Min 0 sec (TR)	Temperature Rise = 0 Hr 02 Min 0 sec (TR)	Temperature >70 C	Temperature <60 C	25 (Stay put type)
NIC card Removed (Immediate)	NIC Card inserted (Immediate)	On removal of card	On insertion of card	20
Invalid Ph Association (Immediate)	PhAssociation (Immediate)	Change of phase Association	Restoration of phase Association	5

Note: "Meter shall have neutral CT for tamper identification and analysis."

4.5.7 Meter shall latch & store cumulative count and cumulative durations all the tampers events which have logged /occurred/stored in memory of meter from the date of energization till life of meter. Total tamper storage should be as per table1 above.

4.5.8 The meter shall record in export registers in case of reversal of all CT terminals. The meters are to be used for registration of energy consumed by the consumer,as such the meters shall be programmed for import mode and in case of reversal of energy direction (reversal of all CT terminals) meter shall register energy separately in export mode i.e. in case of CT reversal, meter shall record scalar (not vector sum) sum of energy.

4.5.9 The meter shall register correctly if supply neutral is not available at the meter neutral terminal. The meter shall work in absence of any two incoming wires. It shall keep recording correctly in case of unbalance system voltage also as defined above.

		4.5.10 The meter shall keep working accurately irrespective of the phase sequence of the supply. The meter shall be functional even if somehow change in the phase sequence takes place. Meter shall sufficiently record this event as reverse sequence. 4.5.11 An event to be provided for invalid phase association with name 'Invalid phase association' 4.5.12 The Meter Shall be able to differentiate between actual CT reversal and condition arising out of unbalanced / unhealthy capacitor bank. The logics for the same to be provided in tender samples also. 4.5.13 The Cover Open tamper detection should be through heavy duty, sturdy two number micro switches with OR gate logic such that it should not log false event on vibration or impact during handling or testing. OEM should provide all required features as per OERC billing criteria in meter even if it is not mentioned in the specifications.
4.6	Event compartments	4.6.1 The event compartments shall be IS 15959 Part-1 table 9. 4.6.2 The size of the event compartments should be such that all above events (in table no.1 and other required events defined in various clauses of this documents) are accommodated in the assigned event category compartment. i.e. if in case of voltage compartment assigned to 4 number of events then the minimum size of this compartment should be such that it should accommodate sum of all maximum number of events as marked above table 1 . 4.6.3 Transaction events compartment size shall be minimum 100 events.
5	GENERAL CONSTRUCTIONS	The Meter shall be designed and constructed in such a way as to avoid introducing any danger in normal use and under normal conditions, so as to ensure especially personal safety against electric shock, safety against effect of excessive temperature, protection against spread of fire, protection against penetration of solid objects, dust and water. All parts, which are subject to corrosion under normal working conditions, shall be protected effectively. Any protective coating shall not be liable to damage by ordinary handling or damage due to exposure to air, under normal working conditions. The meters shall be designed and manufactured using SMT (Surface Mount Technology) components All the material and electronic power components used in the manufacture of the meter shall be of highest quality and reputed make to ensure higher reliability, longer life and sustained accuracy as given below or any other equivalent make with the strict approval of TPXODL:

S No	Component Function	Requirement	Makes and Origin
1.	Measurement/ computing chips	The Measurement/ computing chips used in the meter should be with the Surface mount type along with the ASICs	<u>USA:</u> Analog Devices, Cyrus Logic, Atmel, Phillips, Freescale semiconductor <u>South Africa:</u> SAMES <u>Japan:</u> NEC
2.	Memory chips/NVM	The memory chips should not be affected by the External parameters like sparking, high voltage spikes or electrostatic discharges. The life of NVM shall be 15 years.	<u>USA:</u> Atmel, National Semiconductors, Texas Instruments <u>Japan:</u> Hitachi or Oki <u>Swiss:</u> STMicro
3.	Display modules	The display modules should be well protected from the external UV radiations. The display visibility should be sufficient to read the meter mounted between height of 0.5m and 2m. The construction of the modules should be such that the displayed quantity should not be disturbed with the life of display. Should be with Green LED background. It should be trans-reflective STN type industrial grade with extended temperature range.	<u>Taiwan:</u> Holtek <u>Singapore:</u> Bonafied Technologies <u>Korea:</u> Advantek <u>China:</u> Xiamen, Truly semiconductor
4.	Optical port	Optical port should be used to transfer the meter data to meter reading instrument. The mechanical construction of the port should be such to facilitate the data transfer easily. It should be magnetic locking type	<u>USA:</u> National Semiconductors <u>Holland / Korea:</u> Phillips <u>Taiwan:</u> MAXIM, Everlight <u>Japan:</u> Hitachi
5	P.C.B.	Glass Epoxy, fire resistance grade with minimum thickness 1.6 mm	<u>A class consumer</u>
6.	Electronic components	The active & passive components should be of the surface mount type & are to be handled & soldered by the state of art assembly processes.	<u>USA:</u> National Semiconductors, Atmel, Phillips, Texas Instruments, Vishay <u>Japan:</u> Hitachi, Oki, AVX or Ricoh <u>Korea:</u> Samsung
7.	Battery	Lithium with guaranteed life of 15 years	Varta / Tedirun/Vitrocell / Sanyo

		<table><tr><td>8.</td><td>Micro controller and RTC having separate battery</td><td>The accuracy of RTC shall be as per relevant IEC / IS standards and RTC shall be provided with separate battery in its ckt.. The microcontroller shall be of superior quality from Reputed make with long life.</td><td>USA: Philips , Dallas, Atmel, Motorola <u>Japan:</u> NEC or Oki</td></tr><tr><td>9.</td><td>Temperature sensor</td><td>Temperature sensor shall be internal to the meter and its accuracy shall be as per relevant IEC / IS standards. The OEM test report to be furnished. With good performance till life of meter.</td><td>USA: Philips , Dallas, Atmel, Motorola <u>Japan:</u> NEC or Oki</td></tr></table>	8.	Micro controller and RTC having separate battery	The accuracy of RTC shall be as per relevant IEC / IS standards and RTC shall be provided with separate battery in its ckt.. The microcontroller shall be of superior quality from Reputed make with long life.	USA: Philips , Dallas, Atmel, Motorola <u>Japan:</u> NEC or Oki	9.	Temperature sensor	Temperature sensor shall be internal to the meter and its accuracy shall be as per relevant IEC / IS standards. The OEM test report to be furnished. With good performance till life of meter.	USA: Philips , Dallas, Atmel, Motorola <u>Japan:</u> NEC or Oki
8.	Micro controller and RTC having separate battery	The accuracy of RTC shall be as per relevant IEC / IS standards and RTC shall be provided with separate battery in its ckt.. The microcontroller shall be of superior quality from Reputed make with long life.	USA: Philips , Dallas, Atmel, Motorola <u>Japan:</u> NEC or Oki							
9.	Temperature sensor	Temperature sensor shall be internal to the meter and its accuracy shall be as per relevant IEC / IS standards. The OEM test report to be furnished. With good performance till life of meter.	USA: Philips , Dallas, Atmel, Motorola <u>Japan:</u> NEC or Oki							
Note- Any Deviations related to above table needs prior Approval										
5.1	Meter Body	5.1.1 Meter body shall be made of unbreakable, high grade, fire retardant reinforced Insulating material (protective Class II) with FV0 Fire Retardant, self - extinguishing, UV stabilize, recyclable and Anti oxidation properties. 5.1.2 The minimum thickness of the meter enclosure shall be 2mm. 5.1.3 Meter base shall be opaque with polycarbonate LEXAN 500R or equivalent on prior approval from the TPXODL. (If different material offered the bidders should submit material data sheet in technical bid) 5.1.4 Meter cover shall be transparent with polycarbonate LEXAN 143R/943A or equivalent on prior approval from the TPXODL. (If different material offered the bidders should submit material data sheet in technical bid) 5.1.5 Meter cover & base shall be provided with continuous and seamless chemical welding such that it is not opened without breaking the enclosure. Front cover & base shall be such that it is not possible to cut & open the meter without certainly damaging the meter body and by no means shall an attempt to reassemble would not leave physical evidence. The damage evidences should be visible externally& should be traceable in such a way that attempts can be proved in court of law. 5.1.6 The meter body shall be sealed in such a way that opening of meter base and cover is possible only after breaking the seal(s). 5.1.7 During meter manufacturing the meter seal fixing should be tightened such that the seal body should be close to meter body. 5.1.8 Unidirectional screws to be used on meter covers where ever required. 5.1.9 The Meter body shall be such that the liquid or chemical shall not reach the electronic parts if liquid is injected from any side of meter body such as meter								

		terminals, push button, display, NIC card casing etc. Necessary protection and water tight sealing to be provided at terminals and Push buttons etc.
5.2	Terminals, Terminal Block	5.2.1 Terminal block should be in single mould with meter body base. (Not separate) 5.2.2 After any attempts the terminal block should not be able to disengaged, opened or loosen from any side. Any attempt to disengage the terminal block should certainly damage the meter body with physical evidences. The damage evidences should be visible externally & should be traceable in such a way that attempts can be proved in court of law. 5.2.3 Terminals may be grouped in terminal block having adequate insulating properties and mechanical strength. In order to satisfy such requirements when choosing insulating materials for the terminal block adequate testing of materials shall be taken into account. 5.2.4 Terminal block and terminal cover shall be of a material which complies with the requirements of IS11731 (part 1) method FH1. The material of which the terminal block is made shall be capable of passing the Heat Deflection temperature test given in ISO 75 for temperature of 135°C and pressure of 1.8MPa as mentioned in IS 14697. Tested as per ISO 75-2/A or ASTM D648. 5.2.5 The terminal block shall be of opaque with polycarbonate LEXAN500R or equivalent on prior approval from the TPXODL. (If different material offered the bidders should submit material data sheet in technical bid) 5.2.6 The terminals and connections shall be suitable to carry up to 100 % of I_{max} continuously. The size, design & material of Busbar /Shunt/Terminal shall be with suitable cross sectional area so that temperature rise will not be more than 20 °C above ambient temperature of 45°C at 100% of I_{max} loading for 06 hrs continuous. This test of temp. rise shall be done on tender samples & will also be done on any samples from any supplied lot. 5.2.7 The terminal block, the terminal cover and the meter case shall ensure reasonable safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them. 5.2.8 The manner of fixing the conductors to the terminals shall ensure adequate and durable contact such that there is no risk of loosening or undue heating. Terminal & screw should not be damaged during regular opening and tightening. 5.2.9 Internal diameter of the terminal holes shall be minimum 5 mm; minimum clearance between adjacent terminals shall be 10 mm. Minimum Depth of the terminal holes shall be of 20 mm. all terminals and screws should be nickel plated brass material. With (-) heads 5.2.10 Minimum two number of terminal screws to be provided per terminal wire.

		5.2.11 Terminal block shall be such that the risk of corrosion resulting from contact with any other metal part is minimized. Electrical connections shall be so designed that contact pressure is not transmitted through insulating material. 5.2.12 Meter terminal should have 12 pins, zig zag arrangement. Pin Diagram and measurements to be provided by TPCODL 5.2.13 Pin configuration shall be R-Cin, R volt, R-Cout, Y-Cin, Y volt, Y-Cout, B-Cin, B-volt, B-Cout, Neutral-in, N, N-out 5.2.14 The preferred meter size shall be HxWxT= 235x300x120mm. Height is from the base of the terminal block. Further the bidder can check the dimensions and space availability in the existing TPCODL meter boxes at our MMG department for accommodating the smart meters in same boxes and meter body design should be such that it should be fitted with the proper terminal arrangement in existing LTCT boxes of TPCODL.
5.3	Terminal Cover	5.3.1 Terminal cover shall be short type and transparent with polycarbonate LEXAN 143R/943A or equivalent on prior approval from the TPXODL. 5.3.2 Appropriate space shall be available for incoming /out going cables without damaging/stressing terminal cover (terminal cover design shall be as per the TPXODL approval). After sealing the cover, terminals shall not be accessible without breaking the seals. 5.3.3 The terminal cover design should be such that the sealing screw locking provision on cover should have min dimension of 3mmx3mm. (Excluding seal lock hole)
5.4	Sealing of meter, terminal cover, SIM Card installation and NIC cover	5.4.1 Reliable sealing arrangement shall be provided to make the meter tamper evident and to avoid fiddling or tampering by unauthorized persons. 5.4.2 For this, one no. Polycarbonate seal and three no. Hologram seal with unique serial numbers (on Left, Right & Top side) shall be provided by the bidder. 5.4.3. One polycarbonate seal shall be provided by the TPXODL. This seal shall be fix on right hand side of meter. 5.4.4. All the seals with unique serial numbers shall be fixed on meter body by the bidder at his works before calling for inspection. 5.4.5 Two sealing provision shall be provided at meter terminal cover, such that terminal shall not be accessible without breaking the seals. All the seals shall be provided on front side only and as per the TPXODL specification. Rear side sealing arrangement shall not be accepted. Bidder shall provide seals be as per CEA regulation (2006). Only patented seals to be used as per CEA requirements.

		5.4.6 The bidder shall provide TPXODL(MMG store and MTL) the soft record of polycarbonate seal and hologram seal serial number and NIC card serial number used against each meter serial number along with its position (RHS/LHS/Top/ NIC Cover) in tabular form for every lot of meter 5.4.7 Plug in type NIC card cover should have proper sealing arrangement. Sim Cards should be inserted in the meter before dispatched ,details of meter with respective SIM Card should be provided before GRN is done at TPXODL Central Store. One SIM card per meter will be provided by TPXODL. Keys of meter should also be provided at this stage to respective engineer of TPXODL without marking copy of this E-Mail to any other person										
5.5	TOD Feature	The meter shall be capable of measuring Cumulative Energy (kWh &kVAh), and MD (kW & kVA) with time of day (TOD) registers having 8 zones & 02 seasons (no. of zones& time slot shall be programmable by MRI/ Over the air with adequate security level and in one to one /broadcast mode over the air). Current TOD (during tender) to be given is as below, <table><tr><td>Time Slot</td><td>Remarks</td></tr><tr><td>0000 to 0800 AM</td><td>Normal Hour</td></tr><tr><td>0800AM TO 0400PM</td><td>Solar Hour</td></tr><tr><td>0400PM TO 0600PM</td><td>Normal Hour</td></tr><tr><td>0600 PM To 1200 Mid Night</td><td>Peak Hour</td></tr></table> # The bidder to ask TPXODL for latest TOD timing slots before manufacturing of every lot.	Time Slot	Remarks	0000 to 0800 AM	Normal Hour	0800AM TO 0400PM	Solar Hour	0400PM TO 0600PM	Normal Hour	0600 PM To 1200 Mid Night	Peak Hour
Time Slot	Remarks											
0000 to 0800 AM	Normal Hour											
0800AM TO 0400PM	Solar Hour											
0400PM TO 0600PM	Normal Hour											
0600 PM To 1200 Mid Night	Peak Hour											
5.6	MD Integration	The MD integration period shall be 15 minutes (integration period-programmable by MRI at site and also thru AMR with adequate security level). The MD resetting shall be automatic at the 1st of the month i.e. 0000 hours of 1st day of the month. Manual MD reset button shall not be available. Last 6 MD values shall be stored in the memory and one to be displayed in the Auto scroll mode. MD shall be recorded and displayed with minimum three digits before decimal and minimum two digits after decimal points.MD integration shall be of sliding Type at an interval of 5 min.										
5.7	ParametersinBCS	All these parameters shall be downloaded locally or remotely and interpreted in PC/Laptop.All the parameters shall be recorded and memorized in its Non volatile Memory (NVM). The corresponding non volatile memory shall have a minimum retention time of 10 years.Last twelve months history data (kWh &kVAh* (lag only) cumulative & TOD reading and MD(kW & kVA*(lag only) current, history& TOD) with data and time) and at least last 25 tamper events for each tamper shall be available in the non volatile Memory. Fail' to be log in memory in the following conditions only in BCS not in display a) RTC fail b) NVM memory fail c) Battery fail d) NIC card status 'High THD' to be log in memory in the following conditions only in BCS not in display										

		e) THDV any phase higher than threshold f) THDI any phase higher than threshold *Meter shall be programed at default ‘lag only’ configuration i.e. Leading power factor to be treated as unity for kVA & kVAh calculations. All the parameters shall be as per actual without multiplying factor.																																
5.7.1	Load survey(for pre-paid & postpaid meter mode)	The meter shall be capable of recording 15 minutes average of the following parameters for at least last 45 days a) Voltage for each phase b) Current of each phase c) Actual Neutral current d) Average PF e) Average kWh f) Average kVAh (lag only) g) kVArh(Lagging) h) kVArh(Leading) i) Demand KW j) Demand KVA k) THD Voltage phase wise l) THD Current phase wise Meter shall be capable of recording daily Energy and Demand 00:00 to 24:00 Hrs kWh/kVAh, kW/kVA in BCS for 45 days. Midnight energy value of cumulative kWh/kVAh and daily consumption kWh/kVAh should be available in meter memory for last 45 days. Load survey data should be at least with 3 decimal place.																																
5.7.2	Instantaneous Parameters	Meter shall be capable for following Instantaneous Parameters in Memory and should be available in BCS. <table><tr><td>Meter Sr.No.</td><td></td></tr><tr><td>Meter Type</td><td></td></tr><tr><td>Meter date & Time</td><td>DD MM YYYY HH MM SS</td></tr><tr><td>Voltage –R</td><td>000.000V</td></tr><tr><td>Voltage –Y</td><td>000.000V</td></tr><tr><td>Voltage –B</td><td>000.000V</td></tr><tr><td>Line Current -R</td><td>00.000A</td></tr><tr><td>Line Current -Y</td><td>00.000A</td></tr><tr><td>Line Current -B</td><td>00.000A</td></tr><tr><td>Actual Neutral Current</td><td>00.00A</td></tr><tr><td>Active Current –R</td><td>00.000A</td></tr><tr><td>Active Current –Y</td><td>00.000A</td></tr><tr><td>Active Current –B</td><td>00.000A</td></tr><tr><td>Reactive Current-R</td><td>00.000A</td></tr><tr><td>Reactive Current-Y</td><td>00.000A</td></tr><tr><td>Reactive Current-B</td><td>00.000A</td></tr></table>	Meter Sr.No.		Meter Type		Meter date & Time	DD MM YYYY HH MM SS	Voltage –R	000.000V	Voltage –Y	000.000V	Voltage –B	000.000V	Line Current -R	00.000A	Line Current -Y	00.000A	Line Current -B	00.000A	Actual Neutral Current	00.00A	Active Current –R	00.000A	Active Current –Y	00.000A	Active Current –B	00.000A	Reactive Current-R	00.000A	Reactive Current-Y	00.000A	Reactive Current-B	00.000A
Meter Sr.No.																																		
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Active Current –R	00.000A																																	
Active Current –Y	00.000A																																	
Active Current –B	00.000A																																	
Reactive Current-R	00.000A																																	
Reactive Current-Y	00.000A																																	
Reactive Current-B	00.000A																																	

General Information	Power factor-R	0.000
	Power factor-Y	0.000
	Power factor-B	0.000
	Average Power factor	0.000
	Instantaneous Frequency	00.000Hz
	Instantaneous Load	Active ,Reactive Lag/Lead, Apparent
	Present Cumulative Energy	Active ,Reactive Lag/Lead, Apparent
	Cumulative PowerOff Duration	00000
	Cumulative PowerON Duration	00000
	Cumulative Tamper count	00000
	Cumulative Tamper duration	00000
	Cumulative Billing Count	00000
	Last Billing date	dd:mm:yy
	No of Power failure	00000
	Vector/phasor diagram (also showing neutral current) In case one of the voltage is missing, vector should be madewith2 phase voltage and all currents.	
	Meter shall be capable for providing below mentioned general parameters in memory	
Meter Serial number Software Name Version Manufacture Name Manufacture Date (MM/YY) Meter Type Meter Class Meter Constant Meter Voltage Rating Meter Current Rating TOD profile showing timing and seasons #NIC Sr.no. NIC make		

		# if any additional key is required to see this value, it should be provided without any additional cost to TPXODL.
5.7.4	Billing Parameters	1) Cumulative kwh, kVAh (lag only), kVArh lead, lag (all import and export) and TOD1 kWh,TOD2 kWh,,TOD1 kVAh (lag only),TOD2 kVAh (lag only),, For present and last06 Resets (reset date for all resets/history, time zone register wise) 2) Maximum Demand Absolute Active Load and Absolute Apparent load and TOD1 kW,TOD2 kW,TOD3 kW,TOD1 kVA (lag only),TOD2 kVA (lag only), for present and last 06 Resets (reset date for all resets/history, time zone register wise) along with date and time stamp. 3) Billing Dates (6 History) 4) Cumulative Billing count 5) TOD details with day time and season wise. 6) Monthly power On/Off hours Last five modes with date & time of switching with cumulative energy parameters kWh, kVAh (lag only), kVArh lead, lag (all import and export) and TOD1 kWh,TOD2 kWh,TOD1 kVAh (lag only),TOD2 kVAh (lag only), Note : Meter must have provision of 8 time zones. Meter Should push mid night reads with all billing parameters and rising demand for KW and KVA on daily basis all the related data should be pushed at 3 AM on daily basis .
5.7.5	Transactions	All the changes in software of meter to be logged along with date & time stamp and readings indicating the particular parameter which has been programmed. Meter should do billing if any billing related transaction is done.
5.7.6	Tamper Events	All events should be logged as per table no-1. The meter should not have any other event logging or any logic other than desired in specs. If any other logic is present then bidder has to disclose during tender and offering of lot and get approval for same. All other logics not mentioned in specs should be removed or disabled in meter firmware if not approved by TPXODL.
5.8	Display units	The display unit shall be Pin type built-in liquid crystal display (Permanently backlit type LCD). The LCD shall be of STN (Super Twisted Nematic) construction suitable for maximum temperature withstands 65°C and minimum temperature withstands 0 °C during normal operating condition. The LCD display shall have a wide viewing angle of 120 degree. When the meter is not energized the electronic display need not be visible. The display shall not be affected by electrical, magnetic disturbances and ESD.

		The display should be readable in direct sunlight. The back lit must be green in color for good visibility of digits in sunlight. The kWh &kVAh register shall have minimum 8 digits reading LCD display and size of the digits shall be minimum 10mmx5mm. Cumulative energy (kWh &kVAh) shall be displayed without decimal in auto scroll mode. (However decimal shall be available in push button mode for high resolution display for testing). All the parameters shall be as per actual without multiplying factor.																																								
5.8.1	Auto Scroll mode	Persistence time for each parameter shall be 10 second. Values followed by header shall be avoided. (I.e. if MD1 is displayed in Auto scroll mode, Header (MD1) and value (say 025.238 kW) shall be shown simultaneously; it shall not be shown in successive displays. Off time shall not be available in auto scroll mode between each cycle. Auto scroll mode is restored after 10 sec, if push button is not operated. Display should not be stuck for any tamper events. The cumulative energies shall not have any decimal value. Following shall be continuously displayed in auto scroll and push button mode in the given order; <table><tr><th>Sr. No.</th><th>Auto Scroll Display</th></tr><tr><td>1</td><td>LCD CHECK</td></tr><tr><td>2</td><td>Meter Sr. No.* > Complete Meter Serial no. should be there in single shot.</td></tr><tr><td>3</td><td>dd:mm:yy Date</td></tr><tr><td>4</td><td>hh:mm:ss Time</td></tr><tr><td>5</td><td>C kWh Current Cumulative kWh</td></tr><tr><td>6</td><td>C kVAh (lag only) Current Cumulative kVAh</td></tr><tr><td>7</td><td>C kVArh lag Current Cumulative kVArh(lag).</td></tr><tr><td>8</td><td>C kVArh lead Current Cumulative KVArh(lead).</td></tr><tr><td>9</td><td>Individual cumulative kWh for T1,T2,T3,T4</td></tr><tr><td>10</td><td>Individual cumulative kVAh (lag only) for T1,T2,T3,T4</td></tr><tr><td>11</td><td>Current MD – kW</td></tr><tr><td>12</td><td>Current MD - kVA</td></tr><tr><td>13</td><td>H 1 kWh kWh reading on 1st of last month at 00.00 hrs.</td></tr><tr><td>14</td><td>H1 Individual cumulative kWh for T1,T2,T3,T4 for last month</td></tr><tr><td>15</td><td>H 1 MD in kW on 1st of last month at 00.00 hrs.</td></tr><tr><td>16</td><td>H 1 kVAh(lag only) reading on 1st of last month at 00.00 hrs.</td></tr><tr><td>17</td><td>H1 Individual cumulative kVAh (lag only) for T1,T2,T3,T4for last month</td></tr><tr><td>18</td><td>H 1 MD in kVA reading on 1st of last month at 00.00 hrs</td></tr><tr><td>19</td><td>H1 Avg. pf</td></tr></table>	Sr. No.	Auto Scroll Display	1	LCD CHECK	2	Meter Sr. No.* > Complete Meter Serial no. should be there in single shot.	3	dd:mm:yy Date	4	hh:mm:ss Time	5	C kWh Current Cumulative kWh	6	C kVAh (lag only) Current Cumulative kVAh	7	C kVArh lag Current Cumulative kVArh(lag).	8	C kVArh lead Current Cumulative KVArh(lead).	9	Individual cumulative kWh for T1,T2,T3,T4	10	Individual cumulative kVAh (lag only) for T1,T2,T3,T4	11	Current MD – kW	12	Current MD - kVA	13	H 1 kWh kWh reading on 1st of last month at 00.00 hrs.	14	H1 Individual cumulative kWh for T1,T2,T3,T4 for last month	15	H 1 MD in kW on 1st of last month at 00.00 hrs.	16	H 1 kVAh(lag only) reading on 1st of last month at 00.00 hrs.	17	H1 Individual cumulative kVAh (lag only) for T1,T2,T3,T4for last month	18	H 1 MD in kVA reading on 1st of last month at 00.00 hrs	19	H1 Avg. pf
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		20	Cumulative Billing count
		21	R Phase Voltage (Instantaneous value).
		22	Y Phase Voltage (Instantaneous value).
		23	B Phase Voltage (Instantaneous value).
		24	R Phase Current (Instantaneous value).
		25	Y Phase Current (Instantaneous value).
		26	B Phase Current (Instantaneous value).
		27	Instantaneous power factor Phase Wise PF1,PF2,PF3 with sign
		28	Instantaneous load in KW
		29	Instantaneous load in KVA
		30	Voltage Sequence R,Y,B
		31	Current Sequence R,Y,B
5.8.2	Push Button Scroll mode	Following parameters shall be displayed in Push button mode in the given order.	
		Sr. No.	Push Button Display
		1	LCD CHECK
		2	Meter Sr. No.* > Complete Meter Serial no. should be there in single shot.
		3	dd:mm:yy Date
		4	hh:mm:ss Time
		5	C () kWh Current Cumulative kWh
		6	C) kVAh (Lag only) Current Cumulative kVAh
		7	C kVArh lag Current Cumulative kVArh(lag).
		8	C kVArh lead Current Cumulative kVArh(lead).
		9	Individual cumulative kWh for T1,T2,T3,T4
		10	Individual cumulative kVAh(Lag only) for T1,T2,T3,T4
		11	Current MD – kW
		12	Current MD - kVA (lag only)
		13	H 1 kWh kWh reading on 1st of last month at 00.00 hrs.
		14	H 1 Individual cumulative kWh for T1,T2,T3,T4 for last month
		15	H 1 MD in kW on 1st of last month at 00.00 hrs.
		16	H 1 kVAh (Lag only) reading on 1st of last month at 00.00 hrs.
		17	H 1 Individual cumulative kVAh(Lag only) for T1,T2,T3,T4 for last month
		18	H1 MD in KVA on 1st of last month at 00.00 hrs
		19	H 1 Avg. pf
		20	Cumulative Billing count

		21	R Phase Voltage (Instantaneous value).
		22	Y Phase Voltage (Instantaneous value).
		23	B Phase Voltage (Instantaneous value).
		24	R Phase Current (Instantaneous value).
		25	Y Phase Current (Instantaneous value).
		26	B Phase Current (Instantaneous value).
		27	Instantaneous power factor for individual phases R,Y,B
		28	Instantaneous load in kW
		29	Instantaneous load in kVA
		30	Voltage phase sequence R, Y, B
		31	Current phase sequence R, Y, B
		32	In High resolution Cumulative kWh
		33	In High resolution Cumulative kVAh (lag only)
		34	In High resolution Cumulative kVArh Lag
		35	In High resolution Cumulative kVArh Lead
		36	MAG 00 (cumulative count)
		36a	Date of last occurrence
		36b	Time of last occurrence
		37	ESD 00 (cumulative count)
		37a	Date of last occurrence
		37b	Time of last occurrence
		38	TC OPEN 00 (cumulative count)
		38a	First occurrence date
		38b	First occurrence time
		39	Total tamper count 0000
		High Resolution Display	
		Sl No	2+4 Digits after Decimal
		1	Cumulative Kwh,
		2	Cumulative KvAh
		3	Cumulative Kvarh (Lag)
		4	Cumulative Kvarh (Lead)
		Meter display should be locked in high resolution mode by holding the push button for 10 seconds and meter should come out of high resolution mode after 5 Minutes if no further command is given .	

5.9	Output Device	5.9.1 Pulse Rate: The meters shall have a suitable test output device. 2 nos of Red color blinking LED (marked as imp/kWh and imp/Kvarh) shall be provided in the front. This device shall be suitable for using with sensing probe used with test benches or reference standard meters. The test output device shall have constant pulse rate of (preferred value- 400) pulse / kWh & pulse/kVArh. Meter constant shall be indelibly printed on the name plate as imp / kWh & imp/kVArh. Meter constant shall be as per actual without multiplying factor. 5.9.2 Communication LCD indicator- The meter shall be provided with with suitable LCD indication for communication in progress. 5.9.3 Phase indication : Individual phases should be displayed on LCD display of meter

6.0	NAME PLATE AND MARKING	Meters shall have a name plate clearly visible and effectively secured against removal. The name plate data should be laser printed. The base color of Name plate shall be blue(as of TPXODL logo)Indelibly and distinctly marked with all essential particulars as per relevant standards along with the following. i. Manufacturer's name ii. Type designation iii. Number of phases and wires iv. Serial number (Meter serial number shall be laser printed on name plateinstead on sticker). v. Month and Year of manufacture vi. Unit of measurement vii. Reference voltage ,frequency viii. Ref. temperature if different from 27 deg. C ix. Rated basic and maximum Current x. Meter constant (imp/kWh) xi. Meter constant (imp/kVArh) xii. 'BIS' Mark xiii. Class index of meter xiv. "Property of TPXODL" xv. Purchase Order No. & date xvi. Guarantee period. xvii. Rated frequency - xviii. Sign of double square xix. Country of manufacture. xx. Firmware version for meter xxi. Category xxii. Communication Tech for WAN and NAN(with carrier frequency) - xxiii. Communication Technology is IHD supported (with carrier frequency). However the following shall be printed in bar code/QR Code 1 on the meter nameplate.(shall be laser printed on name plate instead of any sticker). 1) Manufacturer's Name . 2) Meter Sr. No 3) PO Number Month/Year of manufacture.
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		Barcode /QR Code -2 Serial No details Given by TPXODL Barcode/QR Code 3 NIC card Serial No to be provided on NIC Card through QR/Bar Code The PCB Serial number should be printed on PCB instead of sticker. Content Format for bar code: XXXXXXXXXX(9-digit Serial no.) Bidder should ensure that NIC provided in meters are having laser printed Sr. No., MFG date, 'Property of TPXODL' marked, PO date and no. (same as that of meter PO)
7.0	TESTS	All routine, acceptance & type tests shall be carried out on the meter and meter body separately in accordance with the relevant IS/IEC. All routine/acceptance tests shall be witnessed by the TPXODL/his authorized representative. All the components shall also be type tested as per the relevant standards. Following tests shall be necessarily conducted in addition to the tests specified in IS/IEC.
7.1	TYPE TEST	1) All tests as defined in IS 16444 part-2 and IS 15959(Part-3):2016 2) Test against abnormal magnetic influence as per CBIP TR 325. 3) Smart meter communicability as per 15959 part-3 4) Meter shall be type tested as per BIS16444 part-2
7.2	ROUTINE TEST	1) AC High Voltage test 2) Insulation test 3) Test on limits of error 4) Test of starting current 5) Test of no load condition 6) Communication check of NIC
7.3	ACCEPTANCE TEST	1) AC High Voltage test 2) Insulation test Test on limits of error 3) Test of meter constant 4) Test of starting current 5) Test of no load condition 6) Test of repeatability of error. 7) Test of power consumption. 8) Test for Immunity against external influencing signal as per the TPXODL specification 9) Test for Immunity against DC Immunity as per the TPXODL specification 10) Test for Immunity against Tamper conditions as per the TPXODL specification 11) Error measurements with all abnormal condition along with ESD, magnet, jammer 12) Test to Influence of Harmonics 13) Supply voltage and frequency variation test 14) Testing of self diagnostic features 15) Tamper count increment and logging with date and time in meter database 16) All tests as defined in IS 15959(Part-2):2016

		18) Functionality of communication module is 16444 part2 19) smart meter communicability as per provision of 28 IS 15959 (part-3) 20) Meter reading on HES demand, Scheduled meter reading from HES, remote firmware upgrade from HES and all programming request from HES to be simulated and checked during inspections. 21) Physical check of NIC and replaceable ease of the NIC module in meter & logging 22) Any other test required as per latest IS 16444, 15999 and relevant parts shall be tested during inspections.
7.4	Special Test	The bidder shall demonstrate the communication capability of the meter through communication modes as defined in the specification before conducting acceptance tests.
8.0	TYPE TEST CERTIFICATE	The bidder shall furnish the type test certificates of the meter for the tests as mentioned above as per the corresponding standards. All the tests shall be conducted at CPRI/ ERDA/ UL laboratory as per BIS 16444 part-2. For communication testing any national approved laboratory or international acclaimed lab or equivalent will also suffice at the discretion of TPXODL. For technical evaluation of the tender, we may consider Type test report as per IS 14697. In such case the Bidder should provide IS16444-2 compliant test report before starting of supply of meters. Type test should have been conducted in certified Test Laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports i.e. any test report not acceptable or any/all type tests (including additional type tests, if any) not carried out, same shall be carried out without any cost implication to TPXODL.
9.0	PRE-DESPATCH INSPECTION	Inspection may be made at any stage of manufacture at the discretion of the TPXODL of the equipment, if found unsatisfactory as to workmanship or material, the same is liable to rejection. Equipment shall be subject to inspection by a duly authorized representative of the TPXODL. Bidder shall grant free access to the places of manufacture to TPXODL's representatives at all times when the work is in progress. Inspection by the TPXODL or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by TPXODL. Following documents shall be sent along with material - Pre Dispatch inspection reports - MDCC issued by TPXODL - Invoice in duplicate - Packing list

		e) Drawings & catalogue f) Delivery Challan g) Other Documents (as applicable) h) Guarantee / Warrantee card i) Meter No wise Seal & SIM Card details as per pre approved format j) Routine test report in hard copy to be provided alongwith each meter packed inside the meter box. Soft copy of the same to provided separately Note-Photographs of packed lot clearly showing s.no of meters whose inspection call has been requested should be sent along with letter for inspection call. Two meters from the offered lot shall be tested for all tampers at TPXODL laboratory for compliance to anti tamper feature before MDCC. The inspectors shall free to take any two meters from offered lot for testing at our Lab. Bidder should check and ensure each meter and reset each meter for any event logged for any tamper.
10.0	INSPECTION AFTER RECEIPT AT STORE	The material received at TPXODL's store shall be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection and one copy of the report shall be sent to Plant Engineering department.
11.0	GUARANTEE	Bidder shall stand guarantee towards design, materials, workmanship & quality of process / manufacturing of items under this contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the TPXODL up to a period of at least 60 months from the date of commissioning or 66 months from the date of last supplies made under the contract whichever is earlier, Bidder shall be liable to undertake to replace/rectify such defects at its own costs, within mutually agreed time frame, and to the entire satisfaction of the Company, failing which the TPXODL will be at liberty to get it replaced/rectified at bidder's risks and costs and recover all such expenses plus the Company's own charges (@ 20% of expenses incurred), from the bidder or from the " Security cum Performance Deposit" as the case may be. Bidder shall own responsibility for all internal component with an end to end agreement with individual component manufacturer.
12.0	PACKING	- Bidder shall ensure that all material covered under this specification shall be prepared for rail/road transport (local equipment) and be packed in such a manner as to protect it from damage in transit. The material used for packing shall be environmentally friendly. Packing and transportation shall be as per IS15707:206 clauses 9.1 and 9.2. - Individual meter should be packed in separate box. Routine test report (with manufacturing company logo) of the individual meter shall be kept inside each cardboard carton of the meter. - On back side of routine test certificate(RTC) the bidder shall print a picture of the meter with its small details like for consumer to know about meter or display parameters sheet. - The softcopy of the routine test certificate of each meter to be provided with each lot to TPXODL, MMG stores. - QR Code should be provided in meter cartoon in which meter serial no to be

		provided. These QR code should be readable using QR code scanner without changing the position of meter. 6. Cartoon Box should have suitable strength to stack them indoor store upto height of 6 cartoons.
13.0	SAMPLE	Tendering stage: Bidders are required to manufacture 03 numbers of sample meters as per the TPXODL specification (sealed, unsealed and openable base and cover to view/test the inner circuits) and submit the samples (non-returnable) along with bid for approval. The tender sample as per IS 16444 part 2 & IS 15959 shall be acceptable for verification and other checks. The samples shall be retained at TPXODL. Address of Dispatch: Meter Testing Lab.TPXODL Pre-manufacturing approvals: The successful bidder shall submit four prototype samples of meters at Meter Testing Lab, at location informed by TPXODL during submission time, for further testing and compliance as per specifications and get approval before mass manufacturing. Following accessories to be submitted along with sample at both stages: 1) Detailed manual 2) Communication cords 3) Tamper logic sheet 4) Display parameter annunciator 5) BCS 6) Internal connection diagram. All meters shall be supplied with 4G enabled Sim cards. Bidder to demonstrate all communication features and performance SLA on their HES.

14.0	QUALITY CONTROL	The bidder shall submit with the offer Quality assurance plan indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and fully assembled component and equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. Quality should be ensured at the following stages: • At PCB manufacturing stage, each board shall be subjected to computerized bare board testing. • At insertion stage, all components should under go computerized testing for conforming to design parameter and orientation. • Complete assembled and soldered PCB should under go functional testing using Automatic Test Equipment (ATEs). • Prior to final testing and calibration, sample meters shall be subjected to aging test (i.e. meters will be kept in ovens for 24 hours at 55 Deg. C temperature and atmospheric humidity under real-life condition at its full load current. After 24 hours meter should work satisfactorily. TPXODL's engineer or its nominated representative shall have free access to the bidder's/manufacturer's works to carry out inspections.
15.0	MINIMUM TESTING FACILITIES	Bidder shall have adequate in house testing facilities for carrying out all routine tests & acceptance tests as per relevant International / Indian standards. The bidder shall have duly calibrated Reference Standard meter of Class 0.02 accuracy or better. Bidder should have NABL accredited Lab for the acceptance test scope .
16.0	MANUFACTURING ACTIVITIES	The successful bidder will have to submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart shall be in line with the Quality assurance plan submitted with the offer. This bar chart will have to be submitted within 15 days from the release of the order.

17.0	SPARES, ACCESSORIES AND TOOLS	1. Bidder to be provide free of cost 02 nos of jig (irrespective of order lot) for retrieving data from memory of meter with every new design of meter in which previous jig is supplied cannot be used. Jig should be such that NVM can be push fit on this jig and data can be retrieve from this NVM. 2. 5 % of NIC Card for maintaining rolling stock for troubleshooting purpose.																																													
18.0	DRAWINGS AND DOCUMENTS	Following drawings & Documents shall be prepared based on TPXODL specifications and statutory requirements and shall be submitted with the bid: a)Completely filled-in Technical Parameters.b)General arrangement drawing of the meter c) Terminal Block dimensional drawing d) Mounting arrangement drawings. e) General description of the equipment and all components with makes andtechnical requirement f) Type Test Certificatesg)Experience List After the award of the contract, soft copies of following drawings, drawn to scale, describing the equipment in detail shall be forwarded for approval along with meter samples, <table><tr><th>S. No.</th><th>Description</th><th>For Approval</th><th>For Review Information</th><th>Final Submission</th></tr><tr><td>1</td><td>Technical Parameters</td><td></td><td></td><td></td></tr><tr><td>2</td><td>General Arrangement drawings</td><td></td><td></td><td>✓ ✓</td></tr><tr><td>3</td><td>Terminal block Dimensional drawings</td><td></td><td></td><td>✓ ✓</td></tr><tr><td>4</td><td>Mountingarrangementdrawing.</td><td></td><td></td><td>✓ ✓</td></tr><tr><td>5</td><td>Manual/Catalogues</td><td></td><td></td><td>✓</td></tr><tr><td>6</td><td>Transport/ Shippingdimension drawing</td><td></td><td></td><td>✓ ✓</td></tr><tr><td>7</td><td>QA &QC Plan</td><td></td><td></td><td>✓ ✓</td></tr><tr><td>8</td><td>Routine, Acceptance andType Test Certificates</td><td></td><td></td><td>✓ ✓</td></tr></table> Bidder shall subsequently provide Soft copy of all the drawing, GTP, Test certificates shall be submitted for the final approval of TPXODL. All the documents & drawings shall be in English language.	S. No.	Description	For Approval	For Review Information	Final Submission	1	Technical Parameters				2	General Arrangement drawings			✓ ✓	3	Terminal block Dimensional drawings			✓ ✓	4	Mountingarrangementdrawing.			✓ ✓	5	Manual/Catalogues			✓	6	Transport/ Shippingdimension drawing			✓ ✓	7	QA &QC Plan			✓ ✓	8	Routine, Acceptance andType Test Certificates			✓ ✓
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19.0	GUARANTEED TECHNICAL PARTICULARS		S.No	Description	Units	As Furnished by Bidder
			1	Type of meter		
			2	Accuracy Class of the meter		
			3	Ib & Imax	A	
			4	Operating Voltage for meter	V	
			5	Operating Frequency	Hz	
			6	Power Consumption and Burden		
			7	Starting Current	mA	
			8	Short time over current	A	
			9	Influence of heating		
			10	Rated impulse withstand voltage	KV	
			11	AC withstand Voltage for 1 min	KV	
			12	Insulation resistance a) Between frame & Current, voltage circuits connected together: b) Between each current (or voltage circuit) & each and every other circuit.	M ohm	
			13	Mechanical requirement as per IS 14697 and IS 16444 part 2		
			14	Resistance to heat and fire (As per specification)		
			15	Degree of protection		
			16	Resistance against climatic influence (as per IS 14697 and IS 16444 part-2)		
			17	Electromagnetic Compatibility (EMC)		
			18	Accuracy requirements (As per IS 14697 and IS 16444 part-2)		
			19	Power factor range		
			20	Energy measurement		
			21	Connection Diagram for system on terminal cover	Yes/No	
			22	Self diagnostic feature		

			23	Initial start up of meter (meter shall be fully functional within 5 sec after reference voltage is applied to the meter terminals)		
			24	Terminal block a) Depth of the Terminal holes b) Internal diameter of terminal holes c) Clearance between adjacent terminals	Mm Mm Mm	
			25	Communication capabilities as per clause 4.2		
			26	Immunity against abnormal Magnetic influence, as defined in Cl. 4.3		
			27	Immunity against HV ESD as defined in Cl. 4.3		
			28	DC Immunity as defined in Cl. 4.4		
			29	Abnormal and tamper events and logging with snapshot in all conditions as per table no-1 cl. 4.5	Yes/no	
			30	Grade/Name of material for a) Meter base b) Meter cover c) Terminal block d) Terminal cover		
			31	Tamper counters		
			32	Recording forward energy in all conditions.	Yes/No	
			33	Meter sealing as per clause 5.4	Yes/No	
			34	Non Volatile memory (Retention period)		
			35	Measuring elements used in the meter		
			36	Power supply to circuit in case of supply failure		

			37	Display of measured values (As per specification –clause 5.8)	Yes/No	
			38	LCD display (Type and viewing angle)		
			39	Pulse rate	Imp/kWh, Imp/kVArh	
			40	Name plate marking	Yes/No	
			41	Routine test certificates	Yes/No	
			42	Acceptance test Certificates	Yes/No	
			43	Type test certificates	Yes/No	
			44	Guarantee certificates	Yes/No	
			45	Output device(LEDs)As per Cl.5.9	Yes/No	
			46	Terminal Screw dia.		
			47	Ultrasonic welding of cover and base		
			48	Fire retardant category of the material a. Meter body b. Terminal block		
			49	Supply of Zig for retrieval of the damaged/burnt meter data at MTL		
			50	The meter should not have any other event logging than desired in specs. All the other logics should be removed or disabled in firmware.		
			51	Meter shall be programed at default 'lag only' configuration i.e. Leading power factor to be treated as unity for kVA&kVAh calculations		
			52	Dimensions of the meter HxLxT		
			53	The terminal block arrangement with 12pin zig zag configuration (Samples to be provided by TPCODL)		
			54	The meter design ensures that no MF required for any		

			parameter or energy calculation and Meter constant.		
		55	Offered CT ratio's 100/5A, 200/5A		
		56	NIC module with cover & sealing arrangement provided.		
		57	Harmonics Recording- The recording of harmonics up to 20th harmonic Average THD of all phase for voltage THD and current THD.		
		58	Accuracy of harmonics recording		
		59	Flag in BCS for high THD in any phase V or I		

B. Electronics parts

S No	Component Function	Requirement	Makes and Origin
1.	Measurement/ computing chips	The Measurement/ computing chips used in the meter should be with the Surface mount type along with the ASICs	
2.	Memory chips/NVM	The memory chips should not be affected by the external parameters like sparking, high voltage spikes or electro static discharges. The life of NVM shall be 15 years.	
3.	Display modules	The display modules should be well protected from the external UV radiations. The display visibility should be sufficient to read the meter mounted between height of 0.5m and 2m. The construction of the modules should be such that the displayed quantity should not disturbed with the life of display. Should be with Green LED background. It should be trans-reflective STN Type industrial grade with extended temperature range.	

		4.	Optical port	Optical port should be used to transfer the meter data to meter reading instrument. The mechanical construction of the port should be such to facilitate the data transfer easily. It should be magnetic locking type	
		5	P.C.B.	Glass Epoxy, fire resistance grade with minimum thickness 1.6 mm	
		6.	Electronic components	The active & passive components should be of the surface mount type & are to be handled & soldered by the state of art assembly processes.	
		7.	Battery	Lithium with guaranteed life of 15 years	
		8.	Micro controller and RTC having separate battery	The accuracy of RTC shall be as per relevant IEC / IS standards and RTC shall be provided with separate battery in its ckt.. The microcontroller shall be of superior quality from Reputed make with long life.	
		9.	Temperature sensor	Temperature sensor shall be internal to the meter and its accuracy shall be as per relevant IEC / IS standards. The OEM test report to be furnished. With good performance till life of meter.	

Technical Specification for HTCT Meter

CONTENTS

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Technical Specification for HTCT Meter

1	SCOPE	This specification covers the technical requirements of design, manufacturing, testing at meter manufacturer's works ,packing, forwarding, supply and unloading at store/site of Three Phase Four Wire, HT (CT and VT operated) AC Static Smart Meters of accuracy class as per below table (here after referred as meters) complete with all accessories for efficient and trouble free operation with network communication module (NIC) compatible with 4G technology.			
		Sr. No.	PT Ratio (Ph to Ph)	CT Ratio (lb)	Accuracy Class
		1	-/110V	-/1A	0.2S
		2	-/110V	-/5A	0.5S
		3	-/110V	-/5A	0.2S
		4	11kV/110V	-/5A	0.5S
		5	11kV/110V	-/1A	0.5S
		6	33kV/110V	-/5A	0.2S
		7	33kV/110V	-/1A	0.2S
		It is not the intent to specify completely herein all the details of tech design and construction of material. However, the material shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in manner acceptable to the TPXODL, who will interpret the meanings of drawings and specification and shall have the power to reject any work or material which, in his judgment is not in accordance therewith. The offered material shall be complete with all components necessary for their effective and trouble free operation. Such components shall be deemed to be within the scope of Bidder's supply irrespective of whether those are specifically brought out in this specification and/or the commercial order or not.			
2	APPLICABLE STANDARDS	a.	IS 16444 part 2: 2017	A.C. Static Transformer operated watt hour and VAR-hour meters, class 0.2s, 0.5s & 1.0S(Smart Meters)	
		b.	IS15959 Part3: 2017	Data exchange for electricity meter reading, tariff and load control	
		c.	IS 14697	A.C. Static Transformer operated watt hour and VAR-hour meters, class 0.2s, 0.5s & 1.0S	
		d.	IEC 60687 (1992-06)	AC Static Watthour Meters for active energy (class 0.2s and 0.5s)	
		e.	IS 9000	Basic Environmental testing procedure for electrical and electronic items.	
		f.	IS 12346: 1999	Testing Equipment For Ac Electrical Energy Meters	
		g.	IS 11000	Fire Hazard Testing	
		h.	IEC 62052 Part 11 : 2003	Electricity metering equipment (AC) - General requirements , tests and test conditions – metering equipment	
		i.	IEC 62053 Part 22: 2003	Electricity metering equipment (a.c.) - Particular Requirements - Part 22: Static meters for active energy (classes 0,2 S and 0,5 S)	
		j.	IS 15707: 2006	Testing Evaluation installation and maintenance of AC Electricity Meters- Code of practice.	
		k.	IEC 60068	Environmental testing.	
		l.	CBIP–TRNo.325	Specification for A.C. Static Electrical Energy Meters(latest amendment)	
		m.	CEA Regulation (2019)	Installation and operation of meters	
		n.	IS 60529	Degree of protection provided by enclosure	
		o.	IEC 62056-61	Electricity metering- Object Identification system (OBIS)	

		p.	ASTM D648	Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position
		q.	IS 11731-1	Methods of test for determination of the flammability of solid electrical insulating materials when exposed to an igniting source, Part 1: Horizontal specimen method
		r.	IS 11731-2	Methods of Test for Determination of Flammability of Solid Electrical Insulating Materials When Exposed to An Igniting Source, Part 2: Vertical Specimen Method\
		s.	ISO 75 Part 1&2	Determination of temperature of deflection under load
3	CLIMATE CONDITIONS OF THE INSTALLATION	Max. Ambient Temperature : 70 deg.C Max. Daily average ambient temp. : 40 deg.C Min Ambient Temp : -10 deg C Maximum Humidity : 100% Minimum Humidity : 10% Average No. of thunderstorm days per annum : 50 Maximum Annual Rainfall : 760 mm Average No. of rainy days per annum : 60 days Rainy months : June to Oct. Altitude above MSL not exceeding : 300 meters Wind Pressure : 126 kg/sq m up to and elevation at 10 m. The atmosphere is generally laden with mild acid and dust in suspension during the dry months and is subjected to fog in cold months. The design of equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.3 g		
4	GENERAL TECHNICAL REQUIREMENTS	SNO	DESCRIPTION	REQUIREMENT
		4.01	Type of the meter	Three Phase Four Wire, AC Static Current Transformer (CT) and Voltage Transformer (VT) operated Watthour and Var-hour Smart Meter. It consists of measuring elements(s), time of use of register(s) and display and plug in type bi-directional communication module all integral within the meter housing.
		4.02	Accuracy Class of the meter	Active / Reactive Energy Measurement, Class : as per above table no in clause no 1
		4.03	Basic Current (Ib)& rated Maximum Current (Imax)	Ib as per table no mentioned in clause 1, and Imax is equal to 2 time of Ib
		4.04	Reference conditions for testing the performance of the meter	Vref = 63.5 V (phase to neutral) Frequency = 50Hz Temperature = 27°C
		4.05	Operating Voltage	Meter shall be operational with required accuracy from 0.6 Vref to 1.2 Vref, however meter shall withstand the maximum system voltage of 110V between phase and neutral (for minimum 5 min).
		4.06	Operating Frequency	50 Hz ± 5%.

		4.07	Power Consumption	Voltage circuit: Maximum 5W and 15 VA Current Circuit :Maximum 1VA (The additional power requirement during data transmission shall not exceed 7W as mentioned in IS16444 part-2 whichever is lower, per communication module)
		4.08	Starting Current	0.1% of Ib – (5mA for Ib 5A) 0.1% of Ib – (1mA for Ib 1A)
		4.09	Short time over Current	20 times of I _{max} for 0.5sec
		4.10	Influence of heating	Temperature rise at any point of the external surface of the meter shall not exceed by more than 20K with an ambient temperature at 45° C.
		4.11	Rated Impulse withstand voltage	6 kV (shall be applied ten times with one polarity and then repeated with the other polarity and minimum time between each impulse to be 3 sec)
		4.12	AC withstand Voltage for 1 min	4 kV
		4.13	Minimum Insulation resistance at test voltage 500+/- 50 Vdc a) Between frame & current , voltage circuits as well as auxiliary circuits connected together : b) Between each current (or voltage circuit) & each and every other circuit:	5 M ohm 50 M ohm.
		4.14	Mechanical requirements	Meter shall be in compliance with clause 12.3 of IS14697 & IS16444 part 2
		4.15	Resistance to heat and fire	The terminal block and Meter case shall ensure safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them as per clause 6.8 of IS 14697. Fire retardant material shall be used.
		4.16	Protection against penetration of dust and water.	Degree of protection: IP 51 as per IS 12063/60529, but Without suction in the meter. Meter shall comply with clause 6.9 and 12.5 of IS 14697
		4.17	Resistance against Climatic influence.	Meter shall be in compliance with clause 12.6 of IS14697.
		4.18	Electromagnetic Compatibility (EMC)	Meter shall be in compliance with clause CBIP report 325 and IS
		4.19	Accuracy requirements	Meter shall be in compliance with clause 11 of IS14697 & IS16444 part-2
		4.20	Power factor range	Zero lag to Zero lead. Meter shall be programmed at default Lag only configuration i.e. Lead to be treated as unity for kVA & kVAh calculations'
		4.21	Energy measurement	Fundamental energy +Energy due to Harmonics

		4.22	Connection Diagram	The connection diagram for the system shall be provided on terminal cover.
		4.23	Self-Diagnostic feature	The meter shall have logging with date and time in memory for unsatisfactory / non-functioning of Real Time Clock RTC battery Non Volatile Memory Status of NIC (installed/ discovered/ normal)/Signal Strength
		4.24	Initial start-up of meter	Meter shall be fully functional within stipulated time as per IS .
		4.25	Alternate mode of supply to the meters	In case of meter power failure, reading/data should be retrieved with the help of battery or other power source.
		4.26	Internal diameter of the terminal holes: Depth of the terminal holes:	5 mm (minimum) 20 mm (minimum)
		4.27	Clearance between adjacent terminals	10 mm (minimum)
		4.28	Display	Backlit LCD, Scrolling, 10 seconds for each parameter minimum 8 digits for reading LCD display
		4.29	Security feature	Programmable facility to restrict the access to the information recorded at different security level such as read communication, write communication, firmware selection from remote etc.
		4.31	Software and communication compatibility	The bidder shall supply software required for local HHU / mobile App & HES connectivity including required training to use the software free of cost. If this software can be used in a device readily available in market and can connect to meter through optical port or other communication port without any security checks or with MR securities which OEM will provide then, OEM can provide only software, else the device on which this software will run is also to be provided along with technical specification of this device.
		4.32	Calibration	Meters shall be software calibrated at factory and modifications in calibration shall not be possible at site by any means. Similarly for metering mode from Import only to Export-Import (NET mode) and vice versa, through proper authentication process remotely over the air (OTA). The change should be recorded as Transaction Event. Billing should be done at that time of firmware upgrade so that readings at which this upgrade has happened are logged in meter and system. While in Import – Export mode, Meter shall continue to work in Lag only configuration and forward metering mode should be stopped.
		4.33	Usage Application	Indoor

		4.34	Chemical Bonding	Meter cover and body should be continuous and seamless chemically bonded, so that meter should not open without leaving clear mark..
		4.35	Communication module of meter for AMI	As per clause no 1.4 (b) of IS 16444 part-2. Meter should have provision of communication module compatible with both the variant mentioned in IS16444 part-2. This module should be able to get connected to the 4G Network. Meter should be able to provide required power supply to NIC card provided by communication provider.
		4.36	Communication Layer Protocol	Should be as per clause 8.3 of IS 16444 part 2
		4.37	Key Management and Security Feature	Should be as per IS 15959 part 2 and 3
		4.38	Harmonics recording	The meter should record the current and voltage THD. The meter should record harmonics up to 20th harmonic Average THD of all phase for voltage THD and current THD. THD values shall have 30/15 minutes (as applicable) integration period in load survey. Accuracy of harmonics recording shall be as per meter accuracy class. The meter shall generate a flag whenever the threshold (user configurable) of the 5% THD of the load current and voltage is breached.
		4.39	The terminal pin arrangement	The terminal pin shall be 10 pin Zigzag / straight arrangement with phase voltage terminal in between current terminals as mentioned in clause no. 5.2.11
4.1	NIC MODULE DETAILS & INTEGRATION	With the service providers offering 4G services, TPXODL intends to leverage 4G as the communication technology for meter data acquisition. The Network Interface Card for 4G shall be modular and pluggable. The NIC shall be interoperable for service provider NIC card shall support remote Device Management Capability such as Reset, Configuration, Log Check, Ping, and over the air Firmware upgrade NIC shall support two-way communications between smart meter & head-end system such as data exchange, configuration parameters exchange, alarms, operational commands, firmware upgrade of the meter as defined in IS16444 and IS15959. NIC shall support push services, alarms services of the smart meter as defined in IS16444 and IS15959. 4G NIC card shall support communication protocols as prescribed by 4G HES supplier. NIC card for all type meter shall be same.		

NIC shall also support on-demand / schedule reading, time sync, configuration and over the air firmware upgrade from the head-end system.
NIC shall have persistent network connectivity throughout as defined by 4G standards. It shall support self-configuring features.

NIC shall operate 24*7 and shall recover from any deadlock situation immediately in the field. Support for possibility for provision of a unique certificate/key in each card for mutual authentication with the HES from security point of view.

NIC shall support standard security protocols. NIC shall be compliant with cyber security norms.

NIC shall register with network i.e. login and logout of each terminal to the HES. It shall be recognized in the HES as authorized node.

Attributes such as Firmware version, Hardware version, Signal strength values, packet error rate, should be pushed periodically to HES for effective communication management. Data must be encrypted.

LED indication for System, Power ON indicator.

Colour coded LED (a) For latching on to the network (b) For latched on to the network (c) For data flow indication.

Meter display should have provision for showing if NIC card is

Error Details	Error ID
All Good	Err 00
Meter NIC communication failure	Err 01
NIC initialization failure	Err 02
SIM not detected	Err 03
SIM invalid	Err 04
No GPRS Network coverage	Err 05
GPRS Network registration failure	Err 06
GPRS registration denied	Err 07
APN not configured	Err 08
GPRS connection not established	Err 09
HES IP/Port not configured	Err 10
HES port not open	Err 11

4.2	Communication capabilities and software feasibilities	4.2.1 The meter shall have facilities for data transfer locally through Meter Reading Instrument (MRI / Mobile App) (Using optical port/NIC card), BCS and remotely by 4G with proper security via Plug in type NIC. Data transfer locally through optical port via MRI is desired along with data transfer through NIC card. The data downloaded in MRI/handheld device shall be integrated to HES data base.
		4.2.2 It should be the responsibility of the bidder to ensure integration of meter into HES.
		4.2.3 It shall be possible to reconfigure the meters for RTC, TOD slots reprogramming, DIP (Demand Integration period), billing date, display parameters, RTC etc. through proper authentication process locally through MRI and remotely over the air (OTA). Meter data should remain intact with timings. And billing should be done whenever any above mentioned attribute is changed. The change should be recorded as upgrade event.
		4.2.4 Necessary keys if required for performing this reconfiguration operation should also be provided along with supply of meter lot & training to TPXODL staff on how to use it free of cost. Bidder to provide this support on a later stage also on the request of TPXODL without any cost implication.
		4.2.5 Optical Communication port shall be available for communication. Communication ports shall not be affected by any type of injection /unauthenticated signals and having proper sealing arrangement.

		4.2.6 Bidder to ensure integration of meter data with head end for data transfer as mentioned in specification. TPXODL reserves the right that if required, TPXODL will handover the SIM cards to OEM and supply will be accepted with SIM cards
		4.2.7 Meter should be supplied to TPXODL along with NIC card. NIC card should be plug in type with proper sealing arrangement. The guarantee of NIC card shall be same as meter and shall be replaced by bidder free of cost. 5 Nos of NIC card on 100 No of Meter should be supply as free of cost, for troubleshooting of faulty NIC cards and should be replenish on return of faulty NIC card. 4.2.8 The bidder shall supply software required for local (MRI / Mobile App), BCS & remote (AMI) connectivity including required training to use the software free of cost. Bidder shall provide the communication protocol / APIs for communication with meter through local (MRI/ Mobile App), BCS / remote (AMI) as and when required by TPXODL free of cost during life time of meter. The bidder should provide DLMS compliance for Communication with the meter at Optical port and at HES. 4.2.9 Bidder should also provide software for changing/upgrading meter firmware in mass and should support integration of this software with HES. Bidder should also provide base computer software (BCS) for viewing the data downloaded through HES/MRI/laptop/HHU in separate PC/laptop. Android based or windows based HHU / mobile App shall be preferred. 4.2.10 For purpose of exercising control, like outage management, the meter should send abnormalities at the consumers' end like Power failure (Last Gasp) instantly, Power Restoration (First Breath) as event. Additional exceptional events should also be communicated to HES by meter immediately after the occurrence through 4G. It should also indicate the restoration of the same event. 4.2.12 If there are 2 requests given for communication one from HES and other from local device, request from local device should supersede. 4.2.14 Meter Serial no will be used for tagging of all data of the meters in all database (at HES / MDM/ DCU level etc). However, it will be the responsibility of the Bidder to establish the complete communication solution involving all the meters in the system. Also, the Bidder must ensure that, the mode of communication used for 4G shall be consistent with the Government of India stipulations. Bidder should come out with it requirements for integration of meter with HES and MDMS clearly during tender submission.
		4.2.15 Integration of meter software's with HES / MDMS for seamless transfer of data will also bein scope of bidder till the expiry of warranty of the meters. It is desired meter firmware up gradation/selection should be available over the air. The required firmware and any required support for integration with HES shall be provided free of cost till the useful life of the meter.
		4.2.16 Communication of the meter at optical port /FOTA (NAN/WAN) should be as per IS 15959(Part-2):2016. The optical port should be with proper lockable mechanism
		4.2.17 Communication NIC/network should be immune with any external Magnetic field/ESD/Jammer/HV voltage influence such that it shall not affect the normal overall functionality.
		4.2.19 The required OBIS codes will be finalized with successful bidder as per IS 15959. and tata power specific OBIS code

		4.2.20 Meter display should have provision for showing if NIC card if : <table><tr><th>Error Details</th><th>Error ID</th></tr><tr><td>All Good</td><td>Err 00</td></tr><tr><td>Meter NIC communication failure</td><td>Err 01</td></tr><tr><td>NIC initialization failure</td><td>Err 02</td></tr><tr><td>SIM not detected</td><td>Err 03</td></tr><tr><td>SIM invalid</td><td>Err 04</td></tr><tr><td>No GPRS Network coverage</td><td>Err 05</td></tr><tr><td>GPRS Network registration failure</td><td>Err 06</td></tr><tr><td>GPRS registration denied</td><td>Err 07</td></tr><tr><td>APN not configured</td><td>Err 08</td></tr><tr><td>GPRS connection not established</td><td>Err 09</td></tr><tr><td>HES IP/Port not configured</td><td>Err 10</td></tr><tr><td>HES port not open</td><td>Err 11</td></tr></table> 4.2.21 If any tamper occurs in power off situation, it should be pushed as soon as the meter is powered on. 4.2.22 Bidder to provide facility for Up-gradation / Modification of Firmware 4.2.23 Following parameters may be updated multiple times during life cycle of meters over the air : Import mode to export Mode and vice versa. Accordingly Display parameters shall be updated remotely.	Error Details	Error ID	All Good	Err 00	Meter NIC communication failure	Err 01	NIC initialization failure	Err 02	SIM not detected	Err 03	SIM invalid	Err 04	No GPRS Network coverage	Err 05	GPRS Network registration failure	Err 06	GPRS registration denied	Err 07	APN not configured	Err 08	GPRS connection not established	Err 09	HES IP/Port not configured	Err 10	HES port not open	Err 11
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4.3	Immunity against external influencing signals	4.3.1. Magnetic Field: Meter shall record accurate energy in case of any external influencing signals in line with IS 14697:1999 Cl.11.2 and variation in limits of error (up to 100% I_{max}) shall be as per the table 13 of IS 14697. Meter shall be immune to any magnetic field such that it shall not affect the normal overall functionality However, in case of abnormal magnetic field as defined below meter shall perform as per the following actions: Meter shall log the event in its memory as" Magnet" with date and time stamp along with snapshot and the event logging threshold values as per table no.1 in 4.5 The energy recording to shift on I_{max}, V_{ref}. with UPF. Abnormal Magnetic field is defined as below: a. Continuous DC magnetic induction: >0.20 Tesla ± 5% (Value of the magneto motive force to beapplied shall be generally >10000 AT. b. AC magnetic induction: >10 milli Tesla (if produced with circular metal core with squarecross section as specified in CBIP latest report with 2800 AT) c. Permanent Magnet: Immune up to 0.5T and Event logging >0.5T.																										

		4.3.2 Electrostatic Discharge (ESD) a. Meter shall be immune up to 50 kV and shall record accurate energy as per IS-14697:1999/CBIP-325. Meter shall log the event into memory as 'ESD' with date& time stamp for any ESD greater than 50 kV with snap shot, the event logging threshold values as per table no. 1 in 4.5. b. The shielding around the meter shall be such that it does not get affected by high Voltage and high energy or low energy impulse when comes in contact with meter from any side. Meter should immune to high/ low frequency jammer devices. Meter shall log the event in itsmemory as" JAMMER" with date and time stamp along with snap shot, the threshold values as per table no. 1 in 4.5.															
4.4	Neutral Disturbance & other tampers	4.4.1 The meter shall log the event in memory on thresholds defined in table 1 in 4.5 4.4.2 The meter shall not saturate on passage of direct current, which can cause the meter either to stop recording/ record inaccurately. DC injection shall be tested both in phase and neutral. Measurement by meter shall not get influenced by injection of Chopped signal/ DCsignal/ DC pulse up to 330V (both + & - DC) and for any value beyond this, of any low frequency and harmonics. Meter shall log the event into memory as 'Neutral Disturbance' with date & time stamp the thresholds are as per table no. 1 in clause 4.5 below.															
4.5	Abnormal Tamper conditions	4.5.1 The meter shall record forward energy under all abnormal tampering conditions and shall becapable of recording occurrence and restoration of abnormal events listed in table no. 1 below along with date & time and snap shots of individual voltages, currents, power factors,active energy and apparent energy at the time of occurrence of abnormal event and restoration of normal supply. 4.5.2 For all tamper events the time stamp and snapshot parameters shall be recorded at thestart time of event for occurrence (T1) and for restoration the time stamp and snapshotparameters shall be recorded at the end time of the event (T3). 4.5.3 During abnormal & tamper conditions, the current shall be recorded as active current and linecurrent. Each such event shall be provided with minimum count of as per table no.1 to avoid missing of data amidst usual events (like power failure) due to the limitation of FIFO. Persistence time for occurrence and restoration for the events along with their threshold values shall be as per table no. 1 given below. 4.5.4 Multiple occurrences of same event, with different time stamps should not be logged withoutrestoration of first occurrence, except for the case of Top Cover Open. 4.5.5 All tamper/event logging thresholds values shall be configurable remotely over the air(OTA). Table No.1 Meter shall be provided with feature for terminal cover opening with time stamping.															
		<table><tr><th>Persistence Time for Occurrences</th><th>Persistence Time for Restoration</th><th>Threshold Value for Occurrence of Events</th><th>Threshold Valuefor Restoration of Events</th><th>Compartment Size</th></tr><tr><td>ESD/JAMMER = immediate (record only 1 event on first application & only one event for next 1min)(ESD)</td><td>ESD/JAMMER = 0 Hr 01 Min 0 sec (ESD) (should restore after 1 min. of last application)</td><td>Immunity up to 50 KV with NIC and logging of event >50KV</td><td>Removal of ESD/JAMMER signal</td><td>25</td></tr><tr><td>Magnet = 0 Hr 1 Min 0 sec (MAGNET/MAG)</td><td>Magnet = 0 Hr 1 Min 0 sec (MAGNET/MAG)</td><td>a) Permanent magnet > 0.5 Tesla b) DC magnetic induction > 0.2Tesla C) AC magnetic induction > 10 mT (of any frequency)</td><td>a) permanent magnet < 0.5 Tesla B DC magnetic induction < 0.2T c) AC magnetic induction <10 mT</td><td>25</td></tr></table>	Persistence Time for Occurrences	Persistence Time for Restoration	Threshold Value for Occurrence of Events	Threshold Valuefor Restoration of Events	Compartment Size	ESD/JAMMER = immediate (record only 1 event on first application & only one event for next 1min)(ESD)	ESD/JAMMER = 0 Hr 01 Min 0 sec (ESD) (should restore after 1 min. of last application)	Immunity up to 50 KV with NIC and logging of event >50KV	Removal of ESD/JAMMER signal	25	Magnet = 0 Hr 1 Min 0 sec (MAGNET/MAG)	Magnet = 0 Hr 1 Min 0 sec (MAGNET/MAG)	a) Permanent magnet > 0.5 Tesla b) DC magnetic induction > 0.2Tesla C) AC magnetic induction > 10 mT (of any frequency)	a) permanent magnet < 0.5 Tesla B DC magnetic induction < 0.2T c) AC magnetic induction <10 mT	25
Persistence Time for Occurrences	Persistence Time for Restoration	Threshold Value for Occurrence of Events	Threshold Valuefor Restoration of Events	Compartment Size													
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		Meter Top Cover Open (TCOpen) immediate	Meter Top Cover Open(TCOpen) Immediate	If meter top cover is opened	NA	05 (Stay put Type)
		Potential Missing = 0 Hr 10 Min 0 sec (PM)	Potential Missing =0 Hr 2 Min 0 sec	Voltage < 70% of Vref AND current > 2% Ibasic	Voltage > 70% of Vref AND current > 2% Ibasic	25
		Voltage Unbalance =0 Hr 30 Min 0 sec (VU)	Voltage Unbalance =0 Hr 2 Min 0 sec	20% or more between the phases and current > 2%Ibasic	Shall be less than 10 % between the phases and current > 2% Ibasic	25
		CT Open (phase wise) = 0Hr10 Min 0sec	CT Open (phase wise) = 0Hr 2 Min 0 sec	Phase Current < 1%of Ibasic AND Current on other phases > 10% of Ibasic with all current positive	Phase Current > 10% of Ibasic with all current positive	25
		CT Reversal = a) Unidirectional 0Hr10 Min 0sec (CTR) b) Bi Directional (logged when only one OR two phases are reversed) 0Hr10 Min 0 sec (CTR) . No log if all three phases are reverse	a) CT Reversal =0 Hr 2 Min 0 sec b) CT Reversal 0 Hr 2 Min 0 sec	a) Active Current negative and energy recording forward direction b) One OR two phase Active Current negative and energy recording in as per respective direction	a) Active Current positive AND > 2 % Ibasic b) Active Current positive AND > 2 % Ibasic	25
		Invalid Phase Association Current Unbalance =0 Hr 30 Min 0 sec (CU)	Invalid Phase Association (Immediate) Current Unbalance =0 Hr 2 Min 0 sec	Incorrect Phase connections (logic to be provided by bidder) Current difference > 10%between	Correct Phase Connections (logic to be provided by bidder) Current difference < 5% between the	05
		Current Unbalance =0 Hr 30 Min 0 sec (CU)	Current Unbalance =0 Hr 2 Min 0 sec	Phases and Imin 10% of Ibasic	phases and Imin >5% of Ib	25
		Low Power Factor =0 Hr 30 Min 0 sec(LPF)	Low Power Factor =0 Hr 2 Min 0 sec	I >1% of Ib and Power Factor ≤ 0.5 in any phase	I >1% of Ib and Power Factor ≤ 0.7 in respective phase	25
		Neutral Disturbance =0 Hr 01 Min 0 sec (ND)	Neutral Disturbance =0 Hr 2 Min 0 sec (ND)	Voltage >145% of Vref & Current >10% Ib OR Frequency < 47Hz OR Frequency > 53Hz	Voltage <115% of Vref & Current > 10% Ib AND Frequency > 47 Hz OR Frequency < 53	25

			OR DC voltage / signal/ pulse/chopped signal injection	Hz	
	Invalid Voltage 10 Min	2 Min	Angle between two Phases differ more than ± 10 degree	Angle between two Phases differ less than ± 10 degree	25
	Power On Off =0Hr 02 Min 0 sec	Power On Off =immediate	Actual Voltage off	Actual Voltage On	50
	Over Voltage = 0 Hr 30 Min 0 sec	Over Voltage =0 Hr 2 Min 0 sec	Voltage > 120% of Vref ignoring the current value	Voltage <115% of Vref , ignoring the current value	25
	Over current = 0hr30min 0sec(OL)	Over Current =0hr2min 0sec	>Preset value (default value set) at120%Ib)	I<100%Ib	25
	Microwave immediate (record only 1eventon first application & only one event for next 1min)	Microwave 0 Hr 01 Min 0sec (should restore after 1 min. of last application)	Any higher frequency magnetic waves, micro waves > 10mT (or mutually decided)	Removal of device	25
	NIC card Removed (Immediate)	NIC Card inserted (Immediate)	On removal of card	On insertion of card	20
		4.5.6 Meter shall latch & store cumulative counts of all the tamper events which have logged /occurred/stored in memory of meter from the date of energization till life of meter. Total tamper storage should be as per table 1 above. The meters are to be used for registration of energy consumed by the consumer as such the meters shall be programmed for import mode and in case of reversal of energy direction(reversal of all CT terminals) meter shall register energy forward direction and separately in defraud mode i.e. in case of CT reversal (import /Unidirectional Mode) , meter shall record scalar (not vector sum) sum of energy. The meter shall accurately distinguish between actual CT reversal and condition due to faulty reactive power compensation devices/ capacitor banks. Appropriate logics for the same shall be provided in meter. In Bi-directional mode , the meter register the energy in export mode if all three phases are reverse & there shall be no tamper logged . If one or two phases are in export mode while one or two are in import mode condition , meter shall register the CT reversal tamper & record energy as per respective direction			
		4.5.7 The meter shall register correctly if supply neutral is not available at the meter neutral terminal. The meter shall work in absence of any two incoming wires. It shall keep recording correctly in case of unbalance system voltage also as defined above. The meter shall keep working accurately irrespective of the phase sequence of the supply. The meter shall be functional even if somehow change in the phase sequence takes place. The Cover Open tamper detection should be through heavy duty, sturdy micro switches with OR gate logic such that it should not log false event on vibration or impact during handling or testing. OEM should provide all required features as per OERC billing criteria in meter even if it is not mentioned in the specifications.			

4.6	Event Compartments	For event compartments IS 15959 Part-3 shall be referred. The size of the event compartments should be such that all above events (in table no.1 and other required events defined in various clauses of this documents) are accommodated in the assigned event category compartment. i.e. if in case of voltage compartment assigned to 4 number of events then the minimum size of this compartment should be such that it should accommodate sum of all maximum number of events as marked above table 1 .
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GENERAL
CONSTRUCTIONS

The Meter shall be designed and constructed in such a way as to avoid introducing any danger in normal use and under normal conditions, so as to ensure especially personal safety against electric shock, safety against effect of excessive temperature, protection against spread of fire, protection against penetration of solid objects, dust and water. All parts, which are subject to corrosion under normal working conditions, shall be protectedeffectively. Any protective coating shall not be liable to damage by ordinary handling or damage due to exposure to air, under normal working conditions. The meters shall be designed and manufactured using SMT (Surface Mount Technology) components. All the material and electronic power components used in the manufacture of the meter shall be ofhighest quality and reputed make to ensure higher reliability, longer life and sustained accuracy as given below or any other equivalent make with the strict approval of TPXODL

SNo	Component Function	Requirement	Makes and Origin
1	Measurement/ computing chips	The Measurement/ computing chips used in the meter should be with the Surface mount type along with the ASICs	USA: Analog Devices, Cyrus Logic, Atmel, Phillips, Free scale semiconductor, Texas Instruments, South Africa: SAMES, Japan: NEC
2	Memory chips/NVM	The memory chips should not be affected by the external parameters likesparking, high voltage spikes or electrostatic discharges. The life of NVM shall be 15 years.	USA: Atmel, National, Semiconductors, Texas Instruments, Phillips, Microchip,
			Japan: Hitachi or Oki, Swiss: STMicro
3	Display modules	The display modules should be well protected from the external UV radiations. The display visibility should be sufficient to read the meter mounted between height of 0.5m and 2m. The construction of the modules should be such that the displayed quantity should not disturbed with the life of display. Should be with Green LED background. It should be trans-reflective STN type industrial grade with extended temperature range.	Taiwan: Holtek, Singapore: Bonafied, Technologies, Korea: Advantek, China: Xiamen, Truly semiconductor

		4	Optical port	Optical port should be used to transfer the meter data to meter reading instrument. The mechanical construction of the port should be such to facilitate the data transfer easily. It should be magnetic locking type	USA: National, Semiconductors, Holland / Korea: Phillips, Taiwan: MAXIM, Everlight, Japan: Hitachi
		5	P.C.B.	Glass Epoxy, fire resistance grade FR4, with minimum thickness 1.6mm	A class consumer
		6	Electronic components	The active & passive components should be of the surface mount type & are to be handled & soldered by the state of art assembly processes.	USA: National, Semiconductors, Atmel, Phillips, Texas, Instruments, Vishay, Japan: Hitachi, Oki, AVX or Ricoh, Korea: Samsung,
		7	Battery	Lithium-ion battery with guaranteed life of 15 years	Varta / Tedirun / Vitzrocell / Sanyo
		8	Microcontroller and RTC having separate battery	The accuracy of RTC shall be as per relevant IEC / IS standards and RTC shall be provided with separate battery in its circuit. The micro controller shall be of superior quality from reputed make with long life.	USA: Philips , Dallas, Atmel, Motorola, Texas Instruments, Japan: Renesas, NEC or Oki
5.1	Meter Body	5.1.1 Meter body shall be made of unbreakable, high grade, fire retardant reinforced Insulating virgin material (protective Class II) with FV0 Fire Retardant, self - extinguishing, UV stabilize, recyclable and Anti oxidation properties. 5.1.2 The minimum thickness of the meter enclosure shall be 2mm. 5.1.3 Meter base shall be opaque with virgin polycarbonate LEXAN 500R or equivalent (i.e. chart of Lexan 500R compared with the alternative material) on prior approval			

		from the TPXODL. (If different material offered the bidders should submit material data sheet in technical bid) 5.1.4 Meter cover shall be transparent with virgin polycarbonate LEXAN 143R/943A or equivalent (i.e. chart of Lexan 500R compared with the alternative material) on prior approval from the TPXODL. (If different material offered the bidders should submit materialdata sheet in technical bid) 5.1.5 Meter cover & base shall be provided with continuous and seamless Chemical welding such that it cannot be opened without breaking the enclosure. Front cover & base shall be such that it is not possible to cut & open the meter without certainly damaging the meter body and by no means shall an attempt to reassemble would not leave physical evidence. The damage evidences should be visible externally & should be traceable in such a way thatattempts can be proved in court of law. 5.1.6 The meter body shall be sealed in such a way that opening of meter base and cover is possible only after breaking the seal(s). 5.1.7 During meter manufacturing the meter seal fixing should be tightened such that the sealbody should be close to meter body and TPXODL seals should be installed at the right hand side of the meters. 5.1.8.Unidirectional screws to be used on meter covers where ever required. 5.1.9 The Meter body shall be such that the liquid or chemical shall not reach the electronic parts(in installed condition), if liquid is injected from any side of meter body such as meter terminals, push button, display, NIC card casing etc. Necessary protection and water tight sealing to be provided at terminals and Pushbuttons etc.
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5.2	Terminals, Terminal Block	5.2.1 Even after any attempts the terminal block should get disengaged, opened or loosen from any side. Any attempt to disengage the terminal block should certainly damage the meter body with physical evidences. The damage evidences should be visible externally & should be traceable in such a way that attempts can be proved in court of law. 5.2.2 Terminals may be grouped in terminal block having adequate insulating properties and mechanical strength. In order to satisfy such requirements when choosing insulating virgin materials for the terminal block adequate testing of materials shall be taken into account. 5.2.3. Terminal block and terminal cover shall be of a material which complies with the requirements of IS 11731 (part 1) method FH1. The material of which the terminal block is made shall be capable of passing the Heat Deflection temperature test given in ISO 75 for temperature of 135°C and pressure of 1.8 MPa as mentioned in IS 14697. Tested as per ISO 75-2/A or ASTM D648. 5.2.4. The terminal block shall be of opaque with virgin polycarbonate LEXAN 500R or equivalent (complying with above requirement) on prior approval from the TPXODL. (The bidders should submit material data sheet in technical bid) 5.2.5 The terminal block, the terminal cover and the meter case shall ensure reasonable safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them. The material and plating details of terminals screw shall be submitted by the bidder. 5.2.6 The manner of fixing the conductors to the terminals shall ensure adequate and durable contact such that there is no risk of loosening or undue heating. Terminal & screw should not be damaged during regular opening and tightening. 5.2.7 Temperature sensor to be provided for sensing the temperature and meter should be programmed in such way that on reaching the threshold value set (as per tamper table no.1) the event/alert should go to HES. 5.2.8 Internal diameter of the terminal holes shall be minimum 5 mm; minimum clearance between adjacent terminals shall be 10 mm. Minimum Depth of the terminal holes shall be of 20 mm. 5.2.9 Minimum two number of terminal screws to be provided per terminal wire. 5.2.10 Terminal block shall be such that the risk of corrosion resulting from contact with any other metal part is minimized. Electrical connections shall be so designed that contact pressure is not transmitted through insulating material. 5.2.11 Meter terminal should have 10 terminals arrangement. The terminals should have center to center distance of min. 11.5mm. Terminal configuration shall be R-Cin, R-volt, R-Cout, Y- Cin, Y-volt, Y-Cout, B-Cin, B-volt, B-Cout, Neutral.
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5.3	Terminal Cover	5.3.1 Terminal cover shall be short type and transparent with virgin polycarbonate LEXAN 143R/943A or equivalent on prior approval from the TPXODL (the bidders should submit the relevant material data sheet in technical bid). 5.3.2 Appropriate space shall be available for incoming /outgoing cables without damaging/stressing terminal cover (terminal cover design shall be as per the TPXODL approval). After sealing the cover, terminals shall not be accessible without breaking theseals. Terminal cover should be of short type 20-25 mm length. The system connection diagram shall be provided on the terminal cover. 5.3.3 The terminal cover design should be such that the sealing screw locking provision on covershould have min dimension of 3mmx3mm. (Excluding seal lock hole) 5.3.4 The terminal cover should open on the top side, during connection of the cables. The sideopening of terminal cover is not acceptable due to additional opening space requirement.										
5.4	Sealing of meter, terminal cover andNIC cover	5.4.1 The system connection diagram shall be provided on the terminal cover. Reliable sealing arrangement shall be provided to make the meter tamper evident and to avoid fiddling or tampering by unauthorized persons. 5.4.2 For this, one no. Polycarbonate seal and three no. Hologram seal with unique serial numbers (on Left, Right & Top side) shall be provided by the bidder. <i>One Nos of polycarbonateseal shall be provided by the TPXODL. This seal shall be fix on right hand side of meter.</i> 5.4.3 All the seals with unique serial numbers shall be fixed on meter body by the bidder at his works before calling for inspection. 5.4.4 Two sealing provision shall be provided at meter terminal cover, such that terminal shall not be accessible without breaking the seals. All the seals shall be provided on front side only and as per the TPXODL specification. Rear side sealing arrangement shall not be accepted. 5.4.5 Bidder shall provide seals be as per CEA regulation (2006) and amendment thereof . Only patented seals to be used as per CEA requirements. The bidder shall provide TPXODL(MMG and MTL) the soft record of polycarbonate seal and hologram seal serial used against each meter serial number along with its position RHS/LHS/Top/Meter body/NIC Cover) in tabular form for every lot of meter number and also provide the NIC card serial number details along with NSP SIM number , IMEI number . 5.4.6 Plug in type NIC card cover should have proper sealing arrangement and should be sealed with manufacturer's polycarbonate seal.										
5.5	TOD Feature	The meter shall be capable of measuring Cumulative Energy (kWh & kVAh) both for IMPORT and IMPORT – EXPORT mode, wherever applicable and MD (kW & kVA) with time of day (TOD) registers having 8 zones & time slot shall be programmable by MRI/ Over the air with adequate security level and in one to one /broadcast mode over the air). Current TOD (during tender) to be given is as below: <table><thead><tr><th>Slots</th><th>Time Slot</th></tr></thead><tbody><tr><td>Solar Hour -</td><td>08:00 Hrs to 16:00 Hrs</td></tr><tr><td>Normal Hour -</td><td>16:00 Hrs to 18:00 Hrs</td></tr><tr><td>Peak Hour -</td><td>18:00 Hrs to 24:00 Hrs</td></tr><tr><td>Normal Hrs -</td><td>24:00 Hrs to 08:00 Hrs</td></tr></tbody></table> <i>*The bidder to ask TPXODL for latest TOD timing slots before manufacturing of every lot.</i>	Slots	Time Slot	Solar Hour -	08:00 Hrs to 16:00 Hrs	Normal Hour -	16:00 Hrs to 18:00 Hrs	Peak Hour -	18:00 Hrs to 24:00 Hrs	Normal Hrs -	24:00 Hrs to 08:00 Hrs
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Solar Hour -	08:00 Hrs to 16:00 Hrs											
Normal Hour -	16:00 Hrs to 18:00 Hrs											
Peak Hour -	18:00 Hrs to 24:00 Hrs											
Normal Hrs -	24:00 Hrs to 08:00 Hrs											

5.6	MD Integration	The MD integration period shall be 15 minutes, as applicable (integration period-programmable by MRI/HHU at site and also through HES with adequate security level). The MD resetting shall be automatic at the 1st of the month i.e. 0000 hours of 1 st day of the month. Manual MD reset button shall not be available. Last 12 MD values shall be stored in the memory. MD shall be recorded and displayed with minimum three digits before decimal and minimum three digits after decimal points. MD integration shall be of sliding Type at an interval of 5 min & it can be configured to 30/15 minute
5.7	Parameters in Meter	All these parameters shall be downloaded locally or remotely and interpreted in PC/Laptop. All the parameters shall be recorded and memorized in its Non Volatile Memory (NVM). The corresponding Non Volatile Memory shall have a minimum retention time of 15 years. It is to be ensured that any data which is pushed / pulled from meter must have Meter Sr. No. as one of the parameters. Time-sync with RTC and over-writes on drift threshold. Clarity on event logged in memory and server time-stamps matching. 'Fail' to be log in memory in the following conditions: RTC fail NVM memory fail Battery fail
5.7.1	Load survey (for post-paid& NET meter mode)	Meter serial number and NIC serial number shall be recorded and communicated for all profiles of data. Default load survey integration period is 15 minute & can be configured to 30/15 minute. The load survey data shall be recorded for 45 days with 15 minute IP & 90 days with 30 minute IP . Voltage for each phase Current of each phase Average PF (Lag / Lead with sign) Average frequency Average kWh Average kVAh (lag only, for import only) kVAh(Q1,Q2,Q3,Q4) Demand (KW) Demand(KVA) Temperature near terminal block (°C) THD Voltage phase wise THD Current phase wise Meter shall be capable of recording daily Energy and Demand 00:00 to 24:00 Hrs kWh/kVAh, kW/kVA for 45 days. Midnight energy value of cumulative kWh, KVAh along Signal Strength with H1 KW and KVA along with daily consumption kWh & kVAH should be available in metermemory for last 45 days. Load survey data should be at least with 5 decimal place When the meter is configured for Import & Export all the relevant parameter of Export should also be provided along with import parameters as listed above in this clause.

5.7.2	Instantaneous Parameters	Meter serial number shall be recorded and communicated for all profiles of data. Meter shall be capable for following Instantaneous Parameters in Memory and should be available in HES. <table><tr><td>Meter Sr.No.</td><td>TPXODLXXXXXXXX</td></tr><tr><td>Meter Type</td><td>3P4W HTTV</td></tr><tr><td>Meter date & Time</td><td>DD MM YYYY & HH MM SS</td></tr><tr><td>Voltage –R</td><td>000.000V</td></tr><tr><td>Voltage –Y</td><td>000.000V</td></tr><tr><td>Voltage –B</td><td>000.000V</td></tr><tr><td>Line Current –R</td><td>00.000A</td></tr></table>	Meter Sr.No.	TPXODLXXXXXXXX	Meter Type	3P4W HTTV	Meter date & Time	DD MM YYYY & HH MM SS	Voltage –R	000.000V	Voltage –Y	000.000V	Voltage –B	000.000V	Line Current –R	00.000A
Meter Sr.No.	TPXODLXXXXXXXX															
Meter Type	3P4W HTTV															
Meter date & Time	DD MM YYYY & HH MM SS															
Voltage –R	000.000V															
Voltage –Y	000.000V															
Voltage –B	000.000V															
Line Current –R	00.000A															

		<table><tr><td>Line Current –Y</td><td>00.000A</td></tr><tr><td>Line Current –B</td><td>00.000A</td></tr><tr><td>Active Current –R</td><td>00.000A</td></tr><tr><td>Active Current –Y</td><td>00.000A</td></tr><tr><td>Active Current –B</td><td>00.000A</td></tr><tr><td>Reactive Current-R</td><td>00.000A</td></tr><tr><td>Reactive Current-Y</td><td>00.000A</td></tr><tr><td>Reactive Current-B</td><td>00.000A</td></tr><tr><td>Power factor-R</td><td>0.000</td></tr><tr><td>Power factor-Y</td><td>0.000</td></tr><tr><td>Power factor-B</td><td>0.000</td></tr><tr><td>Average Power factor</td><td>0.000</td></tr><tr><td>Instantaneous Frequency</td><td>00.000Hz</td></tr><tr><td>Instantaneous Load</td><td>Active ,Reactive Lag/Lead,Apparent</td></tr><tr><td>Present Cumulative Energy</td><td>Active ,Reactive Lag/Lead,Apparent</td></tr><tr><td>Cumulative Power Off Duration</td><td>00000</td></tr><tr><td>Cumulative Power ON Duration</td><td>00000</td></tr><tr><td>Cumulative Tamper count</td><td>00000</td></tr><tr><td>Terminal Block Temperature (°C)</td><td></td></tr><tr><td>Cumulative Billing Count</td><td>00000</td></tr><tr><td>Last Billing date</td><td>dd:mm:yy</td></tr><tr><td>No of Power failure</td><td>00000</td></tr></table>	Line Current –Y	00.000A	Line Current –B	00.000A	Active Current –R	00.000A	Active Current –Y	00.000A	Active Current –B	00.000A	Reactive Current-R	00.000A	Reactive Current-Y	00.000A	Reactive Current-B	00.000A	Power factor-R	0.000	Power factor-Y	0.000	Power factor-B	0.000	Average Power factor	0.000	Instantaneous Frequency	00.000Hz	Instantaneous Load	Active ,Reactive Lag/Lead,Apparent	Present Cumulative Energy	Active ,Reactive Lag/Lead,Apparent	Cumulative Power Off Duration	00000	Cumulative Power ON Duration	00000	Cumulative Tamper count	00000	Terminal Block Temperature (°C)		Cumulative Billing Count	00000	Last Billing date	dd:mm:yy	No of Power failure	00000
Line Current –Y	00.000A																																													
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Last Billing date	dd:mm:yy																																													
No of Power failure	00000																																													
5.7.3	General Information	Meter shall be capable for providing below mentioned general parameters in memory Meter Serial number Firmware Version Manufacture Name Manufacture Date (DD/MM/YYYY) Meter Type Meter Class Meter Constant Meter Voltage Rating Meter Current Rating TOD profile showing timing Metering Mode Export or Import # if any additional key is required to see this value, it should be provided without any additional cost to TPXODL .																																												

5.7.4	Billing Parameters	1. Meter serial number shall be recorded and communicated for all profiles of data. All these below mentioned data should be available for Import Mode and Export-Import Mode, as applicable. 2. Cumulative kWh, kVAh (lag only for import mode), kVArh lead, lag (all import and export) and kWh for TOD1 to TOD 4 , kVAh (lag only for import mode) for TOD 1 to TOD 4 , For present and last 12 Resets (reset date for all resets/history, time zone register wise). 3. Maximum Demand Absolute Active Load and Absolute Apparent load and kW for TOD 1 to TOD 4 , kVA (lag only for import mode) for TOD 1 to TOD 4 , TOD2), for present and last 12 Resets (reset date for all resets/history, time zone register wise) along with date and time stamp. 4. Consumption (<u>Reading date, Current Month & 12 History, time zone register wise</u>) kWh, kVAh & kVArh (<u>Lag & Lead</u>) 5. Billing Dates(12History) 6. Cumulative Billing count 7. TOD details with day time 8. Monthly power On/Off hours Cumulative energy parameters kWh, kVAh (lag only), kVArh lead, lag (all import and export) and kWh (TOD1 to TOD 4), kVAh (lag only) TOD 1 to TOD 4 . The meter shall be capable of measuring Cumulative Energy (kWh & kVAh) both for IMPORT and IMPORT – EXPORT mode, wherever applicable. Note : Meter must have provision of 8 time zones.
5.7.5	Transactions	All the changes in software of meter to be logged along with date & time stamp and readings indicating the particular parameter which has been programmed. Meter should do billing if any transaction is done.
5.7.6	Tamper Events	All events should be logged as per table no-1. The meter should not have any other event logging or any logic other than desired in specs. If any other logic is present then bidder has to disclose during tender and offering of lot and get approval for same. All other logics not mentioned in specification should be removed or disabled in meter firmware if not approved by TPXODL.
5.8	Display units	The display unit shall be Pin type built-in liquid crystal display (Permanently backlit type LCD). The LCD shall be of STN (Super Twisted Nematic) construction suitable for maximum temperature withstands 65°C and minimum temperature withstands 0 °C during normal operating condition. The LCD display shall have a wide viewing angle of 120 degree. When the meter is not energized the electronic display need not be visible. The display shall not be affected by electrical, magnetic disturbances and ESD. The display should be readable in direct sunlight. The back lit must be green in color for good visibility of digits in sunlight. The kWh & kVAh register shall have minimum 8 digits LCD display and size of the digits shall be minimum 10mm x 5mm. Cumulative energy (kWh & kVAh) shall be displayed without decimal in auto scroll mode. (However decimal shall be available in push button mode for high resolution display for testing).
5.8.1	Auto Scroll mode & Push-button mode for Import and Export-Import Modes in the Meter	Persistence time for each parameter shall be 10 second. Values followed by header shall be avoided. (I.e. if MD1 is displayed in Auto scroll mode, Header (MD1) and value (say 025.238 kW) shall be shown simultaneously; it shall not be shown in successive displays. Off time shall not be available in auto scroll mode between each cycle. Auto scroll mode is restored after 10 sec, if push button is not operated. Display should not be stuck for any tamper events. Following shall be continuously displayed in auto scroll and push button mode in the given order:

For IMPORT Mode:			
Display	Display 1	Display 2	Display 3
Scroll Process	Auto	Push	Battery
LCD Check	1	1	1
Meter Sr. No	2	2	2
Date	3	3	3
Time	4	4	4
Cum. kWh	5	5	5
Cum. kVAh	6	6	6
Cum. kVARh (Lag)	7	7	
Cum. kVARh (Lead)	8	8	
TOD Cum. kWh (T1to T4)	9,10,11,12	9,10,11,12	9,10,11,12
TOD Cum. kVAh (T1 toT4)	13,14,15,16	13,14,15,16	13,14,15,16
Current Month MD kW	17	17	17
Current Month MD kVA	18	18	18
Last Month (history 1) kWh	19	19	
Last Month (history 1) kVAh	20	20	
Last Month (history 1) TOD Cum. kWh (T1to T4)	21,22,23,24	21,22,23,24	
Last Month (history 1) TOD Cum. kVAh (T1to T4)	25,26,27,28	25,26,27,28	
Last Month (history 1) MD kW		29	
Last Month (history 1) MD kVA		30	
Last Month (history 1) Power Factor	29	31	
Phase Voltages (Vr, Vy, Vb)	30,31,32	32,33,34	
Phase Currents (Ir, Iy, Ib)	33,34,35	35,36,37	
Inst. Active Power (kW)	36	38	
Inst. Apparent Power (kVA)	37	39	
Display	Display 1	Display 2	Display 3
Inst.Power Factor	38	40	
Voltage Sequence (R-Y-B)	39	42	
Current Sequence (R-Y-B)	40	43	
Current Month TOD MD kW with date & Time	-	44	-
Current Month TOD MD kVA with date & Time	-	45	-

High Resolution kWh	-	46	-
High Resolution kVAh	-	47	-
High Resolution kVARh (Lag)	-	48	-
High Resolution kVARh (Lead)	-	49	-
Magnetic Tamper count	-	50	-
Latest Magnetic tamper occurrence date	-	51	-
Latest Magnetic tamper occurrence Time	-	52	-
ESD Tamper count	-	53	-
Latest ESD tamper occurrence date	-	54	-
Latest ESD tamper occurrence time	-	55	-
TC Open tamper count	-	56	-
TC Open occurrence date of very first event	-	57	-
TC Open occurrence time of very first event	-	58	-

High Resolution Mode

Meter Should have high resolution Mode for Kwh, KVAh,kvarh,Lag and Lead upto 4 decimal place .this Mode should be activated on holding the push button 1 10 seconds and meter should come automatically out Of this mode after 5 minutes if no further command is Given.

5.9	Output Device	5.9.1 Pulse Rate: The meters shall have a suitable test output device. 2 nos of Red color blinkingLED (marked as imp per kWh and imp per Kvarh /kVAH) shall be provided in the front. This device shall be suitable for using with sensing probe used with test benches or reference standard meters.Meter constant shall be indelibly printed on the name plate as imp / kWh & imp / kVAh . Meter constant shall be as per actual without multiplying factor. 5.9.2 Communication LCD indicator-Meter display shall have  indication in context toNIC. The blinking should be slow when NIC is detected; blinking should be fast when NIC had searched the network and it should be stable when it is successfully latched to the HES. 5.9.3 Phase indication : Individual phases should be displayed on LCD display of meter and shallglow with minimum operating voltage (as defined in 4.05 of GTR)
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6.0	NAME PLATE AND MARKING	Meters shall have a name plate clearly visible and effectively secured against removal. The name plate data should be laser printed. The base color of Name plate shall be blue (Pantone 2727C) indelibly and distinctly marked with all essential particulars as per relevant standards along with the following: Manufacturer's name Type designation Number of phases and wires Serial number (Meter serial number shall be laser printed on name plate instead on sticker). Meter serial number shall be alpha numeric. Alphanumeric part detail shall be shared by TPXODL . Month and Year of manufacture (MM/YYYY) Unit of measurement Reference voltage ,frequency Ref. temperature if different from 27 deg. C Rated basic and maximum Current Meter constant (imp/kWh, Imp/kVArh) 'BIS' Mark Class index of meter "Property of TPXODL " Purchase Order No. & date Guarantee period. Rated frequency Sign of double square Country of manufacture. Firmware version for meter Category Communication Tech for WAN However the following shall be printed in bar code on the meter nameplate(shall be laserprinted on nameplate instead of any sticker). All data shall be laser printed on meter along						
		with Sr.NO and date of manufacturing. No sticker to be used to avoid loss of data in event of fire. Content Format for bar code: TPXODL MMYX XXXXXXXXXX (9-digit Serial no.) The PCB Serial number should be printed on the PCB instead of sticker. Bidder should ensure that each NIC provided in meters are having laser printed Sr. No., MFG date, 'Property of TPXODL' marked, PO date and no. (same as that of meter PO)						
7.0	TESTS	All routine, acceptance & type tests shall be carried out on the meter and meter body separately in accordance with the relevant IS/IEC. All routine/acceptance tests shall be witnessed by the TPXODL /his authorized representative. All the components shall also be type tested as per the relevant standards. Following tests shall be necessarily conducted in addition to the tests specified in IS/IEC from CPRI/ERDA.						
7.1	TYPE TEST	All type-tests defined in IS 16444 (Part-2) and IS 15959 (Part-3):2016 Test against abnormal magnetic influence as per CBIP TR 325. Test for Material used for Terminal Block and meter body as per relevant standards. IP test for IP 51 as per IS 60529 Bidder/BA must submit valid BIS license for manufacturing smart energy meters asper IS 16444 and IS 15959 (Part-3) with all requisite inclusions.						
7.2	ROUTINE TEST	AC High Voltage test (Clause no. 12.7.6.3 of IS 14697) Insulation test (Table 18 of Clause no. 12.7.6 of IS 14697) Test on limits of error (Clause no. 11 of IS 14697) Test of starting current (Clause no. 12.13 of IS 14697) Test of no load condition (Clause no. 12.12 of IS 14697) Communication check of NIC (Table27 of IS 15959 (Part 3); Clause no. 9.5 & 10 of IS16444 Part -2)						
7.3	ACCEPTANCETEST	AC High Voltage test (Clause no. 12.7.6.3 of IS 14697) Insulation test (Table 18 of Clause no. 12.7.6 of IS 14697) Test on limits of error (Clause no. 11 of IS 14697) with following loads:						
		120% Imax	Imax (10A)	Ib (5A)	0.1 Ib	0.02 Ib	0.05Ib	0.01Ib
		UPF, 0.8 lead and 0.5 lag	UPF, 0.8 lead and 0.5 lag	UPF, 0.8 lead and 0.5lag	UPF, 0.8 lead and 0.5lag	UPF, 0.8 lead and 0.5lag	UPF	UPF

		All tests as defined in IS 15959(Part-3):2017 (clause 27 & 28) Functionality of communication module IS 16444 part2 Meter reading on HES demand, Scheduled meter reading from HES, remote firmware upgrade from HES and all programming request from HES to be simulated and checked during inspections (as per this technical specification). Physical check of NIC and replaceable ease of the NIC module in meter (as per this technical specification). Any other test required as per latest IS 16444, 15999 and relevant parts shall be tested during inspections.
7.4	Special Test	The bidder shall demonstrate the communication capability of the meter through communication modes as defined in the specification before conducting acceptance tests.
8.0	TYPE TEST CERTIFICATE	The bidder shall furnish the type test certificates of the meter for the tests as mentioned above as per the corresponding standards. All the tests shall be conducted at CPRI/ ERDA as per BIS 16444 part-2. For communication testing any national approved laboratory or international acclaimed lab or equivalent will also suffice at the discretion of TPXODL. For technical evaluation of the tender, we may consider Type test report as per IS 14697. In such case the Bidder should provide IS16444-2 compliant test report before starting of supply of meters. Type test should have been conducted in certified Test Laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports i.e. any test report not acceptable or any/all type tests (including additional type tests, if any) not carried out, same shall be carried out without any cost implication to TPXODL .
9.0	PRE-DESPATCH INSPECTION	Inspection may be made at any stage of manufacture at the discretion of the TPXODL of the equipment, if found unsatisfactory as to workmanship or material, the same is liable to rejection. Equipment shall be subject to inspection by a duly authorized representative of the TPXODL . Bidder shall grant free access to the places of manufacture to TPXODL's representatives at all times when the work is in progress. Inspection by the TPXODL or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by TPXODL. Following documents shall be sent along with material) Test reports MDCC issued by TPXODL Invoice in duplicate Packing list Drawings & catalogue Guarantee / Warrantee card Delivery Challan Other Documents (as applicable) One no. leaflet with each meter Note-Photographs of packed lot clearly showing s.no of meters whose inspection call has been requested should be sent along with letter for inspection call. One copy of the report shall be sent to Plant Engineering department. Two meters from the offered lot, if deemed necessary, shall be tested for all tampers at TPXODL laboratory for compliance to anti tamper feature before MDCC. The inspectors shall free to take any two meters from offered lot for testing at our Lab. BA should check and ensure each meter and reset each meter for any event logged for any tamper.

10.0	INSPECTION AFTER RECEIPT AT STORE	The material received at TPXODL's store shall be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection.
11.0	GUARANTEE	Bidder shall stand guarantee towards design, materials, workmanship & quality of process / manufacturing of items under this contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the TPXODL up to a period of at least 60 months from the date of commissioning or 66 months from the date of last supplies made under the contract whichever is earlier, Bidder shall be liable to undertake to replace/rectify such defects at its own costs, within mutually agreed time frame, and to the entire satisfaction of the Company, failing which the TPXODL will be at liberty to get it replaced/rectified at bidder's risks and costs and recover all such expenses plus the Company's own charges (@ 20% of expenses incurred), from the bidder or from the "Security cum Performance Deposit" as the case may be. Bidder shall own responsibility for all internal component with an end to end agreement with individual component manufacturer.
12.0	PACKING	Bidder shall ensure that all material covered under this specification shall be prepared for rail/road transport (local equipment) and be packed in such a manner as to protect it from damage in transit. The material used for packing shall be environmentally friendly. Packing and transportation shall be as per IS 15707:206 clauses 9.1 and 9.2. Individual meter should be packed in separate box. Routine test report (with manufacturing company logo) of the individual meter shall be kept inside each card board carton of the meter. On back side of routine test certificate (RTC) the bidder shall print a picture of the meter with its small details like for consumer to know about meter or display parameters sheet. The softcopy of the routine test certificate of each meter to be provided with each lot to TPXODL, MMG. The routine test certificate shall contain results & all tests of clause no. 7.2. Bar code containing information of meter Sr. No should be pasted on the outer most box in which single / group of meters are transported
13.0	Material Supply & Dispatch	The supply of meter shall be within 45 days.
13.0	SAMPLE	Tendering stage: Bidders are required to manufacture 03 numbers of sample meters(Two 11 KV, One 33 KV) as per the TPXODL specification (sealed, unsealed and openable base and cover to view/test the inner circuits) and submit the samples (non-returnable) along with bid for approval. The tender sample as per IS 13779 & IS 15959 shall be acceptable for verification and other checks. The samples shall be retained at TPXODL. Address of Dispatch: Meter Testing Lab Pre-manufacturing approvals: The successful bidder shall submit two prototype samples of meters at Meter Testing Lab, at location informed by TPXODL during submission time, for further testing and compliance as per specifications and shall get GTP approval before mass manufacturing. Further, for 33kV Smart Meters, one sample may be asked for demonstration and compliance as per specifications, prior to the manufacturing approval. Following accessories to be submitted along with sample at both the tendering stage & pre-manufacturing approvals stages: Detailed manual Communication cords Tamper logic sheet Display parameter annunciator BCS Internal connection diagram.

14.0	TRAINING	Suitable training to be arranged for TPXODL representatives, for operation and handling of every software and hardware regarding communication between meter & HHU, meter & HES, without any cost implications towards TPXODL if applicable.
15.0	QUALITY CONTROL	The bidder shall submit with the offer Quality assurance plan indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and fully assembled component and equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. Quality should be ensured at the following stages: At PCB manufacturing stage, each board shall be subjected to computerized bare board testing. At insertion stage, all components should undergo computerized testing for conforming to design parameter and orientation. Complete assembled and soldered PCB should undergo functional testing using Automatic Test Equipment (ATEs). Prior to final testing and calibration, sample meters shall be subjected to aging test (i.e. meters will be kept in ovens for 24 hours at 55 Deg. C temperature and atmospheric humidity under real-life condition at its full load current. After 24 hours meter should work satisfactorily. TPXODL's engineer(s) or its nominated representative(s) shall have free access to the bidder's/manufacture's works to carry out inspections.
16.0	MINIMUM TESTING FACILITIES	Bidder shall have adequate in house testing facilities for carrying out all routine tests & acceptance tests as per relevant International / Indian standards. The bidder shall have duly calibrated Reference Standard meter of Class 0.02 accuracy or better and NABL accredited Lab for acceptance test.
17.0	MANUFACTURING ACTIVITIES	The successful bidder will have to submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart shall be in line with the Quality assurance plan submitted with the offer.
18.0	SPARES, ACCESSORIES AND TOOLS	Bidder to provide free of cost 02 nos. of jig (irrespective of order lot) for retrieving data from memory of meter with every new design of meter in which previous jig is supplied cannot be used. Jig should be such that NVM can be push fit on this jig and data can be retrieve from this NVM. Five (5) nos. of optical cord against each 100 meter lot on pro-rata basis for retrieving the data of meter through optical port should be provided, if design of optical port is changed from those of previously supplied meters. 10 Lug & ferrule per meter , 5 NIC card per 100 Meter .
19.0	DRAWINGS AND DOCUMENTS	Following drawings & Documents shall be prepared based on TPXODL specifications and statutory requirements and shall be submitted with the bid: Completely filled-in Technical Parameters. General arrangement drawing of the meter Terminal Block dimensional drawing Mounting arrangement drawings. General description of the equipment and all components with makes and technical requirement Type Test Certificates Experience List After the award of the contract, soft copies of following drawings, drawn to scale, describing the equipment in detail shall be forwarded for approval:

		<table><tr><th>S. No.</th><th>Description</th><th>For Approval</th><th>For Review Information</th><th>Final Submission</th></tr><tr><td>1</td><td>Technical Parameters</td><td>√</td><td></td><td>√</td></tr><tr><td>2</td><td>General Arrangement drawings</td><td>√</td><td></td><td>√</td></tr></table>	S. No.	Description	For Approval	For Review Information	Final Submission	1	Technical Parameters	√		√	2	General Arrangement drawings	√		√															
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		Bidder shall subsequently provide soft copy of all the drawings, GTP, data-sheet of dis-connector switch, data-sheet/ comparative analysis (of material of terminal block, terminal cover, terminal screw, meter body, meter base), Test certificates and integration documents with HES for the final approval of TPNODL, before mass manufacturing. All the documents & drawings shall be in English language.																														
20.0	GUARANTEED TECHNICAL PARTICULARS	Clause-wise compliance to this technical specification. (Require 10 optical cord per 100 Meter for data downloading through CMRI / Mobile , 10 Lug & ferrule per meter , 5 NIC card per 100 Meter)																														

Annexure : OBIS Code
Bidder shall provide the OBIS code as per IS 15959-Part3 , IS 15959-Part2 , IS 15959-Part1 and DISCOM specific OBIS code . The finalization of OBIS code will be done by respective Discom as per HES requirement . The Discom will provide the OBIS code after release of RC . Integration of meter with HES is responsibility of bidder.

Technical Specification for Three Phase Whole Current Energy Meter

1	SCOPE	This specification covers the technical requirements of design, manufacturing, testing & integration with network integration card (NIC) of 4G communication being used at TPXODL at meter manufacturer's works, packing, forwarding, supply and unloading at store/site of three phase four wire, 3x230 voltage, 20-100A, whole current static smart energy meters of accuracy class 1.0 (here after referred as meters) complete with all accessories for efficient and trouble free operation with communication module (NIC) compatible with 4G technology along with meter box. It is not the intent to specify completely herein all the details of tech design and construction of material. However, the material shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in manner acceptable to the TPXODL, who will interpret the meanings of drawings and specification and shall have the power to reject any work or material which, in his judgment is not in accordance therewith. The offered material shall be complete with all components necessary for their effective and trouble free operation. Such components shall be deemed to be within the scope of Bidder's supply irrespective of whether those are specifically brought out in this specification and/or the commercial order or not.																																	
2	APPLICABLE STANDARDS	The equipment covered by this specification shall conform to the requirements stated in latest editions & amendments of relevant Indian/ IEC Standards and shall conform to the regulations of local statutory authorities. <table border="1"> <tr> <td>a</td><td>IS 16444 Part-1 : 2015</td><td>A.C. Static Direct connected Watt hour Smart meter class 1.0 and 2.0</td></tr> <tr> <td>b</td><td>IS 13779 : 1999</td><td>A.C. Static Watt hour meter class 1.0 and 2.0</td></tr> <tr> <td>c</td><td>IS 15884 : 2010</td><td>A.C. direct connected static prepayment meters for active energy (class 1 & 2)</td></tr> <tr> <td>d</td><td>IS 15959 Part 1: 2011</td><td>Data exchange for electricity meter reading, tariff and load control</td></tr> <tr> <td>e</td><td>IS 15959 Part 2 : 2016</td><td>Data exchange for electricity meter reading , tariff and load control</td></tr> <tr> <td>f</td><td>IEEE 802.15.4 : 2003</td><td>Standard for local and metropolitan area networks</td></tr> <tr> <td>g</td><td>IS 9000</td><td>Basic Environmental testing procedure for electrical and electronic items.</td></tr> <tr> <td>h</td><td>IEC 62052-11: 2003</td><td>Electricity Requirements (AC) General Requirements Tests and Test conditions for A.C. Static Watt hour meter for active energy Class 1.0 and 2.0.</td></tr> <tr> <td>i</td><td>IEC 62053-21: 2003</td><td>A.C. Static Watt hour meter for active energy Class 1.0 and 2.0</td></tr> <tr> <td>j</td><td>IS 15707 : 2006</td><td>Testing Evaluation installation and maintenance of AC Electricity Meters- Code of practice.</td></tr> <tr> <td>k</td><td>IEC 60068</td><td>Environmental testing.</td></tr> </table>	a	IS 16444 Part-1 : 2015	A.C. Static Direct connected Watt hour Smart meter class 1.0 and 2.0	b	IS 13779 : 1999	A.C. Static Watt hour meter class 1.0 and 2.0	c	IS 15884 : 2010	A.C. direct connected static prepayment meters for active energy (class 1 & 2)	d	IS 15959 Part 1: 2011	Data exchange for electricity meter reading, tariff and load control	e	IS 15959 Part 2 : 2016	Data exchange for electricity meter reading , tariff and load control	f	IEEE 802.15.4 : 2003	Standard for local and metropolitan area networks	g	IS 9000	Basic Environmental testing procedure for electrical and electronic items.	h	IEC 62052-11: 2003	Electricity Requirements (AC) General Requirements Tests and Test conditions for A.C. Static Watt hour meter for active energy Class 1.0 and 2.0.	i	IEC 62053-21: 2003	A.C. Static Watt hour meter for active energy Class 1.0 and 2.0	j	IS 15707 : 2006	Testing Evaluation installation and maintenance of AC Electricity Meters- Code of practice.	k	IEC 60068	Environmental testing.
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Technical Specification for Three Phase Whole Current Energy Meter

		I	CBIP-TR No.325	Specification for A.C. Static Electrical EnergyMeters (latest amendment)
		m	CEA Regulation (2006)	Installation and operation of meters Dtd: 17/03/2006.
		n	IS 12346:1999	Testing Equipment For Ac Electrical Energy Meters
		o	IS 11000	Fire Hazard Testing
		p	IS 60529	Degree of protection provided by enclosure
3	CLIMATE CONDITIONS OF THE INSTALLATION	a) Max. Ambient Temperature : 70 deg.C b) Max. Daily average ambient temp. : 40 deg.C c) Min Ambient Temp : -10 deg C d) Maximum Humidity : 100% e) Minimum Humidity : 10% f) Average No. of thunderstorm days per annum : 50 g) Maximum Annual Rainfall : 750 mm h) Average No. of rainy days per annum : 60 i) Rainy months : June to Oct. j) Altitude above MSL not exceeding : 300 meters k) Wind Pressure : 126 kg/sq m up to an elevation at 10 m. The atmosphere is generally laden with mild acid and dust in suspension during the dry months and is subjected to fog in cold months. The design of equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.3 g.		
4	GENERAL TECHNICAL REQUIREMENTS	S.No.	DESCRIPTION	REQUIREMENT
		4.01	Type of the meter	Three phase four wire, static watt-hour direct connected type smart meter without application of any multiplication constant. It consisting of measuring elements(s),time of use of register(s),display, load switch and plug in type bi-directional communication module all integral within the meter housing.
		4.02	Accuracy Class of the meter	1.0
		4.03	Basic Current (Ib) & rated Maximum current (Imax)	Ib= 20A; Imax= 100 Amps (Meter shall be able to continuously carry 120% of Imax Meeting the accuracy requirements)
		4.04	Reference Conditions for testing the performance of the meter	Vref = 230V Frequency = 50Hz Temperature= 27°C
		4.05	Operating Voltage	Meter shall be operational with required accuracy from 0.6 Vref to 1.2 Vref. However meter shall withstand the maximum system Voltage of 440V (for minimum 5 min).

Technical Specification for Three Phase Whole Current Energy Meter

4.06	Operating Frequency	50 Hz± 5%.	
4.07	Power Consumption	Voltage circuit: Maximum 5.0 W and 15 VA Current Circuit :Maximum 18.4 VA as per IS 16444 part 1 (amendment)	
4.08	Starting Current	80mA (0.4% of Ib) (phase current) as per IS 13779	
4.09	Short time over Current	3000 A for 0.01 sec (30Imax for one half cycle at Rated frequency)	
4.10	Influence of heating	Temperature rise at any point of the external surface of the meter shall not exceed by more than 20 ^o C with an ambient temperature at 50 ^o C.	
4.11	Rated Impulse withstand voltage	6KV (shall be applied ten times with one polarity and then repeated with the other polarity.)	
4.12	AC withstand Voltage for 1 min	4 KV	
4.13	Minimum Insulation resistance at test voltage 500+/- 50 V dc a) Between frame & current ,voltage circuits as well as auxiliary circuits connected together: b) Between each current (or voltage circuit) & each and every other circuit. :	a) 5 M ohm b) 50 M ohm.	
4.14	Mechanical requirements	Meter shall be in compliance with clause 12.3 of IS 13779	
4.15	Resistance to heat and fire	The terminal block and Meter case shall ensure safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them as per clause 6.8 of IS 13779. Fire retardant material shall be used.	
4.16	Protection against penetration of dust and water.	Degree of protection :IP 51 as per IS 12063/60529, but Without suction in the meter. Meter shall comply with clause 6.9 and 12.5 of IS 13779	
4.17	Resistance against Climatic influence.	Meter shall be in compliance with clause 12.6 of IS 13779.	

Technical Specification for Three Phase Whole Current Energy Meter

		4.18	Electromagnetic Compatibility (EMC)	Meter shall be in compliance with clause 4.5 & 5.5 of IS 15884.
		4.19	Accuracy requirements	Meter shall be in compliance with clause 11 of IS 13779.
		4.20	Power factor range	Zero lag to Zero lead. & meter shall be programmed at default lag only configuration i.e. Lead to be treated as unity for kVA&kVAh calculations
		4.21	Energy measurement	Fundamental energy +Energy due to Harmonics
		4.22	Connection Diagram	The connection diagram for the system shall be provided on terminal cover.
		4.23	Self Diagnostic feature	The meter shall have indications for unsatisfactory / non-functioning of (i) Real Time Clock (ii) RTC battery (iii) Non Volatile Memory (iv) NIC card
		4.24	Initial start up of meter	Meter shall be fully functional within 5 sec after reference voltage is applied to the meter terminals.
		4.25	Alternate mode of supply to the meters	In case of meter power failure, reading/data should be retrieved with the help of battery or other power source.
		4.26	Sleep Mode	Meter shall not go in sleep mode. Display should not be 'off' at any point of time when power up.
		4.27	Internal diameter of the terminal holes Depth of the terminal holes	9.5mm (minimum) 20 mm (minimum)
		4.28	Clearance between adjacent terminals	10 mm (minimum)
		4.29	Display	Backlit LCD, Scrolling, 10 seconds for each parameter. minimum 8 digits LCD display
		4.30	Security feature	Programmable facility to restrict the access to the information recorded at different security level such as read communication, write communication, firmware selection from remote etc.
		4.31	Software and communication compatibility	The bidder shall supply software required for local (MRI / Mobile App), BCS & remote (AMI) connectivity including required training to use the software free of cost.
		4.32	Calibration	Meters shall be software calibrated at factory and modifications in calibration shall not be possible at site by any means. However parameters like RTC, TOD slots, DIP(billing & load survey), billing date, display

Technical Specification for Three Phase Whole Current Energy Meter

				parameters etc. shall be reconfigure through MRI and remotely over the air (OTA)
		4.33	Communication module of meter for AMI	As per clause no 1.2 (b) of IS 16444. Meter should have provision of communication module compatible with both the variant mentioned in IS 16444. This module should be able to get connected to the 4G Network provided by Network Service Provider . Meter should be able to provide required power supply to NIC card provided by communication provider recommended by TPXODL. Size /form factor of NIC card will be provided by TPXODL to the bidder and bidder should make necessary arrangement for the same.
		4.34	Communication Layer Protocol	Should be as per clause 9.3 of IS 16444
		4.35	Key Management and Security Feature	Should be as per IS 15959
		4.36	Harmonics recording	The meter should record the current and voltage THD. The meter should record harmonics up to 20th harmonic Average THD of all phase for voltage THD and current THD. THD values shall have 30 minutes integration period in load survey. Accuracy of harmonics recording shall be as per meter accuracy class. The meter shall generate a flag whenever the threshold (user configurable) of the 5% THD of the load current and voltage is breached.
		4.37	Usage Application	Indoor and Outdoor
		4.38	Chemical Bonding	Meter cover and body should be seamlessly chemically bonded, so that meter should not open without leaving clear mark.

Technical Specification for Three Phase Whole Current Energy Meter

4.1	DISCONNECTOR	The meter shall have the facility of disconnecting and re-connecting the load of the meter from the remote and by authenticated command through Laptop/HHU at site by means of a built-in contactor. This operation shall be conducted with the help of a third party software which is owned by us and in addition to the manufacturer's own software. Each operation of the switches shall be logged by the meter as an event with date and time stamp and reading parameters. This operation should be in line with clause 11 of IS 16444. Meter should display reason for disconnection in meter display (if available). The cumulative number of ON/OFF operations shall also be made available. Switch shall be in compliance to IS 15884. The make of the load switch should be of reputed make like Grooner (German) or equivalent and same shall be confirmed by the bidder during tendering. The brief technical particulars of this Disconnector/load switch are furnished below:- <table><tr><th>S.No.</th><th>DESCRIPTION</th><th>REQUIREMENT</th></tr><tr><td>1</td><td>Operating Voltage range</td><td>130 V to 470 V</td></tr><tr><td>2</td><td>Operating Current range</td><td>20 mA to 120 A</td></tr><tr><td>3</td><td>Maximum switching power</td><td>22 kVA per phase/ per IS 15884 Annex G</td></tr><tr><td>4</td><td>No. of poles</td><td>3 nos (one in each R, Y, B phases)</td></tr><tr><td>5</td><td>Operation of switches</td><td>Simultaneous</td></tr><tr><td>6</td><td>Utilization Categories</td><td>UC1 or better</td></tr><tr><td>7</td><td>Min. Number of operation</td><td>1500 (close, open each)</td></tr><tr><td>8</td><td>Relay Disconnection / Connection status</td><td>Should be displayed in Meter</td></tr><tr><td>9</td><td>Default Relay operation</td><td>Relay should be disconnect when current reached to 105% I_{max}</td></tr></table>	S.No.	DESCRIPTION	REQUIREMENT	1	Operating Voltage range	130 V to 470 V	2	Operating Current range	20 mA to 120 A	3	Maximum switching power	22 kVA per phase/ per IS 15884 Annex G	4	No. of poles	3 nos (one in each R, Y, B phases)	5	Operation of switches	Simultaneous	6	Utilization Categories	UC1 or better	7	Min. Number of operation	1500 (close, open each)	8	Relay Disconnection / Connection status	Should be displayed in Meter	9	Default Relay operation	Relay should be disconnect when current reached to 105% I _{max}
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Technical Specification for Three Phase Whole Current Energy Meter

4.2	NIC MODULE DETAILS & INTEGRATION	With the service providers offering 4G services, TPXODL intends to leverage 4G as the communication technology for meter data acquisition. a) The Network Interface Card for 4G shall be modular and pluggable. The NIC shall be interoperable for service provider b) NIC card shall support remote Device Management Capability such as Reset, Configuration, Log Check, Ping, and over the air Firmware upgrade c) NIC shall support two-way communications between smart meter & head-end system such as data exchange, configuration parameters exchange, alarms, operational commands, firmware upgrade of the meter as defined in IS16444 and IS15959. d) NIC shall support push services, alarms services of the smart meter as defined in IS16444 and IS15959. e) 4G NIC card shall support communication protocols as prescribed by 4G HES supplier. f) NIC shall also support on-demand / schedule reading, connect / disconnect, time sync, configuration and over the air firmware upgrade from the head-end system. g) NIC shall have persistent network connectivity throughout as defined by 4G standards. It shall support self-configuring and self-healing features. h) NIC shall operate 24*7 and shall recover from any deadlock situation immediately in the field. i) Support for possibility for provision of a unique certificate / key in each card for mutual authentication with the HES from security point of view. j) NIC shall support standard security protocols. k) NIC shall be compliant with cyber security norms. l) NIC shall register with network i.e. login and logout of each terminal to the HES. It shall be recognized in the HES as authorized node. m) Attributes such as Firmware version, Hardware version, Signal strength values, packet error rate, should be pushed periodically to HES for effective communication management. n) Data must be encrypted. o) LED indication for System, Power ON indicator. p) Colour coded LED (a) For latching on to the network (b) For latched on to the network (c) For data flow indication. q) Meter display should have provision for showing various Status as per below table
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Technical Specification for Three Phase Whole Current Energy Meter

		<table><tr><th>Sr. No</th><th colspan="2">Error Details</th></tr><tr><td>1</td><td>All Good</td><td>Err 00</td></tr><tr><td>2</td><td>Meter NIC Communication failure</td><td>Err 01</td></tr><tr><td>3</td><td>Modem Initialization failure</td><td>Err 02</td></tr><tr><td>4</td><td>SIM not detected</td><td>Err 03</td></tr><tr><td>5</td><td>SIM invalid</td><td>Err 04</td></tr><tr><td>6</td><td>No GSM Network Coverage</td><td>Err 05</td></tr><tr><td>7</td><td>GPRS Network Registration Failure</td><td>Err 06</td></tr><tr><td>8</td><td>GPRS Registration denied</td><td>Err 07</td></tr><tr><td>9</td><td>No APN Configured</td><td>Err 08</td></tr><tr><td>10</td><td>GPRS Connection not establish</td><td>Err 09</td></tr><tr><td>11</td><td>HES IP/Port not configured</td><td>Err 10</td></tr><tr><td>12</td><td>HES Port not Open</td><td>Err 11</td></tr></table>	Sr. No	Error Details		1	All Good	Err 00	2	Meter NIC Communication failure	Err 01	3	Modem Initialization failure	Err 02	4	SIM not detected	Err 03	5	SIM invalid	Err 04	6	No GSM Network Coverage	Err 05	7	GPRS Network Registration Failure	Err 06	8	GPRS Registration denied	Err 07	9	No APN Configured	Err 08	10	GPRS Connection not establish	Err 09	11	HES IP/Port not configured	Err 10	12	HES Port not Open	Err 11
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4.3	Communication capabilities and software feasibilities	4.3.1 The meter shall have facilities for data transfer locally through Meter Reading Instrument (MRI) / Mobile App (Using optical port/NIC card), BCS and remotely by 4G with proper security via Plug in type NIC. Data transfer locally through optical port via MRI is desired along with data transfer through NIC card. The data downloaded in MRI/ hand held device shall be integrated to HES data base. 4.3.2 It should be the responsibility of the bidder to ensure integration of meter into HES. 4.3.3 It shall be possible to reconfigure the meters for RTC, TOD slots reprogramming, DIP (Demand Integration period), billing date, display parameters etc. through proper authentication process locally through MRI / Mobile App, BCS and remotely over the air (OTA). Meter data should remain intact with timings. And billing should be done whenever any above-mentioned attribute is changed. The change should be recorded as upgrade event. 4.3.4 Necessary keys if required for performing this reconfiguration operation should also be provided along with supply of meter lot & training to TPXODL staff on how to use it free of cost. Bidder to provide this support on a later stage also on the request of TPXODL without any cost implication. 4.3.5 Optical Communication port shall be available for communication. Communication ports shall not be affected by any type of injection /unauthenticated signals and having proper sealing arrangement. 4.3.6 Bidder to ensure integration of meter data with head end for data transfer as mentioned in specification. TPXODL reserves the right that if required, TPXODL will hand over the SIM cards to OEM and supply will be accepted with SIM cards. Details of SIM card installed in each meter will be provided by bidder. This details should be submitted alongwith other details at GRN stage.																																							

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		4.3.7 Meter should be supplied to TPXODL along with integrated NIC card. NIC card should be plug in type with proper sealing arrangement. 4.3.8 The bidder shall supply software required for local (MRI) / BCS & remote (AMI) connectivity including required training to use the software free of cost. Bidder shall provide the communication protocol / APIs for communication with meter through local (MRI) / remote (AMI) as and when required by TPXODL free of cost during life time of meter. The bidder should provide DLMS compliance for Communication with the meter at Optical port and at HES. 4.3.9 Bidder should also provide software for changing/upgrading meter firmware in mass and should support integration of this software with HES. Bidder should also provide base computer software (BCS) for viewing the data downloaded through HES / MRI/ laptop in separate PC/laptop. 4.3.10. Meter Should send alerts instantly alongwith timestamp. Events with time stamp & snapshot data send to HES as per push periodicity, 4.3.11If there are 2 requests given for communication one from HES and other from local device, request from local device should supersede. 4.3.12Meter Serial no will be used for tagging of all data of the meters in all database (at HES / MDM etc). However, it will be the responsibility of the Bidder to establish the complete communication solution involving all the meters in the system. 4.3.13The Bidder's supplied meter with third party communication module should have suitable hand-shaking features to allow a third-party MDMS(procured by TPXODL) to configure, command, read and control smart meters installed at site.The Bidder shall extend all necessary assistance in developing the adaptor software through a third-party for facilitating the above. 4.3.14Integration of meter software's with HES / MDMS for seamless transfer of data will also be in scope of bidder till the expiry of warranty of the meters. It is desired. meter firmware up gradation/selection should be available over the air. Meter should be able to change from post-paid to prepaid or vice versa mode remotely. The required firmware and any required support for integration with HES shall be provided free of cost till the useful life of the meter. 4.3.15Communication of the meter at optical port /OTA should be as per IS 15959 (Part-2):2016. The optical port should be with proper lockable mechanism 4.3.16Communication NIC/network should be immune with any external Magnetic field/ESD/Jammer/HV voltage influence such that it shall not affect the normal overall functionality. 4.3.17The required OBIS codes shall be as per IS 15959 and Tata Power defined OBIS Code. Details will finalized during Engineering stage with successful Bidder.
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Technical Specification for Three Phase Whole Current Energy Meter

		Meter display should have provision for showing various NIC card status as per below table	
		Sr. No	Error Details
		1	All Good Err 00
		2	Meter NIC Communication failure Err 01
		3	Modem Initialization failure Err 02
		4	SIM not detected Err 03
		5	SIM invalid Err 04
		6	No GSM Network Coverage Err 05
		7	GPRS Network Registration Failure Err 06
		8	GPRS Registration denied Err 07
		9	No APN Configured Err 08
		10	GPRS Connection not establish Err 09
		11	HES IP/Port not configured Err 10
		12	HES Port not Open Err 11
		4.3.18 If any tamper occurs in power off situation, it should be pushed as soon as the meter is powered on. 4.3.19 Bidder to provide facility for Up-gradation / Modification of Firmware Following parameters may be updated multiple times during life cycle of meters over the air : Post Paid to Prepaid mode and vice versa Import mode to Import - export Mode and vice versa. (default is in Import Mode). Meter must be lag only even during Import – Export mode. meter should be stopped forward mode during Import – Export mode. Accordingly Display parameters shall be updated remotely.	

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4.4	Immunity against external influencing signals	a) Continuous DC magnetic induction: $>0.20 \text{ Tesla} \pm 5\%$ (Value of the magneto motive force to be applied shall be generally $>10000 \text{ AT}$). b) AC magnetic induction: $>10 \text{ milli Tesla}$ (if produced with circular metal core with square cross section as specified in CBIP latest report with 2800 AT) c) Permanent Magnet: Immune up to 0.5T and Event logging $>0.5\text{T}$. 4.4.2 Electrostatic Discharge (ESD): Meter shall be immune up to 50 kV and shall record accurate energy as per IS- 13779:1999/CBIP-325. Meter shall log the event into memory as ' ESD' with date & time stamp for any ESD greater than 50 Kv with snap shot, the event logging threshold values as per table no. 1 in 4.6 4.4.3 The shielding around the meter shall be such that it does not get affected by high Voltage and high energy or low energy impulse when comes in contact with meter from any side. 4.4.4 Meter should immune to high/low frequency jammer devices. Meter shall log the event in its memory as" JAMMER" with date and time stamp, the threshold values as per table no. 1 in 4.6. 4.4.5 The meter should be immune or log the tamper on application of any other higher magnetic field of any frequency waves, micro waves like magnetron etc. the threshold values as per table no. 1 in 4.6.
4.5	Neutral Disturbance & other tampers	4.5.1 The meter shall not saturate on passage of direct current, which can cause the meter either to stop recording/ record inaccurately. DC injection shall be tested both in phase and neutral. Measurement by meter shall not get influenced by injection of Chopped signal/ DC signal/ DC pulse upto 330V and for any value beyond this. Meter shall log the event into memory as 'Neutral Disturbance' with date & time stamp the thresholds are as per table no. 1 in 4.6 4.5.2 The meter should log event as 'High Neutral current' with snapshot when all three phase currents are zero and neutral current is present.
4.6	Abnormal and Tamper conditions	4.6.1 The meter shall record forward energy under all abnormal tampering conditions and shall be capable of recording occurrence and restoration of abnormal events listed below along with date & time and snap shots of individual voltages, currents, power factors, active energy and apparent energy at the time of occurrence of abnormal event and restoration of normal supply. 4.6.2 For all tamper events the time stamp and snapshot parameters shall be recorded at the start time of event for occurrence (T1) and for restoration the time stamp and snapshot parameters shall be recorded at the end time of the event (T3). 4.6.3 During abnormal & tamper conditions, the current shall be recorded as active current and line current. Each such event shall be provided with minimum count

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of as per table no.1 to avoid missing of data amidst usual events (like power failure) due to the limitation of FIFO. Persistence time for occurrence and restoration for the events along with their threshold values shall be as per table no. 1 given below.

4.6.4 The events for which the restoration not occurred those should not be removed from meter memory and FIFO should not be applicable for unrestored event.

4.6.5 Tamper event logging along with snapshot during occurrences & restorations shall be as per table no.1. The smart meters manufacturing samples should start recording the abnormal influencing signals as defined in the specifications.

4.6.6 All tamper/event logging thresholds values shall be configurable from remotes.

4.6.7 On request Meter should be able to provide historic data also.

Table No.1

Persistence Time for Occurrences	Persistence Time for Restoration	Threshold Value for Occurrence of Events	Threshold Value for Restoration of Events	Component Size
ESD/JAMMER=immediate (record only 1 event on first application & only one event for next 1min) (ESD)	ESD/JAMMER = 0 Hr 01 Min 0 sec (ESD) (should restore after 1 min. of last application)	Immunity up to 50 KV with NIC and logging of event>50 KV	Removal of ESD/JAMMER signal	25
Magnet = 0 Hr2 Min 0 sec (MAG)	Magnet = 0 Hr 2 Min 0 sec (MAG)	>0.5 Tesla for permanent magnet OR DC magnetic induction >0.2T OR AC magnetic induction > 10 mT (of any frequency)	<0.5 Tesla for permanent magnet OR DC magnetic induction < 0.2T or AC magnetic induction <10 mT	25
Meter Top Cover Open (TC Open) Immediate	Meter Top Cover Open (TC Open) Immediate	If meter top cover is opened	NA	05 (Stay put Type)
Potential Missing = 0 Hr 10 Min 0 sec (PM)	Potential Missing = 0 Hr 2 Min 0 sec	Voltage < 60% of Vref AND current > 2% Ibasic	Voltage > 80% of Vref AND current > 2% Ibasic	25

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			Voltage Unbalance = 0 Hr 30 Min 0 sec (VU)	Voltage Unbalance = 0 Hr 2 Min 0 sec	20% or more between the phases and current > 2% I _{basic}	Shall be less than 10 % between the phases and current > 2% I _{basic}	25
			CT Open (phase wise) = 0 Hr 10 Min 0 sec	CT Open (phase wise) = 0 Hr 2 Min 0 sec	I _r + I _y + I _b + I _n ≥ 10 % of I _{basic} (vector Sum) AND Phase current < 1% of I _{basic} with All current positive	I _r + I _y + I _b + I _n < 5 % of I _{basic} . (vector Sum) AND Phase current > 10% of I _{basic} with All current positive	25
			CT Reversal = 0 Hr 30 Min 0 sec (CTR)	CT Reversal = 0 Hr 2 Min 0 sec	Active current negative	Active current positive AND > 2 % I _{basic}	25
			Current Unbalance = 0 Hr 30 Min 0 sec (CU)	Current Unbalance = 0 Hr 2 Min 0 sec	Current difference ≥ 30% between phases and I _{min} 10% of I _{basic}	Current difference < 20% between the phases and I _{min} > 5% of I _b	25
			Low Power Factor = 0 Hr 30 Min 0 sec (LPF)	Low Power Factor = 0 Hr 2 Min 0 sec	I > 1% of I _b and Power Factor ≤ 0.5 in any phase	I > 1% of I _b and Power Factor ≤ 0.7 in respective phase	25
			Neutral Disturbance = 0 Hr 01 Min 0 sec (ND)	Neutral Disturbance = 0 Hr 2 Min 0 sec (ND)	Voltage > 145% of V _{ref} & Current > 10% I _b OR Frequency < 47 Hz OR Frequency > 53 Hz OR DC voltage / signal/ pulse/ chopped signal injection	Voltage < 115% of V _{ref} & Current > 10% I _b AND Frequency > 47 Hz OR Frequency < 53 Hz	25
			Power On Off = 0 Hr 05 Min 0 sec	Power On Off = immediate	Actual Voltage off	Actual Voltage On	25
			Over Voltage = 0 Hr 30 Min 0 sec	Over Voltage = 0 Hr 2 Min 0 sec	Voltage > 130% of V _{ref}	Voltage < 110% of V _{ref}	25
			Over current = 0 hr 30 min 0 sec (OL)	Over Current = 0 hr 2 min 0 sec	> Preset value (default value set at 120% I _b)	I < 100% I _b	25

Meter shall be provided with feature for terminal cover opening with time stamping.

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Technical Specification for Three Phase Whole Current Energy Meter

			<table border="1"> <tr> <td>Microwave immediate (record only 1 event on first application & only one event for next 1min)</td> <td>Microwave 0 Hr 01 Min 0 sec (should restore after 1min. of last application)</td> <td>Any higher frequency magnetic waves, micro waves > 10 mT (or mutually decided)</td> <td>Removal of device</td> <td>25</td> </tr> <tr> <td>Temperature Rise = 0 Hr 30 Min 0 sec (TR)</td> <td>Temperature Rise = 0 Hr 02 Min 0 sec (TR)</td> <td>Temperature >70°C</td> <td>Temperature <60°C</td> <td>25 (Stay put type)</td> </tr> <tr> <td>NIC card Removed (Immediate)</td> <td>NIC Card inserted (Immediate)</td> <td>On removal of card</td> <td>On insertion of card</td> <td>20</td> </tr> <tr> <td>Invalid Ph Association (0 Hr 10Min 0 Sec)</td> <td>Invalid Ph Association (0 Hr 2 min 0Sec)</td> <td>Change of phase Association</td> <td>Restoration of phase Association</td> <td>5</td> </tr> <tr> <td>High Neutral Current (HNC) 0 Hr 10 Min 0 sec</td> <td>High Neutral Current (HNC) 0 Hr 02 Min 0 sec</td> <td>When phase current are zero & neutral current >10% Ib</td> <td>neutral current <10% Ib</td> <td>20</td> </tr> </table>	Microwave immediate (record only 1 event on first application & only one event for next 1min)	Microwave 0 Hr 01 Min 0 sec (should restore after 1min. of last application)	Any higher frequency magnetic waves, micro waves > 10 mT (or mutually decided)	Removal of device	25	Temperature Rise = 0 Hr 30 Min 0 sec (TR)	Temperature Rise = 0 Hr 02 Min 0 sec (TR)	Temperature >70°C	Temperature <60°C	25 (Stay put type)	NIC card Removed (Immediate)	NIC Card inserted (Immediate)	On removal of card	On insertion of card	20	Invalid Ph Association (0 Hr 10Min 0 Sec)	Invalid Ph Association (0 Hr 2 min 0Sec)	Change of phase Association	Restoration of phase Association	5	High Neutral Current (HNC) 0 Hr 10 Min 0 sec	High Neutral Current (HNC) 0 Hr 02 Min 0 sec	When phase current are zero & neutral current >10% Ib	neutral current <10% Ib	20	
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Note: "Meter shall have neutral CT for tamper identification and analysis." 4.6.9 Meter shall latch & store cumulative count and cumulative durations all the tamper events which have logged /occurred/stored in memory of meter from the date of energization till life of meter. Total tamper storage should be as per table 1 above. 4.6.10 The meter shall record in export registers in case of reversal of all CT terminals. The meters are to be used for registration of energy consumed by the consumer, as such the meters shall be programmed for import mode and in case of reversal of energy direction (reversal of all CT terminals) meter shall register energy separately in export mode i.e. in case of CT reversal, meter shall record scalar (not vector sum) sum of energy. 4.6.11 The meter shall register correctly if supply neutral is not available at the meter neutral terminal. 4.6.12 The meter shall work in absence of any two incoming wires. 4.6.13 It shall keep recording correctly in case of unbalance system voltage also.																													

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		4.6.14The meter shall keep working accurately irrespective of the phase sequence of the supply. The meter shall be functional even if somehow change in the phase sequence takes place. Meter shall sufficiently record this event as reverse sequence. 4.6.15The Meter Shall be able to differentiate between actual CT reversal and condition arising out of unbalanced / unhealthy capacitor bank. The logics for the same to be provided in tender samples also. 4.6.16The Cover Open tamper detection should be through heavy duty, sturdy two number micro switches with OR gate logic such that it should not log false event on vibration or impact during handling or testing. Meter Cover Open Event should log Attributes like Voltage, Current, pf, Active energy etc.)								
4.7	Event compartments	4.7.1 The event compartments shall be IS 15959 Part-1 table 9. 4.7.2 The size of the event compartments should be such that all above events (in table no.1 and other required events defined in various clauses of this documents) are accommodated in the assigned event category compartment. i.e. if in case of voltage compartment assigned to 4 number of events then the minimum size of this compartment should be such that it should accommodate sum of all maximum number of events as marked above table 1 4.7.3 Transaction events compartment size shall be minimum 100 events.								
5	GENERAL CONSTRUCTION	The Meter shall be designed and constructed in such a way as to avoid introducing any danger in normal use and under normal conditions, so as to ensure especially personal safety against electric shock, safety against effect of excessive temperature, protection against spread of fire, protection against penetration of solid objects, dust and water. All parts, which are subject to corrosion under normal working conditions, shall be protected effectively. Any protective coating shall not be liable to damage by ordinary handling or damage due to exposure to air, under normal working conditions. The meters shall be designed and manufactured using SMT (Surface Mount Technology) components There should not be any connector or joint in the CT connection & PT Connections from PCB. All CT secondary shall be soldered on PCB. The battery cell shall be button/coin type leak proof. All the material and electronic power components used in the manufacture of the meter shall be of highest quality and reputed make to ensure higher reliability, longer life and sustained accuracy as given below or if there is any change then prior approval required from TPXODL: <table><tr><td>S No</td><td>Component Function</td><td>Requirement</td><td>Makes and Origin</td></tr><tr><td></td><td></td><td></td><td></td></tr></table>	S No	Component Function	Requirement	Makes and Origin				
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		1.	Measurement/ computing chips	The Measurement/ computing chips used in the meter should be with the Surface mount type along with the ASICs	<u>USA:</u> Analog Devices, Cyrus Logic, Atmel, Phillips, Freescale semiconductor <u>South Africa:</u> SAMES <u>Japan:</u> NEC
		2.	Memory chips/NVM	The memory chips should not be affected by the external parameters like sparking, high voltage spikes or Electro static discharges. The life of NVM shall be 15 years.	<u>USA:</u> Atmel, National Semiconductors, Texas Instruments Phillips, Microchip <u>Japan:</u> Hitachi or Oki <u>Swiss:</u> STMicro
		3.	Display modules	The display modules should be well protected from the external UV radiations. The display visibility should be sufficient to read the meter mounted between height of 0.5m and 2m. The construction of the modules should be such that the displayed quantity should not be disturbed with the life of display. Should be with Green LED background. It should be trans-reflective STN type industrial grade with extended temperature range.	<u>Taiwan:</u> Holtek <u>Singapore:</u> Bonafied Technologies <u>Korea:</u> Advantek <u>China:</u> Xiamen, Truly semiconductor
		4.	Optical port	Optical port should be used to transfer the meter data to meter reading instrument. The mechanical construction of the port should be such to facilitate the data transfer easily. It should be magnetic locking type	<u>USA:</u> National Semiconductors <u>Holland / Korea:</u> Phillips <u>Taiwan:</u> MAXIM, Everlight <u>Japan:</u> Hitachi
		5.	P.C.B.	Glass Epoxy, fire resistance grade with minimum thickness 1.6 mm	<u>A class consumer</u>
		6.	Electronic components	The active & passive components should be of the surface mount type & are to be handled & soldered by the state of art assembly processes.	<u>USA:</u> National Semiconductors, Atmel, Phillips, Texas Instruments, Vishay <u>Japan:</u> Hitachi, Oki, AVX or Ricoh <u>Korea:</u> Samsung
		7.	Battery	Lithium with guaranteed life of 15 years	Varta / Tedirun / Vitzrocell / Sanyo
		8.	Micro controller and RTC having separate battery	The accuracy of RTC shall be as per relevant IEC / IS standards and RTC shall be provided with separate battery in its ckt.. The microcontroller shall be of superior quality from reputed make with long life.	<u>USA:</u> Philips, Dallas, Atmel, Motorola <u>Japan:</u> NEC or Oki

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		9.	Temperature sensor	Temperature sensor shall be internal to the meter and its accuracy shall be as per relevant IEC / IS standards. The OEM test report to be furnished. With good performance till life of meter.	USA: Philips , Dallas, Atmel, Motorola <u>Japan:</u> NEC or Oki
		Note: Neutral CT should be of same make & same accuracy class as that of Phase CT.			
5.1	Meter Body	5.1.1 Meter body shall be made of unbreakable, high grade, fire retardant reinforced Insulating material (protective Class II) with FV0 Fire Retardant, self - extinguishing, UV stabilize, recyclable and Anti oxidation properties. 5.1.2 The minimum thickness of the meter enclosure shall be 2mm. 5.1.3 Meter base shall be opaque with polycarbonate LEXAN 500R or equivalent on prior approval from the TPXODL. (If different material offered the bidders should submit material data sheet in technical bid) 5.1.4 Meter cover shall be transparent with polycarbonate LEXAN 143R/943A or equivalent on prior approval from the TPXODL. (If different material offered the bidders should submit material data sheet in technical bid) 5.1.5 Meter cover & base shall be provided with continuous and seamless chemical welding such that it is not opened without breaking the enclosure. Front cover & base shall be such that it is not possible to cut & open the meter without certainly damaging the meter body and by no means shall an attempt to reassemble would not leave physical evidence. The damage evidences should be visible externally& should be traceable in such a way that attempts can be proved in court of law. 5.1.6 The meter body shall be sealed in such a way that opening of meter base and cover is possible only after breaking the seal(s). 5.1.7 Unidirectional screws to be used on meter covers where ever required. 5.1.8 During meter manufacturing the meter seal fixing should be tightened such that the seal body should be close to meter body. 5.1.9 The Meter body shall be such that the liquid or chemical shall not reach the electronic parts if liquid is injected from any side of meter body such as meter terminals, push button, display, NIC card casing etc. Necessary protection and water tight sealing to be provided at terminals and Push buttons etc. 5.1.10 OEM should provide all required features as per OERC billing criteria in meter even if it is not mentioned in the specifications.			

Technical Specification for Three Phase Whole Current Energy Meter

5.2	Terminals, Terminal Block	5.2.1 Terminal block should be in single mould with meter body base. (Not separate) 5.2.1 After any attempts the terminal block should not be able to disengaged, opened or loosen from any side. Any attempt to disengage the terminal block should certainly damage the meter body with physical evidences. The damage evidences should be visible externally & should be traceable in such a way that attempts can be proved in court of law. 5.2.2 Terminals may be grouped in terminal block having adequate insulating properties and mechanical strength. In order to satisfy such requirements when choosing insulating materials for the terminal block adequate testing of materials shall be taken into account. 5.2.3 Terminal block and terminal cover shall be of a material which complies with the requirements of IS11731 (part 1) method FH1. The material of which the terminal block is made shall be capable of passing the Heat Deflection temperature test given in ISO 75 for temperature of 180°C and pressure of 1.8M Pa. Tested as per ISO 75-2/A or ASTM D648. 5.2.4 The terminal block shall be of opaque with polycarbonate LEXAN500R or equivalent on prior approval from the TPXODL. (If different material offered the bidders should submit material data sheet in technical bid) 5.2.5 The terminals and connections shall be suitable to carry up to 120 % of I_{max} continuously (I_{max} 100 A). The size, design & material of Busbar /Shunt/Terminal shall be with suitable cross sectional area so that temperature rise will not be more than 20 °C above ambient temperature of 45°C at 120% of I_{max} loading for 06hrs continuous. This test of temp. rise shall be done on tender samples & will also be done on any samples from any supplied lot. 5.2.6 To get the desired temp rise & avoid hot spots the design of the each terminal screw, terminal screw shall be an minus head screw brass (nickel coated) and bottom of screw should be flat. 5.2.7 The terminal block, the terminal cover and the meter case shall ensure reasonable safety against the spread of fire. They shall not be ignited by thermal overload of live parts in contact with them. 5.2.8 Temperature sensor to be provided from inside near the terminal block of the energy meter for sensing the temperature and meter should be programmed in such way that on reaching the threshold value set (as per tamper table no. 1) the event/alert should go to HES/MDMS. 5.2.9 The manner of fixing the conductors to the terminals shall ensure adequate and durable contact such that there is no risk of loosening or undue heating. Terminals shall be with minus head screw with at least 8 mm dia for better contact area. Terminal & screw should not be damaged during regular opening and tightening. (MS terminals not accepted)
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Technical Specification for Three Phase Whole Current Energy Meter

		5.2.10 Internal diameter of the terminal holes shall be minimum 9.5 mm; minimum clearance between adjacent terminals shall be 10 mm. Minimum Depth of the terminal holes shall be of 20 mm. 5.2.11 Minimum two number of terminal screws to be provided per terminal wire. 5.2.12 Terminal block shall be such that the risk of corrosion resulting from contact with any other metal part is minimized. Electrical connections shall be so designed that contact pressure is not transmitted through insulating material. 5.2.13 The Aluminum cable of 4x50sq.mm shall be used as service line. Hence the terminals shall be provided with Zinc plating or tinning or suitable compatible coating to avoid the bimetallic effect at the joints with AL core of cable. 5.2.14 The preferred arrangement of terminals shall be linear and if any change is offered then suitable arrangement for testing at our testing lab (MMG and MTL) to be provided by bidder free of cost as per requirement.
5.3	Terminal Cover	5.3.1 Terminal cover shall be transparent with polycarbonate LEXAN 143R/943A or equivalent on prior approval from the TPXODL. 5.3.2 Appropriate space shall be available for incoming /outgoing cables without damaging/stressing terminal cover (terminal cover design shall be as per the TPXODL approval). After sealing the cover, terminals shall not be accessible without breaking the seals. 5.3.3 The terminal cover design should be such that the sealing screw locking provision on cover should have min dimension of 3mmx3mm. (Excluding seal lock hole)
5.4	Sealing of meter& terminal cover	5.4.1 Reliable sealing arrangement shall be provided to make the meter tamper evident and to avoid fiddling or tampering by unauthorized persons. 5.4.2 For this, one no. Polycarbonate seal and three no. Hologram seal (on Left, Right & Top side) shall be provided by the bidder. 5.4.3. One no polycarbonate seal shall be provided by the TPXODL. This seal shall be fix on right hand side of meter. 5.4.4. All the seals with unique serial numbers shall be fixed on meter body by the bidder at his works before calling for inspection. 5.4.5 Two sealing provision shall be provided at meter terminal cover, such that terminal shall not be accessible without breaking the seals. All the seals shall be provided on front side only and as per the TPXODL specification. Rear side sealing arrangement shall not be accepted. Bidder will provide complete seal details at the time of GRN in predefined format.

Technical Specification for Three Phase Whole Current Energy Meter

		5.4.6 Plug in type NIC card cover should have proper sealing arrangement and should be sealed with TPXODL polycarbonate seal. 5.4.7 The bidder shall provide TPXODL(MMG store and MTL) the soft record of polycarbonate seal and hologram seal serial number and NIC card serial number used against each meter serial number along with its position (RHS/LHS/Top/ NIC Cover) in tabular form for every lot of meter.										
5.5	TOD Feature	The meter shall be capable of measuring Cumulative Energy (kWh &kVAh), and MD (kW & kVA) with time of day (TOD) registers having 8 zones & 02 seasons (no. of zones& time slot shall be programmable by MRI with adequate security level and in one to one /broadcast mode over the air). Current TOD (during tender) to be given is as below, <table><tr><td>Slots</td><td>Time Slot</td></tr><tr><td>Normal Hours</td><td>00:00-08:00</td></tr><tr><td>Solar Hours</td><td>08:00-16:00</td></tr><tr><td>Normal Hours</td><td>16:00-18:00</td></tr><tr><td>Peak Hours</td><td>18:00 – 24:00</td></tr></table> The bidder to ask TPXODL for latest TOD timing slots before manufacturing of every lot.	Slots	Time Slot	Normal Hours	00:00-08:00	Solar Hours	08:00-16:00	Normal Hours	16:00-18:00	Peak Hours	18:00 – 24:00
Slots	Time Slot											
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5.6	MD Integration	The MD integration period shall be 15 minutes (integration period-programmable by MRI / Mobile App remotely with required security. The MD resetting shall be automatic at the 1st of the month i.e. 0000 hours of 1st day of the month. Manual MD reset button shall not be available. Last six MD values shall be stored in the memory and one to be displayed in the Auto scroll mode. MD shall be recorded and displayed with minimum three digits before decimal and minimum two digits after decimal points.MD integration shall be of sliding Type at an interval of 5 min.										
5.7	Parameters in BCS	All these parameters shall be downloaded locally or remotely and interpreted in PC/Laptop. All the parameters shall be recorded and memorized in its Non volatile Memory (NVM). The corresponding non volatile memory shall have a minimum retention time of 10 years. Last six months history data (kWh & kVAh (lag only) current & TOD reading and MD(kW &kVA(lag only) current & TOD) with data and time) and at least last 25 tamper events for each tamper shall be available in the non volatile Memory. Fail to be log in memory in the following conditions only in BCS not in display a) RTC fail b) NVM memory fail c) Battery fail d) NIC card fail ‘High THD’ to be log in memory in the following conditions only in BCS not in display a) THDV any phase higher than threshold b) THDI any phase higher than threshold *Meter shall be programed at default ‘lag only’ configuration i.e. Leading power factor to be treated as unity for kVA & kVAh calculations. All the parameters shall be as per actual without multiplying factor.										

Technical Specification for Three Phase Whole Current Energy Meter

5.7.1	Load survey (for pre-paid & postpaid meter mode)	The meter shall be capable of recording 15 minutes average of the following parameters not limited to mentioned below (refer IS 15959) for at least last 45 power ON days, a) Voltage for each phase b) Current of each phase c) Actual neutral current d) Average PF e) Average kWh f) Average kVAh (lag only) g) kVArh((All 4 quadrant) i) Temperature near terminal block (°C) j) THD Voltage phase wise k) THD Current phase wise l) Demand(KW) m) Demand(KVA) During Import -Export Mode, Active Energy & Apparent Energy shown separately for Import & Export Meter shall be capable of recording daily Energy and Demand 00:00 to 24:00 Hrs kWh, kVAh, kW, kVA in BCS for 45 days. Midnight energy value of cumulative kWh, kVAh and daily consumption kWh, kVAh should be available in meter memory for last 45 days. Load survey data should be at least with 5 decimal place																																												
5.7.2	Instantaneous Parameters	Meter shall be capable for following Instantaneous Parameters in Memory and should be available in BCS. <table><tr><td>Meter Sr. No.</td><td></td></tr><tr><td>Meter Type</td><td></td></tr><tr><td>Meter date & Time</td><td>DD MM YYYY HH MM SS</td></tr><tr><td>Voltage –R</td><td>000.000V</td></tr><tr><td>Voltage –Y</td><td>000.000V</td></tr><tr><td>Voltage –B</td><td>000.000V</td></tr><tr><td>Line Current –R</td><td>00.000A</td></tr><tr><td>Line Current –Y</td><td>00.000A</td></tr><tr><td>Line Current –B</td><td>00.000A</td></tr><tr><td>Actual Neutral Current</td><td>00.00A</td></tr><tr><td>Active Current –R</td><td>00.000A</td></tr><tr><td>Active Current –Y</td><td>00.000A</td></tr><tr><td>Active Current –B</td><td>00.000A</td></tr><tr><td>Reactive Current-R</td><td>00.000A</td></tr><tr><td>Reactive Current-Y</td><td>00.000A</td></tr><tr><td>Reactive Current-B</td><td>00.000A</td></tr><tr><td>Power factor-R</td><td>0.000</td></tr><tr><td>Power factor-Y</td><td>0.000</td></tr><tr><td>Power factor-B</td><td>0.000</td></tr><tr><td>Average Power factor</td><td>0.000</td></tr><tr><td>Instantaneous Frequency</td><td>00.000Hz</td></tr><tr><td>Instantaneous Load</td><td>Active ,Reactive Lag/Lead, Apparent</td></tr></table>	Meter Sr. No.		Meter Type		Meter date & Time	DD MM YYYY HH MM SS	Voltage –R	000.000V	Voltage –Y	000.000V	Voltage –B	000.000V	Line Current –R	00.000A	Line Current –Y	00.000A	Line Current –B	00.000A	Actual Neutral Current	00.00A	Active Current –R	00.000A	Active Current –Y	00.000A	Active Current –B	00.000A	Reactive Current-R	00.000A	Reactive Current-Y	00.000A	Reactive Current-B	00.000A	Power factor-R	0.000	Power factor-Y	0.000	Power factor-B	0.000	Average Power factor	0.000	Instantaneous Frequency	00.000Hz	Instantaneous Load	Active ,Reactive Lag/Lead, Apparent
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Technical Specification for Three Phase Whole Current Energy Meter

		<table><tr><td>Present Cumulative Energy</td><td>Active ,Reactive Lag/Lead, Apparent</td></tr><tr><td>Cumulative PowerOff Duration</td><td>00000</td></tr><tr><td>Cumulative PowerON Duration</td><td>00000</td></tr><tr><td>Cumulative Tamper count</td><td>00000</td></tr><tr><td>Cumulative Tamper duration</td><td>00000</td></tr><tr><td>Last Billing date</td><td>dd:mm:yy</td></tr><tr><td>Terminal Block Temperature(°C)</td><td></td></tr><tr><td>Vector/phasor diagram (also showing neutral current)</td><td></td></tr><tr><td>No. of disconnector operation (Open)</td><td>00000</td></tr><tr><td>No. of disconnector operation (Close)</td><td>00000</td></tr></table>	Present Cumulative Energy	Active ,Reactive Lag/Lead, Apparent	Cumulative PowerOff Duration	00000	Cumulative PowerON Duration	00000	Cumulative Tamper count	00000	Cumulative Tamper duration	00000	Last Billing date	dd:mm:yy	Terminal Block Temperature(°C)		Vector/phasor diagram (also showing neutral current)		No. of disconnector operation (Open)	00000	No. of disconnector operation (Close)	00000
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5.7.3	General Information	Meter shall be capable for providing below mentioned general parameters in memory Meter Serial number Software Name Version Manufacture Name Manufacture Date (MM/YY) Meter Type Meter Class Meter Constant Meter Voltage Rating Meter Current Rating TOD profile # if any additional key is required to see this value, it should be provided without any additional cost to TPXODL.																				
5.7.4	Billing Parameters	1) Cumulative kwh, kVAh (lag only), kVArh lead, KVArhlag (all import and export) and for all ToD defined in the document (kWh, kVAh (Lag only), kVArh (all Quad) , For present and last 06 Resets (reset date for all resets/history, time zone register wise) 2) Maximum Demand Absolute Active Load and Absolute Apparent load and for all ToD also. for present and last 06 Resets (reset date for all resets/history, time zone register wise) along with date and time stamp. Monthly power on/off hrs. 3) <u>Billing Dates (06 History) Mode of operation of disconnector switch</u> Last five modes with date & time of switching with cumulative energy parameters kWh, kVAh (lag only), kVArh lead, KVArh lag (all import and export) and all ToD wise parameters																				
	PUSH Parameters & Periodicity	Parameters should be pushed as per defined periodicity. The indicative parameters mentioned above. Billing Profile : once in a month Instantaneous Profile: 4 times in a day Event Profile: once in day																				

Technical Specification for Three Phase Whole Current Energy Meter

		Mid night Profile: once in a day (alongwith ToD data) Nameplate Profile: whenever meter starts Alerts: as when occurred																																	
5.7.5	Transactions	All the changes in software of meter to be logged along with date & time stamp and readings. Meter should do billing if any billing related transaction is done.																																	
5.8	Display units	The display unit shall be Pin type built-in liquid crystal display (Permanently backlit type LCD). The LCD shall be of STN (Super Twisted Nematic) construction suitable for maximum temperature withstands 70°C and minimum temperature withstands 0 °C during normal operating condition. The LCD display shall have a wide viewing angle of 120 degree. When the meter is not energized the electronic display need not be visible. The display shall not be affected by electrical, magnetic disturbances and ESD. The display should be readable in direct sunlight. The back lit must be green in color for good visibility of digits in sunlight. The kWh & kVAh register shall have minimum 8 digits LCD display and size of the digits shall be minimum 10mmx5mm. Cumulative energy (kWh & kVAh) shall be displayed without decimal in auto scroll mode. (However decimal shall be available in push button mode for high resolution display for testing).																																	
5.8.1	Auto Scroll mode & push button mode in Post paid mode	Persistence time for each parameter shall be 10 second. Values followed by header shall be avoided. (I.e. if MD1 is displayed in Auto scroll mode, Header (MD1) and value(say 5.23 kW) shall be shown simultaneously; it shall not be shown in successive displays. Off time shall not be available in auto scroll mode between each cycle. Auto scroll mode is restored after 10 sec, if push button is not operated. Display should not be stuck for any tamper events. All energy values should be without decimal. Following shall be continuously displayed in auto scroll and push button mode in the given order; (Final list shall be approved during GTP approval stage) <table border="1"> <thead> <tr> <th>Display</th><th>Display 1</th><th>Display 2</th></tr> <tr> <th>Scroll Process</th><th>Auto</th><th>Push</th></tr> </thead> <tbody> <tr> <td>LCD Check</td><td>1</td><td>1</td></tr> <tr> <td>Meter Sr. No</td><td>2</td><td>2</td></tr> <tr> <td>Date</td><td>3</td><td>3</td></tr> <tr> <td>Time</td><td>4</td><td>4</td></tr> <tr> <td>Cum. kWh</td><td>5</td><td>5</td></tr> <tr> <td>Cum. kVAh</td><td>6</td><td>6</td></tr> <tr> <td>Cum. kVARh (Lag)</td><td>7</td><td>7</td></tr> <tr> <td>Cum. kVARh (Lead)</td><td>8</td><td>8</td></tr> <tr> <td>TOD Cum. kWh (T1,T2,T3, T4)</td><td>9,10,11, 11A</td><td>9,10,11, 11A</td></tr> </tbody> </table>	Display	Display 1	Display 2	Scroll Process	Auto	Push	LCD Check	1	1	Meter Sr. No	2	2	Date	3	3	Time	4	4	Cum. kWh	5	5	Cum. kVAh	6	6	Cum. kVARh (Lag)	7	7	Cum. kVARh (Lead)	8	8	TOD Cum. kWh (T1,T2,T3, T4)	9,10,11, 11A	9,10,11, 11A
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Technical Specification for Three Phase Whole Current Energy Meter

		TOD Cum. kVAh (T1,T2,T3, T4)	12,13,14, 14A	12,13,14, 14A
		Current Month MD kW	15	15
		Current Month MD kVA	16	16
		Last Month (history 1) kWh	17	17
		Last Month (history 1) kVAh	18	18
		Last Month (history 1) TOD Cum. kWh (T1,T2,T3, T4)	19,20,21, 21A	19,20,21, 21A
		Last Month (history 1) TOD Cum. kVAh (T1,T2,T3 T4)	22,23,24, 24A	22,23,24, 24A
		Last Month (history 1) MD kW	25	25
		Last Month (history 1) MD kVA	26	26
		Last Month (history 1) Power Factor	27	27
		Phase Voltages (Vr, Vy, Vb)	28,29,30	28,29,30
		Phase Currents (Ir, Iy, Ib)	31,32,33	31,32,33
		Inst. Active Power (kW)	34	34
		Inst. Apparent Power (kVA)	35	35
		Inst.Power Factor	36	36
		Voltage Sequence (R-Y-B)	37	37
		Current Sequence (R-Y-B)	38	38
		Status of Load Switch (connected or disconnected)	39	39
		High Resolution kWh	-	40
		High Resolution kVAh	-	41
		High Resolution kVARh (Lag)	-	42
		High Resolution kVARh (Lead)	-	43
		Magnetic Tamper count	-	44
		Latest Magnetic tamper occurrence date	-	45
		Latest Magnetic tamper occurrence Time	-	46
		ESD Tamper count	-	47
		Latest ESD tamper occurrence date	-	48
		Latest ESD tamper occurrence time	-	49
		TC Open tamper count	-	50
		TC Open occurrence date of very first event	-	51
		TC open occurrence time of very first event	-	52
		Count of Connect	-	53
		Date & Time of Last Occurrence	-	54,55
		Count of disconnect	-	56
		Date & Time of Last Occurrence	-	57,58

Hold the push Button for 10 sec to enter in the high resolution mode and hold, and meter should come out if no further command given for 5 min.

Technical Specification for Three Phase Whole Current Energy Meter

5.8.2	Auto Scroll mode & push button in Pre-paid mode	Persistence time for each parameter shall be 10 second. Values followed by header shall be avoided. (I.e. if MD1 is displayed in Auto scroll mode, Header (MD1) and value (say 5.23 kW) shall be shown simultaneously; it shall not be shown in successive displays. Off time shall not be available in auto scroll mode between each cycle. Auto scroll mode is restored after 10 sec, if push button is not operated. Display should not be stuck for any tamper events. All energy values should be without decimal. Following shall be continuously displayed in auto scroll and push button mode in the given order list is indicative; (Final list shall be approved during GTP approval stage) <table border="1"> <thead> <tr> <th>Display</th><th>Display 1</th><th>Display 2</th></tr> </thead> <tbody> <tr> <td>Scroll Process</td><td>Auto</td><td>Push</td></tr> <tr> <td>LCD Check</td><td>1</td><td>1</td></tr> <tr> <td>Meter Sr. No</td><td>2</td><td>2</td></tr> <tr> <td>Date</td><td>3</td><td>3</td></tr> <tr> <td>Time</td><td>4</td><td>4</td></tr> <tr> <td>Cum. kWh</td><td>5</td><td>5</td></tr> <tr> <td>Cum. kVAh</td><td>6</td><td>6</td></tr> <tr> <td>Cum. kVARh (Lag)</td><td>7</td><td>7</td></tr> <tr> <td>Cum. kVARh (Lead)</td><td>8</td><td>8</td></tr> <tr> <td>TOD Cum. kWh (T1,T2)</td><td>9,10,</td><td>9,10,</td></tr> <tr> <td>TOD Cum. kVAh (T1,T2)</td><td>11,12,</td><td>11,12</td></tr> <tr> <td>Current Month MD kW</td><td>13</td><td>13</td></tr> <tr> <td>Current Month MD kVA</td><td>14</td><td>14</td></tr> <tr> <td>Last Month (history 1) kWh</td><td>15</td><td>15</td></tr> <tr> <td>Last Month (history 1) kVAh</td><td>16</td><td>16</td></tr> <tr> <td>Last Month (history 1) TOD Cum. kWh (T1,T2,)</td><td>17,18,</td><td>17,18,</td></tr> <tr> <td>Last Month (history 1) TOD Cum. kVAh (T1,T2,)</td><td>19,20</td><td>19,20</td></tr> <tr> <td>Last Month (history 1) MD kW</td><td>21</td><td>21</td></tr> <tr> <td>Last Month (history 1) MD kVA</td><td>22</td><td>22</td></tr> <tr> <td>Last Month (history 1) Power Factor</td><td>23</td><td>23</td></tr> <tr> <td>Phase Voltages (Vr, Vy, Vb)</td><td>24,25,26</td><td>24,25,26</td></tr> <tr> <td>Phase Currents (Ir, Iy, Ib)</td><td>27,28,29</td><td>27,28,29</td></tr> <tr> <td>Inst. Active Power (kW)</td><td>30</td><td>30</td></tr> <tr> <td>Inst. Apparent Power (kVA)</td><td>31</td><td>31</td></tr> <tr> <td>Inst.Power Factor</td><td>32</td><td>32</td></tr> </tbody> </table>	Display	Display 1	Display 2	Scroll Process	Auto	Push	LCD Check	1	1	Meter Sr. No	2	2	Date	3	3	Time	4	4	Cum. kWh	5	5	Cum. kVAh	6	6	Cum. kVARh (Lag)	7	7	Cum. kVARh (Lead)	8	8	TOD Cum. kWh (T1,T2)	9,10,	9,10,	TOD Cum. kVAh (T1,T2)	11,12,	11,12	Current Month MD kW	13	13	Current Month MD kVA	14	14	Last Month (history 1) kWh	15	15	Last Month (history 1) kVAh	16	16	Last Month (history 1) TOD Cum. kWh (T1,T2,)	17,18,	17,18,	Last Month (history 1) TOD Cum. kVAh (T1,T2,)	19,20	19,20	Last Month (history 1) MD kW	21	21	Last Month (history 1) MD kVA	22	22	Last Month (history 1) Power Factor	23	23	Phase Voltages (Vr, Vy, Vb)	24,25,26	24,25,26	Phase Currents (Ir, Iy, Ib)	27,28,29	27,28,29	Inst. Active Power (kW)	30	30	Inst. Apparent Power (kVA)	31	31	Inst.Power Factor	32	32
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Technical Specification for Three Phase Whole Current Energy Meter

		Voltage Sequence (R-Y-B)	33	33
		Current Sequence (R-Y-B)	34	34
		Status of Load Switch (connected or disconnected)	35	35
		Current Balance Amount (Current Balance)	36,37	36,37
		Current Balance Date & Time	38,39	38,39
		Total Balance at Last Recharge(Previous Balance)	40,41	40,41
		Last Recharge Amount	42,43	42,43
		Last Recharge Date & Time	44,45	44,45
		High Resolution kWh	-	46
		High Resolution kVAh	-	47
		High Resolution kVARh (Lag)	-	48
		High Resolution kVARh (Lead)	-	49
		Magnetic Tamper count	-	50
		Latest Magnetic tamper occurrence date	-	51
		Latest Magnetic tamper occurrence Time	-	52
		ESD Tamper count	-	53
		Latest ESD tamper occurrence date	-	54
		Latest ESD tamper occurrence time	-	55
		TC Open tamper count	-	56
		TC Open occurrence date of very first event	-	57
		TC open occurrence time of very first event	-	58
		Count of Connect		59
		Date & Time of Last Occurrence	-	60,61
		Count of disconnect	-	62
		Date & Time of Last Occurrence	-	63,64
		TOD Timing – as defined in this document above, this is to be confirmed before manufacturing of lot.		
		Following parameters may be updated multiple times during life cycle of meters over the air :		
		Enabling Post Paid to Prepaid mode and vice versa		
		remotely Import mode to export Mode and vice versa.		
		Accordingly Display parameters shall be updated remotely		

Technical Specification for Three Phase Whole Current Energy Meter

5.9	Output Device	Pulse Rate: The meters shall have a suitable test output device. 2 nos of Red color blinking LED (marked as imp/kWh and imp/kVArh) shall be provided in the front. This device shall be suitable for using with sensing probe used with test benches or reference standard meters. The test output device shall have constant pulse rate of (preferred value- 400) pulse / kWh & pulse/kVArh. Meter constant shall be indelibly printed on the name plate as imp / kWh & imp/kVArh. Communication LCD indicator- The meter shall be provided with suitable LCD indication for communication in progress. Load Switch LCD indicator- The meter shall be provided with suitable LCD indication for condition of load switch (Close/open). LCD should show when load switch is open. - Phase indication : Individual phases should be displayed on LCD display of meter and shall glow with minimum operating voltage (as defined in 4.05)
6.0	NAME PLATE AND MARKING	Meters shall have a name plate clearly visible and effectively secured against removal. The name plate data should be laser printed. The base color of Name plate shall be blue (as of TPXODL logo) indelibly and distinctly marked with all essential particulars as per relevant standards along with the following. - Manufacturer's name - Type of Meter - Number of phases and wires - Serial number (Meter serial number shall be laser printed on name plate instead of sticker). - Month and Year of manufacture - Unit of measurement - Reference voltage , frequency - Ref. temperature if different from 27 deg. C - Rated basic and maximum Current - Meter constant (imp/kWh & Imp/kVArh) 'BIS' Mark - Class index of meter "Property of TPXODL" - Purchase Order No. & date - Guarantee period. - Rated frequency - Sign of double square - Country of manufacture. - Symbol of load switch. - Communication Tech for WAN - Category However the following shall be printed in bar code / QR Code 1 on the meter nameplate.(shall be laser printed on name plate instead of sticker).

Technical Specification for Three Phase Whole Current Energy Meter

		1) Manufacturer's code No.(given by TPXODL) 2) RO / PO NoTPXODL Property 3) Month/Year of manufacture. Barcode 2/ QR code 2 should have only Meter Sr No. Bidder should ensure that NIC provided in meters are having laser printing of Sr. No., MFG date, 'Property of TPXODL' marked, PO date and no. (same as that of meterPO)
7.0	TESTS	All routine, acceptance & type tests shall be carried out on the meter and meter body separately in accordance with the relevant IS/IEC. All routine/acceptance tests shall be witnessed by the TPXODL/his authorized representative. All the components shall also be type tested as per the relevant standards. Following tests shall be necessarily conducted in addition to the tests specified in IS/IEC.
7.1	TYPE TEST	1) All tests as defined in IS 16444 Part-1: 2015 /IS 13779:1999 & IS15959 Part-2: 2016. 2) Test against abnormal magnetic influence as per CBIP TR 325. 3) Meter shall be type tested as per BIS16444 part-1
7.2	ROUTINE TEST	1) AC High Voltage test 2) Insulation test 3) Test on limits of error 4) Test of starting current 5) Test of no load condition
7.3	ACCEPTANCE TEST	• AC High Voltage test • Insulation test • Test on limits of error • Test of meter constant • Test of starting current • Test of no load condition • Test of repeatability of error. • Test of power consumption. • Test for Immunity against external influencing signal as per the TPXODL specification • Test for Immunity against DC Immunity as per the TPXODL specification • Test for Immunity against Tamper conditions as per the TPXODL specification • Error measurements with all abnormal condition along with ESD, magnet, • Test to Influence of Harmonics • Supply voltage and frequency variation test • Testing of self diagnostic features • Tamper count increment and logging with date and time in meter database • All tests as defined in IS 15959(Part-2):2016 • Functionality of communication module is 16444 part2 • smart meter communicability as per provision of 28 IS 15959 (part-3) • Meter reading on HES demand, Scheduled meter reading from HES, remote firmwareupgrade from HES and all programming request from HES to be simulated and checked during inspections. • Physical check of NIC and replaceable ease of the NIC module in meter. Any other test required as per latest IS 16444, 15999 and relevant parts shall be tested during inspections.

Technical Specification for Three Phase Whole Current Energy Meter

	a) METER BOX	Acceptance Tests Physical verification of dimensions of the box. Compatibility of the box for housing the Meter, and ensuring ease of connecting and reading the meter. Test for mechanical strength. . Routine Tests : The routine test certificates for the following shall be furnished for approval of the purchaser. Physical verification of dimension of the box. Compatibility of the box for housing the meter ensuring ease of connecting and the reading the meter. Meter box shall be of polycarbonate transparent type (Degree of protection-IP55) Meter Box should have push button compatible with meters push button. Box should have optical port grove in line with meter optical port slot. There should be locking provision available for meter optical cord. The arrangement should be such that meter can be read through optical cord without opening the meters box. Terminal of the meters should not be accessible through Glands of the meters once the cable in installed. Cable Entry & Exit through Side of Box. There should be minimum 20 mm spacing between meter and meter box from all sides. From front it should be minimum 10 mm and behind it should be minimum 5 MM.
7.4	Special Test	1) The bidder shall demonstrate the communication capability of the meter through communication modes as defined in the specification before conducting acceptance tests. 2) Temperature rise of terminal block with 120% I_{max} for 6 hours.
8.0	TYPE TEST CERTIFICATE	The bidder shall furnish the type test certificates of the meter for the tests as mentioned above as per the corresponding standards. All the tests shall be conducted at CPRI/ ERDA/ UL laboratory as per BIS 16444 part-1. For communication testing TPXODL production / Testing HES will be used to ensure that the Data Model is correct. Activated SIM Card will be provided by TPXODL. For technical evaluation of the tender, we may consider Type test report as per IS 13779. In such case the Bidder should provide IS16444 compliant test report before starting of supply of meters. Type test should have been conducted in certified Test Laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports i.e. any test report not acceptable or any/all type tests (including additional type tests, if any) not carried out, same shall be carried out without any cost implication to TPXODL.

Technical Specification for Three Phase Whole Current Energy Meter

9.0	PRE-DESPATCH INSPECTION	Inspection may be made at any stage of manufacture at the discretion of the TPXODL of the equipment, if found unsatisfactory as to workmanship or material, the same is liable to rejection. Equipment shall be subject to inspection by a duly authorized representative of the TPXODL. Bidder shall grant free access to the places of manufacture to TPXODL's representatives at all times when the work is in progress. Inspection by the TPXODL or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by TPXODL. Following documents shall be sent along with material a) Pre dispatch Inspection Test reports b) MDCC issued by TPXODL c) Invoice in duplicate d) Packing list e) Drawings & catalogue f) Guarantee / Warrantee card g) Delivery Challan h) Installed SIM details along with Meter No in predefined format i) Installed Seals with Meter No in predefined format j) Key of the Meter to Authorized person of TPXODL without marking to any other person k) Other Documents (as applicable) Note-Photographs of packed lot clearly showing s.no of meters whose inspection call has been requested should be sent along with letter for inspection call. Two meters from the offered lot shall be tested for all tampers at TPXODL laboratory for compliance to anti tamper feature before MDCC. The inspectors shall be free to take any two meters from offered lot for testing at our Lab. Bidder should check and ensure each meter and reset each meter for any event logged for any tamper.
10.0	INSPECTION AFTER RECEIPT AT STORE	The material received at TPXODL's store shall be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection and one copy of the report shall be sent to Plant Engineering department.
11.0	GUARANTEE	Bidder shall stand guarantee towards design, materials, workmanship & quality of process / manufacturing of items under this contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the TPXODL up to a period of at least 60 months from the date of commissioning or 66 months from the date of last supplies made under the contract whichever is earlier, Bidder shall be liable to undertake to replace/rectify such defects

Technical Specification for Three Phase Whole Current Energy Meter

		at its own costs, within mutually agreed time frame, and to the entire satisfaction of the Company, failing which the TPXODL will be at liberty to get it replaced/rectified at bidder's risks and costs and recover all such expenses plus the Company's own charges (@ 20% of expenses incurred), from the bidder or from the "Security cum Performance Deposit" as the case may be. Bidder shall own responsibility for all internal component with an end to end agreement with individual component manufacturer.
12.0	PACKING	1. Bidder shall ensure that all material covered under this specification shall be prepared for rail/road transport (local equipment) and be packed in such a manner as to protect it from damage in transit. The material used for packing shall be environmentally friendly. Packing and transportation shall be as per IS15707:206 clauses 9.1 and 9.2. 2. Individual meter should be packed in separate box. Routine test report (with min. tests as defined in 7.2) of the individual meter shall be kept inside each card board carton of the meter. 3. On back side of RTC the bidder shall print a picture of the meter with its small details like for consumer to know about meter. 4. The softcopy of the routine test certificate of each meter to be provided with each lot to TPXODL, MMG stores. 5. The routine test certificate shall contain results & all tests of clause no. 7.2.
13.0	SAMPLE	Tendering stage: Bidders are required to manufacture 04 numbers of sample meters as per the TPXODL specification (sealed, unsealed and openable base and cover to view/test the inner circuits) and submit the samples (non-returnable) along with bid for approval. The tender sample as per IS 13779 & IS 15959 shall be acceptable for verification and other checks. The samples shall be retained at TPXODL. Address of Dispatch: Meter Testing Lab, TPXODL, address will be provide later. Pre-manufacturing approvals: The successful bidder shall submit four prototype samples of meters at Meter Testing Lab, at location informed by TPXODL during submission time, for further testing and compliance as per specifications and get approval before mass manufacturing. Following accessories to be submitted along with sample at both stages: 1) Detailed manual 2) Communication cords 3) Tamper logic sheet 4) Display parameter annunciator 5) BCS 6) Internal connection diagram. All meters shall be supplied with 4G enabled Sim cards. Bidder to demonstrate all communication features and performance SLA on their HES.

Technical Specification for Three Phase Whole Current Energy Meter

14.0	QUALITY CONTROL	The bidder shall submit with the offer Quality assurance plan indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and fully assembled component and equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. Quality should be ensured at the following stages: At PCB manufacturing stage, each board shall be subjected to computerized bare board testing. At insertion stage, all components should undergo computerized testing for conforming to design parameter and orientation. Complete assembled and soldered PCB should undergo functional testing using Automatic Test Equipment (ATEs). Prior to final testing and calibration, sample meters shall be subjected to aging test (i.e. meters will be kept in ovens for 24 hours at 55 DegC temperature and atmospheric humidity under real-life condition at its full load current. After 24 hours meter should work satisfactorily. TPXODL's engineer or its nominated representative shall have free access to the bidder's/manufacture's works to carry out inspections.
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15.0	MINIMUM TESTING FACILITIES	Bidder shall have adequate in house testing facilities for carrying out all routine tests & acceptance tests as per relevant International / Indian standards. The bidder shall have NABL calibrated Reference Standard meter of Class 0.02 accuracy or better for Acceptance Test Scope. Other equipment should be calibrated and traceable to NPL.
16.0	MANUFACTURING ACTIVITIES	The successful bidder will have to submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart shall be in line with the Quality assurance plan submitted with the offer. This bar chart will have to be submitted within 15 days from the release of the order.
17.0	SPARES, ACCESSORIES AND TOOLS	1. Bidder should provide 5 Nos of NIC card for 100 Meters or part of for troubleshoot communication problem. TPXODL will return faulty NIC cards and replenish with New NIC card so that non-communication problem can addressed. 2. Bidder to be provide free of cost 02 nos of jig for retrieving data from memory of meter with every new design of meter in which previous jig is supplied cannot be used. Jig should be such that NVM can be push fit on this jig and data can be retrieve from this NVM. 3. Fifty 50 nos. of optical cord to be provided in first lot for retrieving the data of meter through optical port. Once supplied, it is not required in subsequent lots.
18.0	DRAWINGS AND DOCUMENTS	Following drawings & Documents shall be prepared based on TPXODL specifications and statutory requirements and shall be submitted with the bid: a) Completely filled-in Technical Parameters. b) General arrangement drawing of the meter c) Terminal Block dimensional drawing d) Mounting arrangement drawings. e) General description of the equipment and all components with makes and technical requirement f) Type Test Certificates g) Experience List After the award of the contract, soft copies of following drawings, drawn to scale, describing the equipment in detail shall be forwarded for approval:

Technical Specification for Three Phase Whole Current Energy Meter

		<table><tr><th>S. No.</th><th>Description</th><th>For Approval</th><th>For Review Information</th><th>Final Submission</th></tr><tr><td>1</td><td>Technical Parameters</td><td>√</td><td></td><td>√</td></tr><tr><td>2</td><td>General Arrangement drawings</td><td>√</td><td></td><td>√</td></tr><tr><td>3</td><td>Terminal block Dimensional drawings</td><td>√</td><td></td><td>√</td></tr><tr><td>4</td><td>Mounting arrangement drawing.</td><td>√</td><td></td><td>√</td></tr><tr><td>5</td><td>Manual/Catalogues</td><td></td><td>√</td><td></td></tr></table>	S. No.	Description	For Approval	For Review Information	Final Submission	1	Technical Parameters	√		√	2	General Arrangement drawings	√		√	3	Terminal block Dimensional drawings	√		√	4	Mounting arrangement drawing.	√		√	5	Manual/Catalogues		√																			
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Technical Specification for Three Phase Whole Current Energy Meter

		12	Insulation resistance a) Between frame & Current, voltage circuits connected together: b) Between each current(or voltage circuit) & each and every other circuit.	M ohm	
		13	Mechanical requirement as per IS 13779		
		14	Resistance to heat and fire (As per specification)		
		15	Degree of protection		
		16	Resistance against climatic influence (as per IS 13779)		
		17	Electromagnetic Compatibility (EMC)		
		18	Accuracy requirements (As per IS 13779)		
		19	Power factor range		
		20	Energy measurement		
		21	Connection Diagram for system on terminal cover	Yes/No	
		22	Self diagnostic features		
		23	Initial start up of meter (meter shall be fully functional within 5 sec after reference voltage is applied to the meter terminals)		
		24	Terminal block a) Depth of the Terminal holes b) Internal diameter of terminal holes c) Clearance between adjacent terminals	mm mm mm	
		25	Communication capabilities as per clause 4.3		
		26	Immunity & logging against abnormal Magnetic influence, as defined in Cl. 4.4		
		27	Immunity & logging against ESD/Jammer as defined in Cl. 4.4		
		28	DC & other tamper Immunity and logging as defined in Cl. 4.5		
		29	Abnormal tamper events and logging with snapshot in all Conditions as per table no-1	Yes/No	

Technical Specification for Three Phase Whole Current Energy Meter

			30	Grade/Name of material used for a) Meter base b) Meter cover c) Terminal block d) Terminal cover		
			31	Tamper counters	Yes/No	
			32	Recording forward energy in all tamper conditions	Yes/No	
			33	Display back lit color		
			34	Non Volatile memory (Retention period)		
			35	Measuring elements used in the meter		
			36	Power supply to circuit in case of supply failure		
			37	Display of measured values (As per specification –clause 5.8)	Yes/No	
			38	LCD display (Type and viewing angle)		
			39	Pulse rate	Imp/kWh, Imp/kVArh	
			40	Name plate marking with laser printer	Yes/No	
			41	Routine test certificates	Yes/No	
			42	Acceptance test Certificates	Yes/No	
			43	Type test certificates	Yes/No	
			44	Guarantee certificates	Yes/No	
			45	Output Device(LEDs)As per Cl.5.9	Yes/No	
			46	Make of Disconnect Switch		
			47	Disconnecter Technical particular as per Specification Cl no- 4.1	Yes/No	
			48	Terminal Screw dia.		
			49	Allen Screw head size & Screws per wire (Terminal Screw)		
			50	Fire retardant category of the material a. Meter body b. Terminal block		
			51	Meter sealing as per clause 5.4		

Technical Specification for Three Phase Whole Current Energy Meter

			52	Temperature Sensor near terminal block at incomer side		
			53	Ultrasonic welding of cover and base		
			54	Providing zig for NVM data retrieval after meter		
				damaged at site as per clause no. 17		
			55	NIC module with cover & sealing arrangement		
			56	Meter shall be programed at default 'lag only' configuration i.e. Leading power factor to be treated as unity for KVA & KVAh calculations, except for instantaneous parameters where values and Vector Diagram should show actual kVAh considering lead and Lag both.		
			57	Dimensions of the meter LxBxH		
			58	Terminal material		
			59	Terminal Screw material and plating details		
			60	Harmonics Recording- The recording of harmonics up to 20th harmonic Average THD of all phase for voltage THD and current THD.		
			61	Accuracy of harmonics recording		
		B) Component data				
			S No	Component Function	Requirement	Makes and Origin
			1.	Measurement/ computing chips	The Measurement/ computing chips used in the meter should be with the Surface mount type along with the ASICs	
			2.	Memory chips/NVM	The memory chips should not be affected by the external parameters like sparking, high voltage spikes or Electrostatic discharges. The life of NVM shall be 15 years.	

Technical Specification for Three Phase Whole Current Energy Meter

		3.	Display modules	The display modules should be well protected from the external UV radiations. The display visibility should be sufficient to read the meter mounted between height of 0.5m and 2m. The construction of the modules should be such that the displayed quantity	
				should not disturbed with the life of display. Should be with Green LED background. It should be trans-reflective STN Type industrial grade with extended temperature range.	
		4.	Optical port	Optical port should be used to transfer the meter data to meter reading instrument. The mechanical construction of the port should be such to facilitate the data transfer easily. It should be magnetic locking type	
		5	P.C.B.	Glass Epoxy, fire resistance grade with minimum thickness 1.6 mm	
		6.	Electronic components	The active & passive components should be of the surface mount type & are to be handled & soldered by the state of art assembly processes.	
		7.	Battery	Lithium with guaranteed life of 15 years	
		8.	Micro controller and RTC having separate battery	The accuracy of RTC shall be as per relevant IEC / IS standards and RTC shall be provided with separate battery in its ckt. The microcontroller shall be of superior quality from reputed make with long life.	
		9.	Temperature sensor	Temperature sensor shall be internal to the meter and its accuracy shall be as per relevant IEC / IS standards. The OEM test report to be furnished. With good performance till life of meter.	

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1.0 ORGANIZATIONAL VALUES

The Tata Group has always been a value driven organization. These values continue to direct the Group's growth and businesses. The six core Tata Values underpinning the way we do business are:

Integrity - We must conduct our business fairly, with honesty and transparency. Everything we do must stand the test of public scrutiny.

Understanding - We must be caring, respectful, compassionate and humanitarian towards our colleagues and customers around the world and always work for the benefit of India.

Excellence - We must constantly strive to achieve the highest possible standards in our day to day work and in the quality of goods and services we provide.

Unity - We must work cohesively with our colleagues across the group and with our customers and partners around the world to build strong relationships based on tolerance, understanding and mutual co-operation.

Responsibility - We must continue to be responsible and sensitive to the countries, communities and environments in which we work, always ensuring that what comes from the people goes back to the people many times over.

Agility - We must work in a speedy and responsive manner and be proactive and innovative in our approach.

2.0 ETHICS

In our effort towards Excellence and in Management of Business Ethics at TPCODL, an Ethics Management Team is constituted.

The main objective of the Ethics Management Team is to:

1. Record, address and allay the issues and concerns on ethics raised by different stakeholders like employees, consumers, vendors, Associates etc. by initiating immediate corrective actions.
2. Ensure proper communication of the ethics policies and guidelines through prominent displays at all offices of TPCODL and through printed declarations in all concerned documents where external stakeholders are involved.
3. Ensure proper framework of policies as preventive measures against any ethics violation recorded by them.
4. Prepare and submit MIS of all issues and concerns, corrective and preventive actions on monthly basis to the top management for their information.

All Associates and Stakeholders are requested to register any grievance on ethics violation on our website www.tpccentralodisha.com.

3.0 CONTRACT PARAMETERS

3.1 Issue/Award of Contract

TPCODL awards the contract to the Associate in writing in the form of Purchase Order (PO) or Rate Contract (RC), hereafter referred as Contract, through in any or all of following modes physical handover / post / e-mail / web document / fax with all the attachments/enclosures which shall be part of the contract document.

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On receipt of the contract, the associate shall return to TPCODL copy of the contract document duly signed by legally authorized representative of associate, within two days of Effective Date of Contract for contracts having contract execution time less than 30 days and within five days for all other contracts.

3.2 Contract Commencement Date

The date of issue/award of contract shall be the Effective Date of Contract or Contract Commencement date.

3.3 Contract Completion Date

The date of expiry of Guarantee Period shall be deemed as the Contract Completion Date.

3.4 Contract Period/Time

The period from Contract Commencement Date to Contract Completion Date shall be deemed as the Contract Period/Time.

3.5 Contract Execution Completion Date

The stipulated date for completing the supply as per schedule of quantities shall be deemed as the Contract Execution Completion Date.

3.6 Contract Price /Value

The total all inclusive price/value mentioned in the PO/RC is the Contract Price/Value and is based on the quantity, unit rates and prices quoted and awarded and shall be subject to adjustment based on actual quantities supplied and accepted and certified by the authorized representative of the company unless otherwise specified in schedule of quantities or in contract documents.

3.7 Contract Document

The Contract Document shall mean and include but not limited to the following:

- NIT/Tender Enquiry, QR, Instruction to Bidders, Special Condition of Contract (SCC) of tender, GCC, Technical & Commercial Specifications including relevant annexure and attachments).
- Bids & Proposals Received from Associate including relevant annexure/attachments.
- RC/PO with agreed deviations from the tender/bid documents.
- All the Inspection and Test reports, Detailed Engineering Drawings.
- Material Dispatch Clearance Certificate (MDCC).
- Minutes of Meeting (MoM)

3.8 Contract Language

All documents, instructions, catalogues, brochures, pamphlets, design data, norms and calculations, drawings, operation, maintenance and safety manuals, reports, labels, on deliveries and any other data shall be in English Language.

The Contract documents and all correspondence between the TPCODL, Third Parties associated with the contract, and the Associate shall be in English language.

However, all signboards required indicating "Danger" and/or security at site and otherwise statutory required shall be in English, Hindi, and local languages.

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3.9 Reverse Auction

TPCODL reserves the right to conduct the reverse auction (instead of public opening of price bids) for the products / services being asked for in the tender. The terms and conditions for such reverse auction events shall be as per the Acceptance Form attached in Annexure F.

4.0 SCOPE OF WORK

All the activities that are to be undertaken by the Associate to realize the contractual deliverables in completeness form Scope of Work. Following clauses list, but not limited to, major requirements of the scope of work.

The associate shall satisfy himself and undertake fully the technical/commercial requirements of items to be supplied as listed in the Schedule of Quantities together with the tests to be performed /test reports to be furnished before dispatch, arrangement of stage and final inspections during manufacturing as per terms and conditions of contract, technical parameters & delivery terms and conditions including transit insurance to be met in order to fully meet TPCODL's requirements.

Completeness: Any supplies and services which might have not been specifically mentioned in the Contract but are necessary for the scope mentioned in Special Terms & Conditions and/or completeness of the works at the highest possible level, including any royalties, license fees & compensation to be paid, whether incurred by the associates or by a third party for the work covered in the scope, regardless of when incurred, shall be supplied/provided by the associate without any extra cost and within the time schedule for efficient , smooth and satisfactory operation and maintenance of the works at the highest possible level under Indian conditions (but according to international standards for facility of this type), unless expressly excluded from the scope of supplies and services in this Contract.

TPCODL have the right, during the performance of the Contract, to change the scope and/or technical character of the Project and/or of the supplies and services stipulated in the Contract by submitting a request in writing to the Associate. The Associate shall, within fifteen days of receipt of such request from the TPCODL, provide Purchaser with a reasonably detailed estimate of the cost of the change outlined in the request.

In the event, TPCODL requests a change, the Contract price and time shall be adjusted upwards or downwards, as the case may be and shall be mutually agreed to. The associate shall not be entitled to any extension of time unless such changes adversely affect the time schedule.

The Associate shall not proceed with the changes as requested till adjustment of contract price and time schedule where so applicable in terms of or otherwise directed by the TPCODL.

5.0 PRICES/RATES/TAXES

Unless specified elsewhere in the contract document, the prices/rates are inclusive of cost of finished product for which MDCC will be issued by TPCODL, packaging and forwarding charges, freight and transit insurance charges covering loading at Associate's works, transportation to TPCODL store/site & unloading & delivery at TPCODL stores/TPCODL site, cost of documentation including all the relevant test certificates and other supportive documents to be furnished.

The Prices/Rates are inclusive of all taxes, levies, cess and duties, particularly Goods and Services Tax as applicable. All government levy / taxes shall be paid only when the invoice is submitted according to the relevant act.

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The prices/rates shall remain firm till actual completion of entire supply of goods/material/equipment as per contract is achieved and shall remain valid till the completion of the contract.

The prices shall remain unchanged irrespective of TPCODL making changes in quantum in all or any of the schedules of items of contract.

5.1 Changes in Statutory Tax Structure

If rate of any or all of the statutory taxes and duties applicable to the contract changes, such changes shall be incorporated by default if the changes occur within the contract execution time and shall be applicable if the contract is executed by the Associate within the Contract Execution Time.

For execution of contracts beyond contract execution time, where the delay is not attributable to TPCODL no upward revision in tax /duties shall be considered irrespective of changes in the statutory tax structure either within the contract execution time or beyond. However, in such cases, benefits due to any downward revisions in statutory tax rates shall be passed on to TPCODL.

6.0 TERMS OF PAYMENT

On delivery of the materials in good condition and certification of acceptance by TPCODL official, Associate shall submit the Bills/Invoices in original in the name of "TP Central Odisha Distribution Limited" to invoice desk, complete with all required documents as under:

- Test Reports (4 sets).
- MDCC issued by TPCODL.
- Packing List.
- Drawing and Catalogue.
- Guarantee/Warrantee Card.
- Delivery Challan.
- O&M Manual.
- Copy of Order.
- Minutes of Meeting.

Bills/ invoices shall mention Supplier's GST Number. TPCODL will make 100% payment within 30 days of submission of the Bill/Invoice complete in all respects and along with all the requisite documents mentioned above, subject to condition that Associate has furnished the requisite Security-cum-Performance Guarantee as stipulated in the contract.

6.1 Quantity Variation

Payment will be made on the basis of actual quantity of supplies/actual measurement of works accepted by TPCODL and not on the basis of contract quantity.

6.2 Full and Final Payment

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Full & Final Payment in all contracts shall be made subject to the associate submitting “No Demand Certificate” in the format as per Annexure-C.

7.0 MODE OF PAYMENT

Payment shall be made through crossed Cheque or RTGS whichever of the two modes chosen by the Associate, in favour of Associate’s Bank Account on TPCODL records, on whose name Contract has been issued. Those Associates opting for the RTGS mode shall submit the details of Bank Account and other details as per annexure G. Further, for any payments made, TPCODL is not responsible for any consequences/disputes Associate have among the owners channel partners, sub-Associates and all such dispute/concerns shall be settled solely by the Associate.

8.0 SECURITY CUM PERFORMANCE DEPOSIT

Associates shall submit within 15 days from the effective date of issue of PO/RC, Security Performance Bank Guarantee (SPBG) in the format as per Annexure B of this document from banks acceptable to TPCODL for:

- (a) 5% of the PO value if purchase order value is more than Rs 5 Crores.
- (b) 10% of the PO value if purchase order value is less than Rs 5 Crores.

This shall remain valid till the end of the Guarantee Period of contract, plus one month.

- (c) 5% of the RC value in case of Rate Contract. This shall remain valid till the Guarantee period plus one month.
 - For PO/RC values less than Rs. 5 lacs, Associate may request for deduction of amount equivalent to SPBG value from their first invoice. Such amount shall be withheld by TPCODL while processing the invoice and shall be released after completion of Guarantee Period plus one month.
 - For PO/RC values less than Rs. 3 lacs, the clause (8.0) for Security cum Performance Bank Guarantee (SPBG) shall not be applicable.
 - In case of RC (Rate Contract) after the expiry of RC validity, Associate shall have to submit SPBG. However, the Associate has the option to re-submit the SPBG as per actual RO (Release Order) value issued against the RC, valid for Guarantee Period plus one month. The Guarantee Period shall be considered as per the last RO issued against the said RC. The original SPBG as submitted against the RC shall be released on submission of the new SPBG to TPCODL. Alternatively, Associate may extend the validity of original SPBG only till the requisite period, i.e. Guarantee Period plus one month.

9.0 STATUTORY COMPLIANCE

9.1 Compliance to Various Acts

Associate should ensure adherence to all applicable laws, rules and regulation applicable under this contract from time to time. In case of violation any risk, costs etc shall be in associates account and keep TDPPL indemnified always till completion of contracts.

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9.2 SA 8000

TPCODL expects its Associates to follow guidelines of SA 8000:2014 on the following aspects

1. Child Labour
2. Forced or Compulsory Labour
3. Health & Safety
4. Freedom of Association & Right to Collective Bargaining
5. Discrimination
6. Disciplinary Practices
7. Working Hours
8. Remuneration
9. Management System

9.3 Affirmative Action

TPCODL appreciate and welcome the engagement/employment of persons from SC/ST community or any other deprived section of society by their business associates.

Relaxation in Contract Clauses under Affirmative Action for SC/ ST Business Associates**

TPCODL believes that inclusive growth is the key to sustainable development, and to promote the same Policy on Affirmative Action for Scheduled Caste & Scheduled Tribe Communities has been adopted across the company.

Under the same pre-text, and to promote entrepreneurship among SC/ST community TPCODL has taken initiative by proposing relaxations in contract clauses as per below:

S. No	Initiative	for SC/ ST BA's	Guideline Document
1	Tender Fees	100% waiver for SC/ST community	All Open Tenders
2	Earnest Money Deposit	50 % relaxation of estimated EMD value	All limited and Open Tenders
3	Performance Bank Guarantee	50% relaxation in PBG for order value above 50 lacs else 25% relaxation	All limited and Open tenders
4	Turnover	25% relaxation in company turnover under qualifying requirement criteria	All Open Tenders

**Classification of BAs under SC/ST shall be governed under following guidelines:

- Proprietorship/ Single Ownership Firm: Proprietor of the firm should be from SC/ST community. Governing document shall be duly audited balance Sheet for the last FY bearing the name of proprietor.
- Partnership Firm: Only such firms shall qualify which have SC/ST partners holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Partnership Deed and audited balance sheet/ ITR for last FY.
- Private limited company: Only such firms shall qualify which have SC/ST directors holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

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Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

Note: Certification from SC/ST commission shall be required for deciding upon SC/ST status of a person.

10.0 QUALITY

10.1 Knowledge of Requirements

The Associate shall be deemed to have carefully examined and to have knowledge of the equipment, the general and other conditions, specifications, schedules, drawings, etc. forming part of the Contract and also to have satisfied himself as to the nature and character of the work to be executed and the type of the equipment and duties required including wherever necessary of the site conditions and relevant matters and details. Any information thus procured or otherwise obtained from TPCODL/Consultants shall not in any way relieve the Associate from his responsibility and executing the works in accordance with the terms of contract.

10.2 Material/Equipment/Works Quality

The items / works under the scope of the Associate shall be of the best quality and workmanship according to the latest engineering practice and shall be manufactured from materials of best quality considering strength and durability for their best performance and, in any case, in accordance with the specifications set forth in this Contract. All material shall be new. Substitution of specified material or variation from the process of fabrication/ construction/ manufacture may be permitted but only with the prior written approval of the TPCODL.

10.3 Adherence to Rules & Regulations

The Associate shall procure and/or fabricate/erect all materials and equipment in accordance with all requirements of Central and State enactment, rules and regulations governing such work in India and at site. This shall not be construed as relieving the Associate from complying with any requirement of TPCODL as enumerated in the Contract which may be more rigid than and not contrary to the above mentioned rules, nor providing such construction as may be required by the above mentioned rules and regulations. In case of variance of the Technical Specification from the laws, ordinance, rules and regulations governing the work, the Associate shall immediately notify the same to the TPCODL. It is the sole responsibility of the Associate, however, to determine that such variance exists. Wherever required by rules and regulations, the Associate shall also obtain the statutory authorities' approval for the plant, machinery and equipment to be supplied by the Associate.

10.4 Specifications and Standards

The Associate shall follow all codes and standards referred in the Contract Document. Codes and standards of other may be followed by the Associate with the prior written approval of TPCODL, provided materials, supplies and equipment according to the standard are equal to or better than the corresponding standards specified in the Contract.

Brand names mentioned in the Contract documents are for the purpose of establishing the type and quality of products to be used. The Associate shall not change the brand name and qualities of the bought out items without the prior written approval of the TPCODL. All such products and equipment shall be used or installed in strict accordance with original manufacturer's recommendations, unless otherwise directed by the TPCODL. In any circumstances the codes, specimen and standards prescribed by any government agency should not be violated.

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11.0 INSPECTION/PARTICIPATION

11.1 Right to Carry Out Inspection

TPCODL reserves the right to send its representatives for inspection or participation at various stages of contract execution listed below, applicable as per contract construction.

- During basic design and detail engineering of material/ Equipment carried out by Associate /Outsourced Agencies.
- During manufacturing stages of the product at Associate's/Associate's Outsourced Agency's Plant/Facility.
- During Pre-dispatch Inspection and Testing of finished/manufactured product at Associate's/Associate's outsourced Agency's Plant/Facility.
- During Installation & Commissioning Activities/Stages.
- Prior to Clearing of the completed installation for commissioning.
- Any other stage as find appropriate by TPCODL during contract execution time.

All inspections and participations shall be carried out by TPCODL giving written intimation to the Associate or receiving appropriate advance written inspection call from the Associate, unless otherwise specified elsewhere in the contract document.

11.2 Facilitating Inspection

The Associate shall provide all opportunities and information to TPCODL's engineers to get acquainted with the technical know-how and the methods and practices adopted by the Associate in basic and detail engineering. The Associate shall provide documents, drawings, calculations etc. as may be required by TPCODL's Engineers.

The Associate shall provide free of charge office accommodation, office facilities, secretarial services, communication facilities, general and drawing office stationary, etc. as may be reasonably required by the TPCODL's engineers. Similarly, facilities shall also be provided by Associate's outsource agencies/partners/authorized dealers (collectively termed as sub associates) if such basic and detail engineering activities are carried out in the design offices of sub-Associates.

The Associate shall be responsible for the safety of employees of TPCODL/Third Party Agency when they are at the Associate's /Associate's outsource agency's plant or facility for carrying out/witnessing inspection/testing. All statutory safety precautions as applicable shall be followed by the Associate during Inspection Testing. If TPCODL inspectors are not satisfied with the safety arrangements at the plant, TPCODL have the right to call off inspection till such time corrective action is taken by the Associate.

Before raising the call for pre-dispatch final inspection and testing, the Associate shall conduct all the tests—type tests, routine tests etc-as specified in the contract document and submit copies of the test certificates to TPCODL along with the inspection call, for scrutiny of TPCODL.

The Associate and TPCODL shall jointly document all the observations, comments and action points after completion of inspection and it shall be binding on the Associate to provide compliance on all the points requiring compliance and furnish the compliance report to the designated authority of TPCODL for receiving clearance for dispatch of materials

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11.3 Third Party Nomination

TPCODL also may nominate a third party for the purpose of carrying out the inspection and such an agency shall be entitled to all the rights and privileges of TPCODL as far as conducting the inspection.

11.4 Waiver of Inspections

TPCODL on its own discretion shall chose to waive off any inspection and ask the Associate to submit all the test reports as applicable as per contract specifications, related to inspection and testing of the goods ordered for scrutiny and clearance for dispatch.

11.5 Incorrect Inspection Call

In case it is observed that the material offered for inspection is not ready at the time of TPCODL inspection visit rendering it as futile, all costs towards such inspection shall be recovered from the BA. Taxes as applicable on such recoveries shall be borne by the BA.

12.0 MDCC & DELIVERY OF MATERIALS

12.1 Material Dispatch Clearance Certificate

Associate shall deliver material/goods/equipment against Supply Contracts or Supply Part of Composite/Service Contracts only after receiving Material Dispatch Clearance Certificate (hereafter termed as MDCC) issued by designated authority of TPCODL. Material delivered at TPCODL stores or at project site without a valid MDCC issued by the designated official of TPCODL shall be rejected. MDCC shall be issued to associate furnishing compliance report on the action points documented during pre-dispatch inspection and testing at Associate's/ Sub Associate's plant/ facility. In case Pre-dispatch inspection is waived at the discretion of TPCODL, then, MDCC shall be issued on receiving all the test reports-routine& type-from the Associate and finding them in order.

The associate shall include and provide for securely protecting and packing the materials so as to avoid loss or damage during handling and transport by air, sea, rail and road or any other means.

All such packing shall allow to the extent possible for easy removal and checking at Site. The associate shall take special precautions to prevent rusting of steel and iron parts during transit by sea. Gas seals or other materials shall be utilized by the associate for protection against moisture during transit of all Plant and Equipment.

Each Equipment or parts of Equipment shall be tagged with reference to the assembly drawings and corresponding part numbers. Each bale or package shall contain a packing note quoting specifically the name of the associate, item description, quantity, item / package identification.

All packing cases, containers, packing and other similar materials shall be new and supplied free by the associate and it shall not be required to be returned to the associate.

Notwithstanding anything stated in this clause, the associate shall be entirely responsible for loss, damage or depreciation or deterioration to the materials and supplies due to faulty and/or insecure packing or otherwise during transportation to the Site until otherwise provided herein.

In case of the consignments dispatched by road, the associate shall ensure that it or its subcontractors:

- i) Identify and obtain the correct type of trucks/trailers, keeping in view the nature of consignments to be dispatched.

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- ii) Take such actions as may be necessary to avoid all possible chances of damages during transit and to ensure that all packages are firmly secured.

Timelines for inspection and MDCC is as below:

S. No.	Inspection	MDCC issuance time including Inspection time (max.)
1	Outside Bhubaneswar	12 days
2	Within Bhubaneswar	5 days
3	Waiver*	3 working days

* Associate is expected to raise the inspection call assuming that Inspection shall be carried out by TPCODL. The decision for waiver of inspection shall be on sole discretion of TPCODL.

12.2 Right to Rejection on Receipt

Goods/Material/Equipment delivered in condition physically damaged & incomplete as a product ordered, or not packed and transported as per the terms and conditions of the contract is liable to be rejected. Such item shall be lifted back by Associates within 15 days from receipt of rejection note from TPCODL and have to supply back the material within next 30 days or within the timeframe mutually decided by Associate and TPCODL.

If delivery of the material is beyond the agreed time, Liquidated damage clause, mentioned in this GCC separately shall be applicable; but the period for levy of LD shall be considered as per the original delivery schedule and not from the agreed timelines for material rectification.

12.3 Consignee

Unless otherwise specified in the Contract Document, Materials/Goods/Equipment shall be consigned to "Stores-In-Charge", TPCODL, Bhubaneswar.

12.4 Submission of mandatory documents on Delivery

Following documents shall be mandatorily submitted by BA along with supply of material to TPCODL stores/site:

S. No.	Documents	Requisite
1	Invoice copy in original	With all consignments
2	LR copy	Wherever required
3	Packing list	With all consignments
4	MDCC	With all consignments
5	Purchase order / Release order	Signed copy
6	Test certificates	With all consignments
7	Inspection/JVR report	In case pre-dispatch inspection is conducted
8	Device data in CD as per template for metering items	Wherever applicable

12.5 Dispatch and Delivery Instructions

S. No.	Instructions
1	Purchase order/ Release order no. shall be mentioned on invoice and on material

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2	TPCODL material code and material description shall be mentioned in invoice and on material.
3	“Property of TPCODL” shall be embossed on material.
4	The material shall be properly sealed and packed in standard packing as per purchase order terms & conditions.
5	The weight and quantity of material shall be mentioned wherever applicable
6	The material supplied shall be co-related with the packing list.
7	The name plate detail on equipment shall include Material code, Material description, specification detail of material [as applicable], Serial No. Year of manufacturing, PO/RO no. and date, “ PROPERTY OF TPCODL, Bhubaneswar ”, Guarantee period and Associate’s name.
8	In case of manual unloading, supplier / transporter shall deploy sufficient Labour for unloading the material at TPCODL central store. For heavy item(s), crane will be provided by TPCODL [unloading cost will be recovered from the associate].
9	The driver should have valid License and one helper in truck. All the documents of truck like registration papers, PUC etc. should be available in Truck.
10	BA representative should accompany the material and get it unloaded / stacked in his presence wherever possible.

13.0 GUARANTEE

13.1 Guarantee of Performance

Associates shall stand guarantee that the equipment and material supplied under the contract is free from design, manufacturing, material, construction, erection & installation and workmanship & quality defects and is capable of its due, rated and intended quality performance, as an integrated product delivered under the contract, for a specific period termed as Guarantee Period(as elaborated elsewhere in this clause). The Associate should also guarantee that the equipment/material is new and unused except for the usage required for the tests and checks required as part of quality assurance.

13.2 Guarantee Period

The Guarantee Period will be equipment/service/work specific and shall be as specified in the Standard Specifications of TPCODL for the equipment/material/service/work and where standard specifications are not part of contract documents or guarantee period is not specified in the standard specifications,, the guarantee period shall be as per the Special Terms and Conditions of the Contract. In case of no mention of the guarantee period in standard specifications or SCC Guarantee Period will be 12 Months from the Date of Commissioning or 24 months from the date of delivery of final lot of supplies made, whichever is earlier.

13.3 Failure in Guarantee Period (GP)

If the equipment and material supplied under the contract fails to perform its due, rated & intended quality performance, during the Guarantee period, the associate is liable to undertake repair/rectify/replace the equipment and material supplied within time frame specified in the SCC or elsewhere in the contract documents at associate’s cost to make the equipment and material supplied/service or work rendered under the contract of performing its due, rated and intended quality performance. If Associate fails to repair/rectify/replace the equipment or material supplied rendered under the contract, failed in Guarantee Period, TPCODL will be at liberty to get the same done at Associate’s risks and costs and recover all such expenses plus the TPCODL’s own

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charges (@ 20% of expenses incurred), from the Associate or from the “Security cum Performance Deposit” as the case may be.

If during the Warranty/ Guarantee period some parts of the supplies are replaced owing to the defects/ damages under the Warranty, the Warranty period for such replaced parts shall be until the expiry of twelve months from the date of such replacement or renewal or until the end of original Guarantee period, whichever is later.

Any repairs during the Guarantee Period shall be carried out by the Associate within 30 days of reporting the issue to Associate by TPCODL. However, if replacement of the Equipment is required, Associate shall notify the same to TPCODL within 7 days of reporting the issue by TPCODL. Thereafter, the total time for supply of new equipment/ material shall be equal to the original delivery period of that equipment/ material as specified in the Contract. In case the Associate is not able to rectify/ replace the faulty equipment/ material within the stipulated timelines as mentioned above, penalty shall be levied as per the Liquidated Damages clause mentioned in this document. The penalty amount shall be recovered from the payment due to the vendor or by encashment of the SPBG as the case may be.

13.4 Cost of repairs on failure in GP

The cost of repairs/rectification/replacement, required transportation, site inspection /mobilization/dismantling and re-installation costs as applicable, to be borne by Associate. The Associate has to ensure that the interruption in the usage of intended purpose of the equipment is minimized to the maximum extent In lieu of the time taken for repairs/rectification/replacement.

13.5 Guarantee period for Goods Outsourced

If the Associate outsources partly equipment/materials/services from third party as mutually agreed upon at the pre award stage of contract, TPCODL shall have the benefit of any additional guarantee period if provided by the third party for the part supplied/executed by them.

13.6 Latent Defect

Hidden defects in manufacturing or design of the product supplied and which could not be identified by the tests conducted but later manifested during operation of the equipment are termed as latent defects. Associates shall further be responsible for ‘free replacement’ for another period of THREE years from the end of the guarantee period for any ‘Latent Defects’ if noticed and reported by the Company.

13.7 Support beyond the Guarantee Period

The Associate shall ensure availability of spares and necessary support for a period of atleast 10 years post completion of guarantee period of equipment supplied against the contract.

14.0 LIQUIDATED DAMAGES

- a) For supplies which are of standalone use, multiple in quantities and having a single final delivery schedule, Liquidated damages shall be levied without prejudice to any of the other contractual rights of TPCODL, as described below:

For delay of each week and part thereof from the delivery schedule specified in the contract, 1% of contract value corresponding to undelivered quantity, provided full quantity is supplied within 130% of the original contract time. If full contractual quantity is not delivered within 130% of contract time for delivery, TPCODL has the right to levy LD on the entire contract value, subject to a maximum of 10% of the total contract value.

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- b) For Supplies having phased delivery schedule as per contract terms, standalone use and multiple in quantities, Liquidated damages shall be levied without prejudice to any of the other contractual rights of TPCODL, as described below:

For the purpose of calculating and applying LD, each delivery lot shall be considered separately. For delay of each week and part thereof, from the delivery schedule specified for the lot, 1% of the contract value corresponding to the undelivered quantity of the lot subject to a maximum of 10% of the total contract value of the subject lot. However, if full contractual quantity is not delivered within 130% of contract time for delivery, TPCODL has the right to levy LD on the entire contract value, subject to a maximum of 10% of the total contract value. Deduction of LD shall be on landed cost i.e contract value inclusive of taxes and in pursuant statutory compliance GST would be applicable at the stipulated rate and the same shall be borne by Business Associate. In case of LD deduction, a GST invoice shall be issued by TPCODL as a proof of deduction/recovery.

14.1 LD Waiver Request

Any request of LD waiver shall be submitted within thirty (30) days of deducting LD. Request submitted beyond the timeline shall not be entertained.

15.0 UNLAWFUL ACTIVITIES

The Associate shall have to ensure that none of its employees are engaged in any unlawful activities (whether covered under the scope of the present GCC or not) subversive of the TPCODL's interest failing which appropriate action (legal or otherwise) may be taken against the Associate by the TPCODL, in accordance with the terms of the present GCC.

16.0 CONFIDENTIALITY

Associate and its employees or representatives thereof shall strictly maintain the confidentiality of various information they come across while executing the contract as detailed below.

16.1 Documents

All maps, plans, drawings, specifications, schemes and other documents or information related to the Contract/Project and the subject matter contained therein and all other information given to the Associate by the TPCODL in connection with the performance of the contract shall be held confidential by the Associate and shall remain the property of the TPCODL and shall not be used or disclosed to third parties by the Associate for any purpose other than for which they have been supplied or prepared. The Associate may disclose to third parties, upon execution of confidentiality agreements, such part of the drawings, specifications or information if such disclosure is necessary for the performance of the Work provided such third parties agree in writing to keep such information confidential to the same extent and degree as provided herein, for the benefit of the TPCODL.

16.2 Geographical Data

Maps, layouts and photographs of the unit/plant including its surrounding regions showing vital installation for national security of country or those of TPCODL shall not be published or disclosed to the third parties or taken out of the country without prior written approval of the TPCODL and upon execution of confidentiality agreements satisfactory to the TPCODL with such third parties prior to disclosure.

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16.3 Associate's Processes

Title to secret processes if any developed by the Associate on an exclusive basis and employed in the design of the equipment shall remain with the Associate. TPCODL shall hold in confidence such processes and shall not disclose such processes to the third parties without prior approval of the Associate and execution by such third parties of secrecy agreements satisfactory to the Associate prior to disclosure. Upon completion of contract, such processes shall become the property of the TPCODL. Title to technical specifications, drawings, flow sheets, norms, calculations, diagrams, interpretations of test results, schematics, layouts and such other information, which the Associate has supplied to the TPCODL under the Contract shall be passed on to the TPCODL. The TPCODL shall have the right to use these for construction, erection, start-up, Trial Run, operation, maintenance, modifications and/or expansion of the works including for the manufacture of spare parts.

16.4 Exclusions

The provision of Clauses 16.1 to 16.3 shall not apply to information:

- Which at the time of disclosure are in the public domain which later on become part of public domain through no fault of the party concerned, or
- Which were in the possession of the party concerned prior to disclosure to him by the other party, or
- Which were received by the party concerned after the time of disclosure without restriction on disclosure or use, from a third party who did not acquire such information directly or indirectly from the other party or has no obligation of confidentiality for such information.

16.5 Violation

In case of violation of this clause, the Associate is liable to pay compensation and damages as may be determined by the competent authority of TPCODL.

17.0 INTELLECTUAL PROPERTY RIGHTS

If, in the course of performance of its functions and duties as envisaged by the scope of the present GCC, the Associate acquires or develops, any unique knowledge or information which would be covered, or, is likely to be covered within the definition of a trademark, copyright, patent, business secret, geographical indication or any other form of intellectual property right, it shall be obliged, under the terms of this present GCC, to share such knowledge or information with the TPCODL. All rights, with respect to, or arising from such intellectual property, as afore mentioned, shall solely vest in TPCODL.

Moreover, the Associate undertakes not to breach any intellectual property right vesting in a third party/parties, whether by breach of statutory provision, passing off, or otherwise. In the event of any such breach, the Associate shall be wholly liable to compensate, indemnify or make good any loss suffered by such third party/parties, or any compensation/damages arising from any legal proceeding/s, or otherwise. No liability of TPCODL shall arise in this respect, and any costs, damages, expenses, compensation payable by TPCODL in this regard to a third party/parties, arising from a legal proceeding/s or otherwise, shall be recoverable from the Associate.

18.0 INDEMNITY

The Associate shall at all times indemnify, keep indemnified and hold harmless the TPCODL and its officers, directors, employees, affiliates, agents, successors and assigns against all actions, claims, demands, costs, charges and expenses arising from or incurred by reason of any

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infringement of patent, trade mark, registered design, copy rights and/or industrial property rights by manufacture, sale or use of the equipment supplied by the Associate whether or not the TPCODL is held liable for by any court judgement. In this connection, the TPCODL shall pass on all claims made against him to the Associate for settlement.

The Associate assumes responsibility for and shall indemnify and save harmless the TPCODL from all liability, claims, costs, expenses, taxes and assessments including penalties, punitive damages, attorney's fees and court costs which are or may be required to be paid by the TPCODL and its officers, directors, employees, affiliates, agents, successors and assigns arising from any breach of the Associate's obligations under the Contract or for which the Associate has assumed responsibilities under the Contract including those imposed under any local or national law or laws, or in respect to all salaries, wages or other compensation for all persons employed by the Associate or his Sub-Associates or suppliers in connection with the performance of any work covered by the Contract. The Associate shall execute, deliver and shall cause his Sub-Associate and suppliers to execute and deliver, such other further instruments and to comply with all the requirements of such laws and regulation as may be necessary there under to conform and effectuate the Contract and to protect the TPCODL.

The TPCODL shall not be held responsible for any accident or damages incurred or claims arising, due to the Associate's error there from prior to completion of work. The Associate shall be liable for such accidents and after completion of work for such accidents as the case may be due to negligence on his part to carry out Work in accordance with Indian laws and regulations and the specifications set forth herein.

19.0 LIABILITY & LIMITATIONS

19.1 Liability

Except for any specific liability which may be identified in the Contract and which may be payable hereunder, Associate shall not be liable for any special, incidental, indirect, or consequential Damages or any loss of business Contracts, revenues or other financial loss (or equivalents thereof no matter how claimed, computed or characterized) arising out of or in connection with the Performance of the Work or supply of Goods ***unless caused by Associate's negligence, willful misconduct or breach of contract.***

If the Associate is a joint venture or consortium, all concerned parties shall be jointly and severally bound to the TPCODL for the fulfillment of the provisions of the Contract. The consortium or the joint venture shall designate one party as their leader, who will be the coordinator between the parties and TPCODL. The constituents & leader of the consortium or joint venture shall not be changed without the prior consent of TPCODL.

TPCODL shall have no liability or any special, incidental, indirect or consequential Damages for any loss of Business Contracts, revenues or other financial loss arising out of this Contract.

19.2 Limitation of Liability

The total liability of Associate against any contract shall be limited to the Total All Inclusive Contract Value.

20.0 FORCE MAJEURE

Force Majeure applies if the performance by either Party ("the Affected Party") of its obligations under Contract is materially and adversely affected.

"Force Majeure" shall mean any event or circumstance or combination of events or circumstances referred below and their consequences that wholly or partly prevents or unavoidably delays any

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Party in the performance of its obligations under this Agreement, but only and to the extent that such events and circumstances are not within the reasonable control, directly or indirectly, of the Affected Party and could not have been avoided even if the Affected Party had taken reasonable care:

- Act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, embargo, blockade, revolution, riot, bombs, religious strife or civil commotion, etc. ▪ Politically motivated sabotage, or terrorism, etc.
- Action or Act of Government or Governmental agency for which remedy is beyond the control of the affected parties. ▪ Any act of God.

Note: Causes like power breakdown/ shortages/fire/strikes, accidents etc do not fall under Force Majeure.

Time being the essence of the Contract, if either party is prevented from the performance of its obligations in whole or in part due to an event of Force Majeure, then provided Notice of happening of any event by the Affected Party is given to the other party within seven (7) days from the date of occurrence of such event, which DIRECTLY has impact on works and submitted details and quantum of resulting effect, but at the same time had made all possible efforts to mitigate and overcome effects thereof, the Affected Party's performance under this Contract shall be suspended until such event ceases and the Scheduled Completion shall be delayed accordingly.

If Force Majeure event(s) continue for a period of more than three months, the parties shall hold consultation to discuss the further course of action.

Neither party shall be considered to be in default or in breach of its obligation under the Contract to the extent that performance of such obligation by either party is prevented by any circumstances of Force Majeure which arise after effective date of Contract.

Neither party can claim any compensation from the other party on account of Force Majeure.

21.0 SUSPENSION OF CONTRACT

21.1 Suspension for Convenience

TPCODL may, at any time and at its sole option, suspend execution of all or any portions of the schedule of items of contract to be supplied/work to executed by Associate under the contract by providing to the Associate atleast two business days written notice for contracts having contract completion period less than sixty days and atleast seven business days' notice for all other contracts.

Upon receipt of any such notice, the Associate shall respond as follows as applicable as per contract construction.

- Immediately discontinue further supply of material/goods specified in the suspension notice for supply contracts
- Immediately discontinue further service/work and supply of materials of those services/materials/work specified in the suspension notice for service /composite contract
- Promptly make every reasonable effort to obtain suspension, upon terms satisfactory to TPCODL, of all orders, outsourcing arrangements, and rental Contracts to the extent that they relate to performance of the portion of Work suspended by the notice.

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- Protect and maintain the portion of the service/Work already completed, including the portion of the Work suspended hereunder, unless otherwise specifically stated in the notice.
- Continue delivering/carrying out the supply/service/work items as per contract conditions, which do not fall under purview of the suspension notice.

On receipt of resumption notice from TPCODL, the Associate shall resume execution of contract as specified in the resumption notice, within the time frame specified in the resumption notice.

21.2 Suspension for Breach of Contract conditions.

TPCODL shall suspend execution of whole/or part thereof the contract till such time Associate complies with the conditions stipulated under section clause 22.1 for breach/default of contract conditions.

21.3 Compensation in lieu of Suspension

If the suspension of the contract in whole or in part is for convenience of TPCODL and not due to any breach of contract conditions by the associate, TPCODL at its discretion shall consider compensating all reasonable additional costs incurred by Associate in lieu of suspension of whole or part of contract, on representation of the Associate providing justified estimates of such additional costs and such estimates are found acceptable and approved by competent authority of TPCODL.

If the suspension of contract in whole or part thereof is due to breach of contract conditions (refer clause 22.1) by the Associate, Associate shall not be entitled for any compensation for any cost incurred in lieu of suspension of whole or part of contract and also shall be liable for compensating all the losses arising to TPCODL in lieu of suspension of contract. Resumption notice shall be subject to the Associate taking corrective action for the breach of contract conditions within the time frame and as per the terms specified in the suspension notice.

22 TERMINATION OF CONTRACT

22.1 Termination for Default/Breach of Contract

The contract / PO /RC shall be subject to termination by TPCODL in case of breach of the contract by the Associate which shall include but not be limited to the following:

- a. Withdrawal or intimation by the Associate of its intent to withdraw or surrender the execution / completion of the contracted work /PO or failure in ensuring adherence to any delivery schedules, in deviation of the contract/PO.
- b. Refusal or neglect on the part of the Associate to supply material/equipment of quantity or quality as specified by TPCODL and within the timeframe as specified in the contract document or refusal or neglect to execute the services/work in terms of the agreed standards of quantity or quality and/or within the timeframe specified in the contract/PO.
- c. Failure in any respect to perform any portion of the Work contracted with promptness, diligence, or in accordance with the terms of the contract.
- d. Failure to furnish guarantees as specified and /or failure to comply with the terms thereof.
- e. Failure to furnish such relevant documents or information within the time specified which may be necessary for due execution / completion of the works and documentation.

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- f. Liquidation, bankruptcy either voluntary or involuntary OR entering into any composition or compromise with its creditors, or Insolvency.
- g. In case any reasonable information has been received by TPCODL that Associate has adopted/ or attempted to adopt any unethical conduct, action in award of the contract /PO or at any time thereafter.
- h. Failure to comply with applicable statutory provisions as contained in the contract or failure to comply with the applicable laws.
- i. Failure to comply with safety regulations/clauses stipulated in the contract or as may be generally instructed by TPCODL.

If the default or breach as specified under clause 22 (except sub clause g thereof) be committed by the associate for the first time, TPCODL shall issue, along the with notice of default or breach, a warning notice instructing the associate to take remedial/corrective action within the time frame stipulated in the warning notice and not to repeat the same in future. The timeframe for corrective action by the associate shall be specific to the nature of breach of contract and the same shall not be objected to by the Associate. If the Associate fails to comply with the instructions in the warning notice or in taking corrective action to the satisfaction of TPCODL then TPCODL may terminate the entire or part of contract at its discretion by issuing termination notice without incurring any liability on this ground.

In case the contract is terminated for any breach of the nature specified in clause 22 g stated above, TPCODL shall have the right to terminate all the contracts TPCODL is having with the Associate by issuing termination notice which shall be without prejudice to the other rights of TPCODL available to it under law.

Without prejudice to its right to terminate for breach of contract, TPCODL may, without assigning any reason, terminate the Contract in whole or in part at any time at its discretion while the contract is in force by serving a written notice of two weeks to the Associate.

In the event of TPCODL having proceeded with termination of the contract the associate shall comply and proceed further in the following manner:

- a) Associate shall discontinue the supply, on the expiry of the said period of two weeks.
- b) Associate shall ensure that no further steps are being taken towards discharge of the obligations, terms and conditions as contained in the contract/PO. This shall include initiation of actions not limited to discontinuation of other allied and associated arrangements which the associate might have entered into with third parties for due discharge of its obligations under the contract with TPCODL.
- c) The Associate shall perform thereafter such tasks as may be necessary to preserve and protect the terminated portion of the material/service/work in progress and the materials and equipment at TPCODL sites or in transit thereto. However the associate shall continue to fulfill its contractual obligations with regard to the part of contract not terminated.
- d) It shall be open for TPCODL to conduct a joint assessment with the associate of the material, supplies, equipment ,works or in general as to the subject matter of the contract in regard to which the associate claims having completed its obligations before or during such termination.

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- e) It shall be open to TPCODL to seek invocation of the performance bank guarantee or any other guarantee or other security deposit by whatever name called submitted by the associate, which shall not be objected to or protested against by the associate.

In case of termination of the contract the parties agree to be governed inter alia by the following:

- a) In case TPCODL exercises its right of termination as stated above the associate shall not dispute or object to the same.
- b) The Associate shall be entitled to receive and claim only such payments OR sums of money from TPCODL as may be found payable to it in regard to works executed by it under the terms of the contract and no other claim of any nature whatsoever shall be made by the Associate.
- c) All such provisions which the parties have agreed to survive and prevail even after termination of the contract shall remain effective despite the termination.

In the event of such termination, TPCODL may finish the Work by whatever method it may deem expedient, including the hiring of services and /or purchase of material equipment from such third parties as TPCODL may deem fit or may itself provide any labor or materials and perform any part of the Work. The associate undertakes to bear the incremental costs if any paid by TPCODL in such a case attributable to failure on the part of the associate. The Associate in such a case shall not be entitled to receive any further payments and any sums found payable to it may be adjusted by TPCODL against the amount recoverable from him on this ground. The same shall be without prejudice to other rights available to TPCODL under law against the associate. Upon the termination of any of the contract due to occurrence of any circumstances provided in clauses stated above and constituting repeated breach or misconduct, TPCODL shall be entitled to bar the associates its agents, affiliates from undertaking any negotiation / tendering, bidding, participation activities concerning TPCODL for a period of two years from date of such termination. The same shall be without prejudice to other rights available to TPCODL.

22.2 Termination for Convenience of Associate

Associate at its convenience may request for termination of contract, clearly assigning the reason for such request. TPCODL has full right to accept, reject or partially accept such request. However, associate shall continue its supply as per contract till final approval is given to associates for such termination.

22.3 Termination for Convenience of TPCODL

TPCODL at its sole discretion may terminate the contract by giving 30 days prior notice in writing or through email to the Associate. TPCODL shall pay the Associate for all the supplies/ services rendered till the actual date of contract termination against submission of invoice by the Associate to that effect.

23.0 DISPUTE RESOLUTION & ARBITRATION

In case of any dispute or difference the parties shall endeavour to resolve the same through conciliatory and amicable measures within 15 Days failing which the matter may be referred by either party for resolution by the sole arbitrator to be appointed mutually by both the parties. The arbitral proceedings shall be conducted in accordance with Arbitration and Conciliation Act 1996 and the place of arbitration shall be Bhubaneswar. The language to be used at proceedings shall be English and the award of the arbitrator shall be final and binding on the parties. The parties shall bear their respective costs of arbitration. The associate shall continue to discharge its obligations towards due performance of the works as per the terms of the contract during the

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arbitration proceedings unless otherwise directed in writing by TPCODL or suspended by the arbitrator. Further, TPCODL shall continue making such payments as may be found due and payable to the associate for such works.

23.1 Governing Laws and Jurisdiction

The parties shall be subject to the jurisdiction of the courts of law in Bhubaneswar and any matter arising here from shall be subject to applicable law in force in India.

24.0 ATTRIBUTES OF GCC

24.1 Cancellation

The Company reserves the right to cancel, add, delete at its sole discretion, all or any terms of this GCC or any contract, order or terms agreed between the parties in pursuance without assigning any reasons and without any compensation to the Associates.

24.2 Severability

If any portion of this GCC is held to be void, invalid, or otherwise unenforceable, in whole or part, the remaining portions of this GCC shall remain in effect.

24.3 Order of Priority

In case of any discrepancies between the stipulations in General Conditions of the Contract (GCC) and Special Conditions of Contract (SCC), the GCC shall stand superseded by the SCC to the extent stipulated hereinabove while balance portion of respective clauses of GCC shall continue to be applicable.

25.0 ERRORS AND OMISSIONS

The Associate shall be responsible for all discrepancies, errors and omissions in the drawings, documents or other information submitted by him, irrespective of whether these have been approved, reviewed or otherwise accepted by the TPCODL or not. However any error in design/drawing arising out of any incorrect data/written information from TPCODL will not be considered as error and omissions on part of the Associate.

26.0 TRANSFER OF TITLES

The title of ownership and property to all equipment, materials, drawings & documents shall pass to the TPCODL on acceptance of material by store/site after Inspection.

However, such passing of title of ownership and property to the TPCODL shall not in any way absolve, dilute or diminish the responsibility and obligations of the Associate under this Contract including loss or damages and all risks, which shall vest with the Associate.

27.0 INSURANCE

The Contractor shall take out the Insurance Policies which shall cover all risks including the following, as applicable:-

- a) The value of the policy shall cover the total value of all the items till they are handed over to TPCODL.
- b) TPCODL shall be the principal holder of the policy. The Associate shall be the loss payee under the policy. Associate / Sub-contractor of the Associate shall not be holders or beneficiaries in the policy nor shall they be named in the policy. TPCODL reserves the exclusive right to assign the policy.

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- c) While the payment of premium may be phased in agreement with the insurance company, at no time shall goods and services required to be provided by the associate shall remain uninsured in accordance with (a) above.
- d) A copy of the Insurance policy shall be made available to TPCODL prior to first dispatch lot of any Equipment and policy shall be kept alive and valid at all times up to the stage of final acceptance.
- e) TPCODL reserves the right to take out whatever policy that is deemed necessary by him if the associate fails to keep the said policy alive and valid at all times and/or causes lapses in payment of premium thereby jeopardizing the said policy. The cost of such policy(s) shall be recovered / deducted from the amount payable to the associate.
- f) The policy shall ensure that the TPCODL's decision regarding replacement of goods damaged, lost or rendered unusable shall be final.

In all cases, the associate shall lodge the claims with the underwriters and also settle the claims and shall also notify TPCODL of any filed claims. However, the associate shall proceed with the repairs and/or replacement of the equipment/components without waiting for the settlement of the claims. In case of seizure of materials by concerned authorities, the associate shall arrange prompt release against bond, security or cash as required. TPCODL, upon request by the associate, will extend all reasonable assistance to the associate in such a case.

All the insurance claims shall be processed and settled by the associate and the missing/damaged items shall be replaced/repared by them without any extra cost to TPCODL and without affecting the completion time.

28.0 SUGGESTIONS & FEEDBACK

We welcome all our Business Associates to write to us about their experience with TPCODL; be it our Company, our services or our people. Each and every concern, issue, query and suggestion from you will help us to become a better company to work with and shall help us develop a strong bonding of trust and a long term relationship with you.

You may send your feedback by filling up our Business Associate Feedback Form enclosed herewith as *Annexure-E*. You can also log on to our website www.tpcentralodisha.com to provide your feedback.

- Suggestions for us
- Feedback form
- Knowledge Sharing/ Experience with TPCODL
- Any issues with TPCODL.

Submission of feedback form is mandatory before the release of final payment to the BA.

29.0 CONTACT POINTS

In case Business Associate needs information with respect to payments or has any grievances, same may be lodged by log on to our website www.tpcentralodisha.com

30.0 LIST OF ANNEXURES

S. No.	Subject	Annexure
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1.	Performa for Bid Security Bank Guarantee	A
2.	Performa for Performance Bank Guarantee (CP cum EP)	B
3.	Performa for No Demand Certificate by Associate	C
4.	Performa For Application For Issuance of Consolidated TDS Certificate	D
5.	Business Associate Feedback Form	E
6.	Acceptance Form For Participation In Reverse Auction Event	F
7.	Form for RTGS Payment	G
8.	Vendor Appraisal Form	H
9.	Manufacturer Authorization Form	I

ANNEXURE-A

PROFORMA FOR BID SECURITY BANK GUARANTEE

**The TP Central Odisha Distribution Limited
Bhubaneswar**

WHEREAS, (Name of the Bidder) _____
(hereinafter called "the BIDDER") has submitted his bid dated _____ for the (Name
of Contract) _____ (hereinafter called "the BID").

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KNOW ALL men by these presents we (Name of the Bank) _____ of (Name of the Country) _____ having our registered office at _____ (hereinafter called "the BANK) are bound unto The TP Central Odisha Distribution Limited (TPCODL) in the sum of _____ for which payment well and truly to be made to the TPCODL the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20____.

The CONDITIONS of this obligation are:

- i) If the Bidder withdraws his Bid during the period of bid validity specified in the Proforma of Bid or
- ii) If the Bidder having been notified of the acceptance of his Bid by the TPCODL during the period of bid validity fails or refuses to furnish the Contract Performance Bank Guarantee, in accordance with the Instructions to Bidders.

We undertake to pay the TPCODL upto the above amount upon receipt of its first written demand, provided that in its demand the TPCODL will note that amount claimed by it is due to it owing to the occurrence of one or both conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force upto and including the date (No of days as mentioned in tender enquiry) days after the closing date of submission of bids as stated in the Invitation to Bid or as extended by you at any time prior to this date, notice of which extension to the Bank being hereby waived, and any demand in respect thereof should reach the Bank not later than the above date.

DATE **SIGNATURE OF THE BANK**

WITNESS **SEAL**

(Signature, Name & Address) (At least 2 witnesses)

	TP CENTRAL ODISHA DISTRIBUTION LIMITED	
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ANNEXURE- B

PROFORMA FOR PERFORMANCE BANK GUARANTEE (CP cum EP)

(On Rs.100/- Stamp Paper) Note:

- a) Format shall be followed in toto
- b) Claim period of one month must be kept up
- c) The guarantee to be accompanied by the covering letter from the bank confirming the signature to the guarantee

The TP Central Odisha Distribution Limited

Bhubaneswar

CP cum EP BG No.....

Order/Contract No.....dated.....

1. You have entered into a Contract No _____ with M/s. _____
(hereinafter referred to as "the Vendor") for the supply cum erection / civil work of _____ (hereinafter referred to as "the said Equipment") for the price and on the terms and conditions contained in the said contract.
2. In accordance with the terms of the said contract, "the Vendor" agreed to furnish you with an irrevocable, unconditional and acceptable bank guarantee for 10% of the value of contract and to be valid till the end of Guarantee period plus one month towards "Contract cum Equipment performance". For this purpose you have agreed to accept the guarantee.
3. In consideration thereof, we, _____
hereby irrevocably and unconditionally guarantee to pay to you on demand but in any case before the end of five working days from the date of the claim and without demur and without reference to "the Vendor" such amount or amounts not exceeding the sum of
Rs. _____ (Rupees _____ only) being _____ %
(_____ percent) of the total value of the contract on receipt of your intimating that "the Vendor" has not fulfilled his contractual obligations. You shall be the sole judge for such non-fulfillment and "the Vendor" shall have no right to question such judgment.
4. You shall have the right to file / make your claim on us under the guarantee for a **further period of one month** from the date of expiry.
5. This guarantee shall not be revoked without express consent and shall not be affected by your granting time or any other indulgence to "the Vendor", which shall include but not be limited to, postponement from time to time of the exercise the same in you or any right which you may have against "the Vendor" and to exercise the same in any covenant contained or implied in the said contract or any other course or remedy or security available to you, and our Bank shall not be released from its obligations under this guarantee by

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your exercising any of your rights with reference to matters aforesaid or any of them or by reasons of any other act or forbearance or other acts of omission or commission on your part or any other indulgence shown by you or by any other matter or thing whatsoever which under the law would, but for this provision have the effect of relieving our bank from its obligation under this guarantee.

6. We also agree that you shall be entitled at your option to enforce this guarantee against our bank as a principal debtor, in the first instance, notwithstanding any other security or guarantee that you may have in relation to "the Vendor's" liabilities in respect of the premises
7. This guarantee shall not be affected by any change in the constitution of our Bank or "the Vendor" or for any other reason whatsoever.
8. Any claim / extension under the guarantee can be lodge-able at outstation banks or at Bhubaneswar branch and claim will also be payable at Bhubaneswar Branch (to be confirmed by Bhubaneswar Branch by a letter to that effect in case BG is from the branch outside Bhubaneswar).
9. Notwithstanding anything herein contained, our liability under this guarantee is limited to Rs. _____ (Rupees _____) only and the guarantee will remain in force upto and including _____ (Date) and shall be extended from time to time for such period or period as may be desired by "the Vendor".
10. Unless a demand or claim under this guarantee is received by us in writing within one months from _____ (expiry date) i.e. on or before _____ (claim period end date), we shall be discharged from all liabilities under this guarantee thereafter.

Dated at _____ this _____ day of _____ 20__

Bank's rubber stamp

1. Banks full address

Designation of Signatory

2. Bank official number

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ANNEXURE-C

PROFORMA FOR “NO DEMAND CERTIFICATE” BY ASSOCIATE

(On Company's Letter head or with Company Seal)

(To be submitted by the Associate to TPCODL Accounts Department at the time of receipt of full and final payment)

(Certificate No. CCP/002)

Name of the Project Order/

Contract No.

Dated

Name of the Associate Scheme

No. / Job No.

We, M/s. _____ (Associate) do hereby acknowledge and confirm that we have received the full and final payment due and payable to us from TPCODL, in respect of our aforesaid Order No _____ dated _____ including amendments, if any, issued by TPCODL to our entire satisfaction and we further confirm that we have no claim whatsoever pending with TPCODL under the said contract / W.O.

Notwithstanding any protest recorded by us in any correspondence, documents, measurement books and / or final bills etc., we waive all our rights to lodge any claim or protest in future under this contract.

We are issuing this “NO DEMAND CERTIFICATE” in favour of TPCODL, with full knowledge and with our free consent without any undue influence, misrepresentation, coercion etc.

Place

Name

(Company Seal)

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ANNEXURE-D

**PROFORMA FOR APPLICATION FOR ISSUANCE OF CONSOLIDATED TDS
CERTIFICATE**

To be printed on the letterhead

To,

The TP Central Odisha Distribution Limited,

Bhubaneswar

Sub: Application for issuance of Consolidated TDS Certificate for the FY _____

Dear Sir,

I / we hereby request / authorize you to issue me / us a consolidate TDS Certificate for the financial year _____ against tax deducted at source by you from my / our payments / bills during the said year from time to time under Chapter XVII – B of the Income Tax Act, 1961. For and on behalf of

Signature

Name

Address

Contact No. (Land Line)

(Mobile)

PAN #

Assessing authority

ATTACH THE COPY OF PAN CARD

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ANNEXURE-E

BUSINESS ASSOCIATE FEEDBACK FORM

With an objective to improve our internal processes and systems, and serve you better, we solicit your valuable feedback & suggestions. It is estimated that it will take about 10 minutes to complete this survey. We assure you that your feedback shall be kept confidential. Please send the duly filled feedback form in the "TPCODL addressed - attached envelop"

You are associated with us as

☐ OEMs ☐ Service Contractor ☐ Material Suppliers ☐ Material & Manpower Supplier

You are associated with us for

☐ Less than 1 year ☐ More than 1 year but less than 3 years ☐ More than 3 years

Your office is located at

☐ Bhubaneswar ☐ Within 200 kms from Bhubaneswar ☐ More than 200 kms from Bhubaneswar

Your nearly turnover with TPCODL

☐ Less than 25 Lacs ☐ 25 Lacs to 1 Crore ☐ More than 1 Cr.

Additional Information

Your Name	
Your Designation	
Your Organization	
Contact Nos.	
Email	

We once again thank you for your participation in this survey. Please spare 10 minutes to give your feedback on following pages (Section A to E)

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SECTION – A

(Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement).

S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
		Do Not Agree	Slightly in Agreement	In Fair Agreement	Mostly in Agreement	Fully Agree	
1	You receive all relevant queries / tenders from us in timely manner.						
2	We provide you enough lead time to respond to our queries / tenders.						
3	We provide you adequate support (drawings, documents, clarifications, briefing etc.) to enable you meet our requirements.						
4	All following elements of our contract / purchase order are rational :						
4.1	Scope of Work						
4.2	Delivery / Execution Schedule						
4.3	Payment Terms						
4.4	Liquidated Damages						
4.5	Performance Guarantee						
5	Our purchase orders / contracts are simple, specific & easy to understand						
6	TPCODL demonstrate willingness to be flexible in administration of Contract / Purchase Order						
7	We provide timely responses / clarifications to your queries						
8	TPCODL representative you interact / coordinate with is adequately empowered to support you in meeting contractual obligations						
9	TPCODL provide you all necessary infrastructure support for timely and quality completion of work (including AMC)						
10	TPCODL Engineer-in-Charge timely certifies the jobs executed/ material supplied						
11	TPCODL Engineer-in-Charge efficiently supervises the job execution for timely completion of job						
12	BIRD (Bill Inward Receipt Desk) initiative has improved payment disbursement process						

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S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
		Do Not Agree	Slightly in Agreement	In Fair Agreement	Mostly in Agreement	Fully Agree	
13	Our approach for Inspection and Quality Assurance effective to expedite project completion?						
14	TPCODL never defaults on contractual terms						
15	In TPCODL Contracts closure is done within set time limit						
16	Our material receiving procedures are well defined and efficiently deployed to reduce mutual inconvenience						
17	Bank Guarantees are released in time bound manner						
18	Our processes related to payment / account settlement are effective.						
19	You get payments on time						
20	TPCODL Employees follow Ethical behaviour						

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SECTION – B

SECTION – B (Please rate the following parameters on a scale of 1 to 5, where 1 - Minimum; 5 - Maximum)

S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
1	How do you rate courtesy/ empathy/ attitude level and warmth of TPCODL employees you interact with from following team?						
1.1	Project Engineering						
1.2	District / Zones						
1.3	Projects/HOG (TS &P)						
1.4	Inspection & Quality Assurance						
1.5	Stores						
1.6	Metering & Billing						
1.7	Accounts / Finance						
1.8	Administration						
1.9	IT & Automation						
2	How would you rate TPCODL in comparison to your other clients in terms of fairness of treatment and transparency with its Business Associates?						
3	How would you rate TPCODL in comparison to your other clients in terms of processes and systems to manage partnership with its Business Associates						
4	How would you rate TPCODL in comparison to your other clients in terms of building long term & mutually relationship with its Business Associates						

SECTION – C

Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement.

S. No.	Parameters	Certainly No	Probably No	Certainly Yes	Probably Yes	Remarks/ Suggestion
1	Based on your experience with TPCODL, would you like to continue your relationship with TPCODL?					
2	If someone asks you about TPCODL, would you talk “positively” about					

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	TPCODL?					
3	Would you refer TPCODL name to others in your community, fraternity and society as a professional & dynamic organization?					

SECTION - D

If we ask you to rate us on a scale of 1 to 10, how will you rate TPCODL, that truly represents your overall satisfaction with us (please tick appropriate box) -

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

SECTION - E

Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement.

Please spare your thoughts for TPCODL's improvement in particular areas of weaknesses, particularly relating to some great practices, attitudes that you have seen elsewhere in Indian and International Organizations, which you recommend TPCODL to adopt. Please give your valuable salient recommendations.

Please spare your thoughts for TPCODL's improvement in particular areas of major concerns for you. We also welcome your suggestions to adopt any best practices, attitudes that you

Recommendation	Please tick (✓) your top 5 expectations out of the following 10 points listed below -	
(Please list down improvement you expect from TPCODL)	Timely payment	
1	Flexibility in Contracts/PO	
	Clarity in PO,s & Contracts	
2	Timely response to quarries	
	Timely certification of works executed	
3	Clarity in Specs, drawings, other docs etc.	
	Adequate information provided on website for tender notification, parties qualified etc.	
4	Timely receipt of material at site for execution	
	Performance Guarantee/EMD released in time	

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5	Inspection & quality assurance support for timely job completion
---	--

We thank you for your time and courtesy!!

ANNEXURE-F

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder prior to participation in the auction event)

In a bid to make our entire procurement process more fair and transparent, TPCODL intends to use the reverse auctions through SAP-SRM tool as an integral part of the entire tendering process. All the bidders who are found as technically qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

The following terms and conditions are deemed as accepted by the bidder on participation in the bid event:

1. TPCODL shall provide the user id and password to the authorized representative of the bidder. (Authorization Letter in lieu of the same shall be submitted along with the signed and stamped Acceptance Form).
2. TPCODL will make every effort to make the bid process transparent. However, the award decision by TPCODL would be final and binding on the supplier.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of TPCODL, bid process, bid technology, bid documentation and bid details.
4. The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.
5. In case of bidding through Internet medium, bidders are further advised to ensure availability of the entire infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitch, internet response issues, software or hardware hangs, power failure or any other reason shall not be the responsibility of TPCODL.
6. In case of intranet medium, TPCODL shall provide the infrastructure to bidders. Further, TPCODL has sole discretion to extend or restart the auction event in case of any glitches in infrastructure observed which has restricted the bidders to submit the bids to ensure fair & transparent competitive bidding. In case an auction event is restarted, the best bid as already available in the system shall become the start price for the new auction.
7. In case the bidder fails to participate in the auction event due any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be outrightly rejected by TPCODL.
8. The bidder shall be prepared with competitive price quotes on the day of the bidding event.
9. The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR at TPCODL site.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder.
11. No requests for time extension of the auction event shall be considered by TPCODL.
12. The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all inclusive prices offered during conclusion of the auction event for arriving at Contract amount.

Signature & Seal of the Bidder

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Name of the Authorized Signatory: _____ :

Contact Person's Name:

Official Correspondence Address:

We confirm that we will bear the charges, if any, levied by our bank for the credit of NEFT/RTGS amounts in our account. Any change in above furnished information shall be informed to TPCODL well in time at our own. Further, we kept TPCODL indemnified for any loss incurred due to wrong furnishing of above information.

Thanking you,

For _____

(Authorised Signatory)

(Signature with Rubber Stamp)

Certification from Bank:

We confirm that we are enabled for receiving NEFT/RTGS credits and we further confirm that the account number (specify Bank a/c no.) of (Please mention here name of the account holder), the signature of the authorised signatory and the MICR and IFSC Code of our branch mentioned above are correct.

This also is certified that the above information is correct as per Bank record

(Manager's/ Officers Signature under Bank Stamp)

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ANNEXURE-H
VENDOR APPRAISAL FORM

TO BE SUBMITTED BY VENDOR (To be filled as applicable)			
VENDOR:			
1.0	DETAILS OF THE FIRM		
	1.1	NAME (IN CAPITAL LETTERS)	:
	1.2	TYPE OF CONCERN (PROPRIETARY) Partnership, Pvt. Ltd., Public Ltd. etc.	:
	1.3	YEAR OF ESTABLISHMENT	:
	1.4	LOCATION OF OFFICE POSTAL ADDRESS TELEGRAPHIC ADDRESSES, TELEX NO. FAX NO.	:
	1.5	LOCATION OF MANUFACTURING UNITS	:
		i) UNITS 1	:
		ii) OTHER UNITS	:
2.0	PRODUCTS MANUFACTURED		:
3.0	TURNOVER DURING THE LAST 3 YEARS (TO BE VERIFIED WITH THE LATEST PROFIT & LOSS STATEMENT).		:
4.0	VALUE OF FIXED ASSETS		:
5.0	NAME & ADDRESS OF THE BANKERS		:
6.0	BANK GUARANTEE LIMIT		:
7.0	CREDIT LIMIT		:
8.0	TECHNICAL		
	8.1	NO. OF DESIGN ENGINEERS (INDICATE NO. OF YEARS EXPERIENCE IN RELATED FIELDS)	:
	8.2	NO. OF DRAUGHTS MEN	:
	8.3	COLLABORATION DETAILS (IF ANY)	:
		8.3.1 DATE OF COLLABORATION	:
		8.3.2 NAME OF COLLABORATOR	:
		8.3.3 RBI APPROVAL DETAILS	:
		8.3.4 EXPERIENCE LIST OF COLLABORATOR	:
		8.3.5 DURATION OF AGREEMENT	:
	8.4	AVAILABILITY OF STANDARDS / DESIGN PROCEDURES / COLLABORATOR'S /	:

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		DOCUMENTS (CHECK WHETHER THESE ARE LATEST/CURRENT)	
	8.5	TECHNICAL SUPPORT, BACK-UP GUARANTEE, SUPERVISION, QUALITY CONTROL BY COLLABORATOR (WHEREVER ESSENTIAL). (THIS CLAUSE IS RELEVANT WHEN VENDOR'S EXPERIENCE IS INADEQUATE)	:
	8.6	QUALITY OF DRAWINGS	:
9.0	MANUFACTURE		
	9.1	SHOP SPACE, LAYOUT LIGHTING, VENTILATION, ETC.	:
	9.2	POWER (KVA)	:
		MAINS INSTALLED	:
		UTILIZED	:
		STANDBY POWER SOURCE	:
	9.3	MANUFACTURING FACILITIES (ATTACH LIST OF EQUIPMENT AS APPLICABLE)	:
		9.3.1 MATERIAL HANDLING	:
		9.3.2 MACHINING	:
		9.3.3 FABRICATION	:
		9.3.4 HEAT TREATMENT	:
		9.3.5 BALANCING FACILITY	:
		9.3.6 SURFACE TREATMENT PRIOR TO PAINTING/ COATING, POLISHING, PICKLING, PASSIVATION, PAINTING, ETC.	:
	9.4	SUPERVISORY STAFF	:
	9.5	ADEQUACY OF SKILLED LABOURS (MACHINISTS, WELDERS, ETC.)	:
	9.6	NO. OF SHIFTS	:
	9.7	TYPE OF MATERIAL HANDLED (SUCH AS CS, SS, ETC.)	:
	9.8	WORKMANSHIP	:
	9.9	MATERIAL IN STOCK AND VALUE	:
	9.10	TRANSPORT FACILITIES	:
	9.11	CARE IN HANDLING	:
10.0	INSPECTION / QC / QA / TESTING		
	10.1	NUMBER OF PERSONNEL (INDICATE NO. OF YEARS OF EXPERIENCE)	:
	10.2	INDEPENDENCE FROM PRODUCTION	:

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	10.3	AVAILABILITY OF PROCEDURAL WRITE UP/QUALITY PLAN	:
	10.4	INCOMING MATERIAL CONTROL AND DOCUMENTATION	:
	10.5	RELIABILITY/REPUTATION OF SUPPLY SOURCES	:
	10.6	STAGE INSPECTION AND DOCUMENTATION	:
	10.7	SUB-ASSEMBLY & DOCUMENTATION	:
	10.8	FINAL INSPECTION AND DOCUMENTATION	:
	10.9	PREPARATION OF FINAL DOCUMENTATION PACKAGE	:
	10.10	TYPE TEST FACILITIES	:
	10.11	ACCEPTANCE TEST FACILITIES	:
	10.12	CALIBRATION OF INSTRUMENTS AND GAUGES (WITH TRACEABILITY TO NATIONAL STANDARDS) (ATTACH LIST)	:
	10.13	STATUTORY APPROVALS LIKE BIS, IBR, ETC.(AS APPLICABLE)	:
	10.14	SUB-VENDOR APPROVAL SYSTEM AND QUALITY CONTROL	:
	10.15	DETAILS OF TESTS CARRIED OUT AT INDEPENDENT RECOGNIZED LABORATORIES	:
		i) FURNISH LIST OF TESTS CARRIED OUT AND THE NAME OF THE LABORATORY WHERE THE TESTS WERE CONDUCTED	:
		ii) CHECK AVAILABILITY OF CERTIFICATES AND REVIEW THESE WHEREVER POSSIBLE	:
11.0		EXPERIENCE (INCLUDING CONSTRUCTION / ERECTION / COMMISSIONING) TO BE FURNISHED IN THE FORMAT INDICATED IN APPENDIX)	:
12.0		SALES, SERVICE AND SITE ORGANIZATIONAL DETAILS	:
13.0		CERTIFICATE FROM CUSTOMERS (ATTACH COPIES OF DOCUMENTS)	:
14.0		POWER SITUATION	:
15.0		LABOUR SITUATION	:
16.0 *		APPLICABILITY OF SC/ST RELAXATION (Y/N) IF YES, SUPPORTING DOCUMENTS TO BE ATTACHED	
17.0		ORGANIZATIONAL DETAILS 1. PF NO 2. ESI NO 3. INSURANCE FOR WORK MAN COMPENSATION ACT NO 4. ELECTRICAL CONTRACT LIC NO 5. ITCC / PAN NO 6. SALES TAX NO 7. WC TAX REG. NO	:
18.0		DOCUMENTS TO BE ENCLOSED:	

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	1. FACTORY LICENSE 2. ANNUAL REPORT FOR LAST THREE YEARS 3. TYPE TEST REPORT FOR THE ITEM 4. PAST EXPERIENCE REPORTS 5. ISO CERTIFICATE –QMS, EMS, OHAS, SA 6. REGISTRATION OF SALES TAX 7. COPY OF TIN NO. 8. COPY OF SERVICE TAX NO. 9. REGISTRATION OF CENTRAL EXCISE 10. COPY OF INCOME TAX CLEARANCE. 11. COPY OF PF REGISTRATION 12. COPY OF ESI REGISTRATION 13. COPY OF INSURANCE FOR WORK MAN COMPENSATION ACT NO 14. COPY OF ELECTRICAL CONTRACT LIC NO 15. COPY OF PAN NO 16. COPY OF WC TAX REGISTRATION 17. DOCUMENTS IN SUPPORT OF SC/ST RELAXATION AT S.NO.16.0 18. GSTN CERTIFICATE	
--	--	--

*** Classification of BA s under SC/ST shall be governed under following guidelines:**

- **Proprietorship/ Single Ownership Firm:** Proprietor of the firm should be from SC/ST community. Governing document shall be Proprietorship Deed.
- **Partnership Firm:** Only such firms shall qualify which have SC/ST partners holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Partnership Deed.
- **Private Limited Company:** Only such firms shall qualify which have SC/ST directors holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

NOTE: Certification from SC/ST Commission shall be required for deciding upon SC/ST status of a person.

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ANNEXURE-I
MANUFACTURER AUTHORIZATION FORM

(To be submitted on OEM's Letter Head)

Date:

Tender Enquiry No.:

To,

Chief (Procurement & Stores)

The TP Central Odisha Distribution Limited,
Bhubaneswar

Sir,

WHEREAS M/s. [name of OEM], who are official manufacturers of having factories at [address of OEM] do hereby authorize M/s [name of bidder] to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by us

.....and
to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with the Special Conditions of Contract or as mentioned elsewhere in the Tender Document, with respect to the Goods offered by the above firm in reply to this Invitation for Bids.

We hereby confirm that in case, the channel partner fails to provide the necessary services as per the Tender Document referred above, M/s [name of OEM] shall provide standard warranty on the materials supplied against the contract. The warranty period and inclusion / exclusion of parts in the warranty shall remain same as defined in the contract issued to their channel partner against this tender enquiry.

Yours Sincerely,

For

Authorized Signatory

TPNODL	TP NORTHERN ODISHA DISTRIBUTION LTD	
	WORK INSTRUCTION /OPERATING GUIDELINES	
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Prepared By Imran Ahmad/ Swetaraj Parida	Reviewed By Vipin Chauhan	Approved By Sunil Bhattar

VIPIN CHAUHAN

Digitally signed by VIPIN CHAUHAN
Date: 2021.12.04 15:13:25 +05'30'

SUNIL BHATTAR

Digitally signed by SUNIL BHATTAR
DN: c=IN, cn=Personal, postalCode=722018, st=Haryana, serialNumber=F53CC668A7C5989A74C119
996CB3A3B5E7C01F8A43FE59E1358B38
297F0F38, cn=SUNIL BHATTAR
Date: 2021.12.04 15:23:36 +05'30'

CONTENTS	
CLAUSE NO.	DESCRIPTION
1.0	ORGANIZATIONAL VALUES
2.0	ETHICS
2.1	Tata Code of Conduct
3.0	CONTRACT PARAMETERS
3.1	Issue/Award of Contract
3.2	Contract Commencement Date
3.3	Contract Completion Date
3.4	Contract Period/ Time
3.5	Contract Execution Completion Date
3.6	Contract Price /Value
3.7	Contract Document
3.8	Contract Language
3.9	Reverse Auction
4.0	SCOPE OF WORK
4.1	Bid Evaluation- Commercial & Technical
5.0	PRICES/RATES/TAXES
5.1	Changes in statutory Tax Structure
6.0	TERMS OF PAYMENT
6.1	Quantity Variation
6.2	Full and Final Payment
7.0	MODE OF PAYMENT
8.0	SECURITY CUM PERFORMANCE DEPOSIT
9.0	STATUTORY COMPLIANCE
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1.0 ORGANIZATIONAL VALUES

The Tata Group has always been a value driven organization. These values continue to direct the Group's growth and businesses. The six core Tata Values underpinning the way we do business are:

Integrity - We must conduct our business fairly, with honesty and transparency. Everything we do must stand the test of public scrutiny.

Understanding - We must be caring, respectful, compassionate and humanitarian towards our colleagues and customers around the world and always work for the benefit of India.

Excellence - We must constantly strive to achieve the highest possible standards in our day to day work and in the quality of goods and services we provide.

Unity - We must work cohesively with our colleagues across the group and with our customers and partners around the world to build strong relationships based on tolerance, understanding and mutual co-operation.

Responsibility - We must continue to be responsible and sensitive to the countries, communities and environments in which we work, always ensuring that what comes from the people goes back to the people many times over.

Agility - We must work in a speedy and responsive manner and be proactive and innovative in our approach.

2.0 Tata Code of Conduct

The Business Associate and TPNODL shall be bound by the provisions/ clauses mentioned in Tata Code of Conduct (TCoC) in all their dealings with stakeholders. The Associate is advised to go through the TCoC document available as Annexure-J.

3.0 CONTRACT PARAMETERS

3.1 Issue/Award of Contract

TPNODL awards the contract to the Associate in writing in the form of Purchase Order (PO) or Rate Contract (RC), hereafter referred as Contract, through in any or all of following modes physical handover / post / e-mail / web document / fax with all the attachments/enclosures which shall be part of the contract document.

On receipt of the contract, the associate shall return to TPNODL copy of the contract document duly signed by legally authorized representative of associate, within two days of Effective Date of Contract for contracts having contract execution time less than 30 days and within five days for all other contracts.

Note- In case of RC though, further Release Orders (RO) shall be issued by TPNODL on RC rates and terms & Conditions as per the requirement of TPNODL.

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3.2 Contract Commencement Date

The date of issue/award of contract shall be the Effective Date of Contract or Contract Commencement date.

3.3 Contract Completion Date

The date of expiry of Guarantee Period shall be deemed as the Contract Completion Date.

3.4 Contract Period/Time

The period from Contract Commencement Date to Contract Completion Date shall be deemed as the Contract Period/Time.

3.5 Contract Execution Completion Date

The stipulated date for completing the supply as per schedule of quantities shall be deemed as the Contract Execution Completion Date.

3.6 Contract Price /Value

The total all-inclusive price/value mentioned in the PO/RC is the Contract Price/Value and is based on the quantity, unit rates and prices quoted and awarded and shall be subject to adjustment based on actual quantities supplied and accepted and certified by the authorized representative of the company unless otherwise specified in schedule of quantities or in contract documents.

3.7 Contract Document

The Contract Document shall mean and include but not limited to the following:

- NIT/Tender Enquiry, QR, Instruction to Bidders, Special Condition of Contract (SCC) of tender, GCC, Technical & Commercial Specifications including relevant annexure and attachments).
- Bids & Proposals Received from Associate including relevant annexure/attachments.
- RC/PO with agreed deviations from the tender/bid documents.
- All the Inspection and Test reports, Detailed Engineering Drawings.
- Material Dispatch Clearance Certificate (MDCC).
- Minutes of Meeting (MoM)

3.8 Contract Language

All documents, instructions, catalogues, brochures, pamphlets, design data, norms and calculations, drawings, operation, maintenance and safety manuals, reports, labels, on deliveries and any other data shall be in English Language.

The Contract documents and all correspondence between the TPNODL, Third Parties associated with the contract, and the Associate shall be in English language.

However, all signboards required indicating "Danger" and/or security at site and otherwise statutory required shall be in English, Hindi, and local languages.

3.9 Reverse Auction

TPNODL reserves the right to conduct the reverse auction (instead of public opening of price bids) for the products / services being asked for in the tender. The terms and conditions for such reverse auction events shall be as per the Acceptance Form attached in Annexure F. The

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bidders along with the tender document shall mandatorily submit a duly signed copy of the Acceptance Form as mentioned in the Annexure J as a token of acceptance for the same.

4.0 SCOPE OF WORK

All the activities that are to be undertaken by the Associate to realize the contractual deliverables in completeness form Scope of Work. Following clauses list, but not limited to, major requirements of the scope of work.

The associate shall satisfy himself and undertake fully the technical/commercial requirements of items to be supplied as listed in the Schedule of Quantities together with the tests to be performed /test reports to be furnished before dispatch, arrangement of stage and final inspections during manufacturing as per terms and conditions of contract, technical parameters & delivery terms and conditions including transit insurance to be met in order to fully meet TPNODL's requirements.

Completeness: Any supplies and services which might have not been specifically mentioned in the Contract but are necessary for the scope mentioned in Special Terms & Conditions and/or completeness of the works at the highest possible level, including any royalties, license fees & compensation to be paid, whether incurred by the associates or by a third party for the work covered in the scope, regardless of when incurred, shall be supplied/provided by the associate without any extra cost and within the time schedule for efficient, smooth and satisfactory operation and maintenance of the works at the highest possible level under Indian conditions (but according to international standards for facility of this type), unless expressly excluded from the scope of supplies and services in this Contract.

TPNODL have the right, during the performance of the Contract, to change the scope and/or technical character of the Project and/or of the supplies and services stipulated in the Contract by submitting a request in writing to the Associate. The Associate shall, within fifteen days of receipt of such request from the TPNODL, provide Purchaser with a reasonably detailed estimate of the cost of the change outlined in the request.

In the event, TPNODL requests a change, the Contract price and time shall be adjusted upwards or downwards, as the case may be and shall be mutually agreed to. The associate shall not be entitled to any extension of time unless such changes adversely affect the time schedule.

The Associate shall not proceed with the changes as requested till adjustment of contract price and time schedule where so applicable in terms of or otherwise directed by the TPNODL.

4.1 Bid Evaluation- Commercial & Technical

TPNODL reserves the right to evaluate the bid on below parameters as per the requirement:

Commercial Evaluation: The bid shall be evaluated on the basis of Qualifying Requirement parameters and other commercial parameters as mentioned in tender.

Technical Evaluation: The bid shall be evaluated on the parameters and not limited to Bidder Experience, Bidder Performance with other utility/company, internal performance feedback, Technical Specification, General Technical Parameters (GTP), Layout, Drawings etc.

TPNODL reserves the right to carry out Factory Evaluation of Manufacturer along with the Visit to executed Sites for further evaluation to ascertain bidder's manufacturing capability, quality procedures & Performance of executed works.

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5.0 PRICES/RATES/TAXES

Unless specified elsewhere in the contract document, the prices/rates are inclusive of cost of finished product for which MDCC will be issued by TPNODL, packaging and forwarding charges, freight and transit insurance charges covering loading at Associate's works, transportation to TPNODL store/site & unloading & delivery at TPNODL stores/TPNODL site, cost of documentation including all the relevant test certificates and other supportive documents to be furnished.

The Prices/Rates are inclusive of all taxes, levies, cess and duties, particularly Goods and Services Tax as applicable. All government levy / taxes shall be paid only when the invoice is submitted according to the relevant act.

The prices/rates shall remain firm till actual completion of entire supply of goods/material/equipment as per contract is achieved and shall remain valid till the completion of the contract.

The prices shall remain unchanged irrespective of TPNODL making changes in quantum in all or any of the schedules of items of contract.

5.1 Changes in Statutory Tax Structure

If rate of any or all of the statutory taxes and duties applicable to the contract changes, such changes shall be incorporated by default if the changes occur within the contract execution time and shall be applicable if the contract is executed by the Associate within the Contract Execution Time.

For execution of contracts beyond contract execution time, where the delay is not attributable to TPNODL no upward revision in tax /duties shall be considered irrespective of changes in the statutory tax structure either within the contract execution time or beyond. However, in such cases, benefits due to any downward revisions in statutory tax rates shall be passed on to TPNODL.

6.0 TERMS OF PAYMENT

On delivery of the materials in good condition and certification of acceptance by TPNODL official, Associate shall submit the Bills/Invoices in original in the name of "TPNODL" to invoice desk, complete with all required documents as under:

- Test Reports (4 sets).
- MDCC issued by TPNODL.
- Packing List.
- Drawing and Catalogue.
- Guarantee/Warranty Card.
- Delivery Challan.
- O&M Manual.
- Copy of Order.
- Minutes of Meeting.

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- E-Way challan (if applicable)

Bills/ invoices shall mention Supplier's GST Number. TPNODL will make 100% payment within 45 days of submission of the Bill/Invoice complete in all respects and along with all the requisite documents mentioned above, subject to condition that Associate has furnished the requisite Security-cum-Performance Guarantee as stipulated in the contract.

6.1 Quantity Variation

Payment will be made on the basis of actual quantity of supplies/actual measurement of works accepted by TPNODL and not on the basis of contract quantity.

6.2 Full and Final Payment

Full & Final Payment in all contracts shall be made subject to the associate submitting "No Demand Certificate" in the format as per Annexure-C.

7.0 MODE OF PAYMENT

Payment shall be made through crossed RTGS/ NEFT/ Online Net banking mode whichever of the two modes chosen by the Associate, in favour of Associate's Bank Account on TPNODL records, on whose name Contract has been issued. Those Associates opting for the RTGS mode shall submit the details of Bank Account and other details as per annexure G. Further, for any payments made, TPNODL is not responsible for any consequences/disputes Associate have among the owners channel partners, sub-Associates and all such dispute/concerns shall be settled solely by the Associate.

8.0 SECURITY CUM PERFORMANCE DEPOSIT

Associates shall submit within 21 days from the effective date of issue of PO/RC, Security Performance Bank Guarantee (SPBG) in the format as per Annexure B of this document from banks acceptable to TPNODL for:

- (a) 5% of the PO value if purchase order value is more than Rs 5 Crores.
- (b) 10% of the PO value if purchase order value is less than Rs 5 Crores.
- (c) 5% of the RC value in case of Rate Contract. This shall remain valid till the Guarantee period plus one month.

In case, PBG will not submitted by BA within 21 days post awarding the contract, TPNODL will reserve the right to take any appropriate action. However, in case of non-submission of PBG till the date of first bill submission, the amounts towards PBG shall be retained by TPNODL from Bills.

The validity of PBG shall be Guarantee Period of contract, plus one month.

- For PO/RC values less than Rs. 5 lacs, Associate may request for deduction of amount equivalent to SPBG value from their first invoice. Such amount shall be withheld by TPNODL while processing the invoice and shall be released after completion of Guarantee Period plus one month.
- For PO/RC values less than Rs. 3 lacs, the clause (8.0) for Security cum Performance Bank Guarantee (SPBG) shall not be applicable.

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- In case of RC (Rate Contract) after the expiry of RC validity, Associate shall have to submit SPBG. However, the Associate has the option to re-submit the SPBG as per actual RO

(Release Order) value issued against the RC, valid for Guarantee Period plus one month. The Guarantee Period shall be considered as per the last RO issued against the said RC. The original SPBG as submitted against the RC shall be released on submission of the new SPBG to TPNODL. Alternatively, Associate may extend the validity of original SPBG only till the requisite period, i.e. Guarantee Period plus one month.

9.0 STATUTORY COMPLIANCE

9.1 Compliance to Various Acts

Associate should ensure adherence to all applicable laws, rules and regulation applicable under this contract from time to time. In case of violation any risk, costs etc shall be in associates account and keep TDPPL indemnified always till completion of contracts.

9.2 SA 8000

As TPNODL/ Tata Power is SA 8000 compliant, it expects its Associates to follow guidelines of SA 8000:2014 on the following aspects

1. Child Labour
2. Forced or Compulsory Labour
3. Health & Safety
4. Freedom of Association & Right to Collective Bargaining
5. Discrimination
6. Disciplinary Practices
7. Working Hours
8. Remuneration
9. Management System

9.3 Affirmative Action

TPNODL appreciate and welcome the engagement/employment of persons from SC/ST community or any other deprived section of society by their business associates.

Relaxation in Contract Clauses under Affirmative Action for SC/ ST Business Associates**

TPNODL believes that inclusive growth is the key to sustainable development, and to promote the same Policy on Affirmative Action for Scheduled Caste & Scheduled Tribe Communities has been adopted across the company.

Under the same pre-text, and to promote entrepreneurship among SC/ST community TPNODL has taken initiative by proposing relaxations in contract clauses as per below:

S. No	Initiative	for SC/ ST BA's	Guideline Document
1	Tender Fees	100% waiver for SC/ST community	All Open Tenders

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2	Earnest Money Deposit	50 % relaxation of estimated EMD value	All limited and Open Tenders
3	Performance Bank Guarantee	50% relaxation in PBG for order value above 50 lacs else 25% relaxation	All limited and Open tenders
4	Turnover	25% relaxation in company turnover under qualifying requirement criteria	All Open Tenders

****Classification of BAs under SC/ST shall be governed under following guidelines:**

- Proprietorship/ Single Ownership Firm: Proprietor of the firm should be from SC/ST community. Governing document shall be duly audited balance Sheet for the last FY bearing the name of proprietor.
- Partnership Firm: Only such firms shall qualify which have SC/ST partners holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Partnership Deed and audited balance sheet/ ITR for last FY.
- Private limited company: Only such firms shall qualify which have SC/ST directors holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

Note: Certification from SC/ST commission shall be required for deciding upon SC/ST status of a person.

9.4 MSME Development ACT 2006

Provisions for Firms falling in The Micro, Small and Medium Enterprise Development Act 2006:-

- Business Associate is requested to inform the TPNODL if they fall under provisions of The Micro, Small and Medium Enterprises Development Act, 2006 legislation, and provide necessary documents to TPNODL. The Associate also needs to mention the relevant details on their invoice/ bill.
- Business Associate shall submit the self-undertaking of registration in MSME category at the time of bidding as well as on an annual basis to TPNODL, enabling them to avail the consequent benefits, failing which TPNODL may take appropriate action against such defaults.
- Business Associates falling in MSME category can avail the following benefits-
 - a. **Tender Fees:** To participate in the tender, MSMEs registered in the State of Odisha shall pay Rs.1,000/- including GST towards cost of tender paper.
 - b. **Earnest Money Deposit (EMD):** EMD shall be exempted for MSME registered in the State of Odisha. However, Bidder shall be barred to participate in the tendering process for a period of 2 years in case it backs out post award of the contract.
 - c. **Qualification Requirement for Open Tenders:** Qualification Requirement of Financial Turnover for MSME registered in the State of Odisha shall be reduced to 20% of the existing criteria. For past experience, instead of relying on the volumes / value of earlier Supplies / Projects, assessment of the Bidder shall be done on the basis of feedback from Customers. Past performance experience at

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Tata Power/ TPNODL and its Group Companies shall supersede feedback from other Customers.

- d. Reservation for MSME:** TPNODL reserve the rights to procure at least 20% of the total volume of the procurement from MSME registered in the State of Odisha (however, it shall not apply where goods/services are not available with the MSME), subject to matching L1 discovered prices and meeting technical specifications including quality requirements.
- e. Performance Bank Guarantees:** Performance Bank Guarantee for MSME registered in the State of Odisha shall be 25% of the value normally prescribed.

9.5 ISO 14001

The vendor to confirm whether their organization is ISO 14001 certified. If not, the Vendor must certify that the handling, use and disposal of their product/ by-products conform to practices consistent with sound environment management and local statues. The Vendor shall ensure that all the wastes are disposal in environmental friendly way with strict compliance to applicable laws including adherence to MoEF guidelines with respect to the disposal of batteries, lead waste, copper cables, ash, waste oil, e-waste etc. which shall be disposed through MoEF approved parties only. The vendor shall also dispose off the e-waste generated at the end of the product life cycle at its own costs and risk as per the MoEF guidelines/ Orders

10.0 QUALITY

10.1 Knowledge of Requirements

The Associate shall be deemed to have carefully examined and to have knowledge of the equipment, the general and other conditions, specifications, schedules, drawings, etc. forming part of the Contract and also to have satisfied himself as to the nature and character of the work to be executed and the type of the equipment and duties required including wherever necessary of the site conditions and relevant matters and details. Any information thus procured or otherwise obtained from TPNODL/Consultants shall not in any way relieve the Associate from his responsibility and executing the works in accordance with the terms of contract.

10.2 Material/Equipment/Works Quality

The items / works under the scope of the Associate shall be of the best quality and workmanship according to the latest engineering practice and shall be manufactured from materials of best quality considering strength and durability for their best performance and, in any case, in accordance with the specifications set forth in this Contract. All material shall be new. Substitution of specified material or variation from the process of fabrication/ construction/ manufacture may be permitted but only with the prior written approval of the TPNODL.

10.3 Adherence to Rules & Regulations

The Associate shall procure and/or fabricate/erect all materials and equipment in accordance with all requirements of Central and State enactment, rules and regulations governing such work in India and at site. This shall not be construed as relieving the Associate from complying with any requirement of TPNODL as enumerated in the Contract which may be more rigid than and not contrary to the above mentioned rules, nor providing such construction as may be required by the above mentioned rules and regulations. In case of variance of the Technical

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Specification from the laws, ordinance, rules and regulations governing the work, the Associate shall immediately notify the same to the TPNODL. It is the sole responsibility of the Associate, however, to determine that such variance exists. Wherever required by rules and regulations, the Associate shall also obtain the statutory authorities' approval for the plant, machinery and equipment to be supplied by the Associate.

10.4 Specifications and Standards

The Associate shall follow all codes and standards referred in the Contract Document. Codes and standards of other may be followed by the Associate with the prior written approval of TPNODL, provided materials, supplies and equipment according to the standard are equal to or better than the corresponding standards specified in the Contract.

Brand names mentioned in the Contract documents are for the purpose of establishing the type and quality of products to be used. The Associate shall not change the brand name and qualities of the bought out items without the prior written approval of the TPNODL. All such products and equipment shall be used or installed in strict accordance with original manufacturer's recommendations, unless otherwise directed by the TPNODL. In any circumstances the codes, specimen and standards prescribed by any government agency should not be violated.

11.0 INSPECTION/PARTICIPATION

11.1 Right to Carry Out Inspection

TPNODL reserves the right to send its representatives for inspection or participation at various stages of contract execution listed below, applicable as per contract construction.

- During basic design and detail engineering of material/ Equipment carried out by Associate /Outsourced Agencies.
- During manufacturing stages of the product at Associate's/Associate's Outsourced Agency's Plant/Facility.
- During Pre-dispatch Inspection and Testing of finished/manufactured product at Associate's/Associate's outsourced Agency's Plant/Facility.
- During Installation & Commissioning Activities/Stages.
- Prior to Clearing of the completed installation for commissioning.
- Any other stage as find appropriate by TPNODL during contract execution time.

All inspections and participations shall be carried out by TPNODL giving written intimation to the Associate or receiving appropriate advance written inspection call from the Associate, unless otherwise specified elsewhere in the contract document.

MDCC request shall be submitted by BA to TPNODL at least 7 days before inspection date.

11.2 Facilitating Inspection

The Associate shall provide all opportunities and information to TPNODL's engineers to get acquainted with the technical know-how and the methods and practices adopted by the Associate in basic and detail engineering. The Associate shall provide documents, drawings, calculations etc. as may be required by TPNODL's Engineers.

The Associate shall provide free of charge office accommodation, office facilities, secretarial services, communication facilities, general and drawing office stationary, etc. as may be

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reasonably required by the TPNODL's engineers. Similarly, facilities shall also be provided by Associate's outsource agencies/partners/authorized dealers (collectively termed as sub associates) if such basic and detail engineering activities are carried out in the design offices of sub-Associates.

The Associate shall be responsible for the safety of employees of TPNODL/Third Party Agency when they are at the Associate's /Associate's outsource agency's plant or facility for carrying out/witnessing inspection/testing. All statutory safety precautions as applicable shall be followed by the Associate during Inspection Testing. If TPNODL inspectors are not satisfied with the safety arrangements at the plant, TPNODL have the right to call off inspection till such time corrective action is taken by the Associate.

Before raising the call for pre-dispatch final inspection and testing, the Associate shall conduct all the tests—type tests, routine tests etc-as specified in the contract document and submit copies of the test certificates to TPNODL along with the inspection call, for scrutiny of TPNODL.

The Associate and TPNODL shall jointly document all the observations, comments and action points after completion of inspection and it shall be binding on the Associate to provide compliance on all the points requiring compliance and furnish the compliance report to the designated authority of TPNODL for receiving clearance for dispatch of materials

11.3 Third Party Nomination

TPNODL also may nominate a third party for the purpose of carrying out the inspection and such an agency shall be entitled to all the rights and privileges of TPNODL as far as conducting the inspection.

11.4 Waiver of Inspections

TPNODL on its own discretion shall chose to waive off any inspection and ask the Associate to submit all the test reports as applicable as per contract specifications, related to inspection and testing of the goods ordered for scrutiny and clearance for dispatch.

11.5 Incorrect Inspection Call

In case it is observed that the material offered for inspection is not ready at the time of TPNODL inspection visit rendering it as futile, all costs towards such inspection shall be recovered from the BA. Taxes as applicable on such recoveries shall be borne by the BA.

12.0 MDCC & DELIVERY OF MATERIALS

12.1 Material Dispatch Clearance Certificate

Associate shall deliver material/goods/equipment against Supply Contracts or Supply Part of Composite/Service Contracts only after receiving Material Dispatch Clearance Certificate (hereafter termed as MDCC) issued by designated authority of TPNODL. Material delivered at TPNODL stores or at project site without a valid MDCC issued by the designated official of TPNODL shall be rejected. MDCC shall be issued to associate furnishing compliance report on the action points documented during pre-dispatch inspection and testing at Associate's/ Sub Associate's plant/ facility. In case Pre-dispatch inspection is waived at the discretion of TPNODL, then, MDCC shall be issued on receiving all the test reports-routine& type-from the Associate and finding them in order.

The associate shall include and provide for securely protecting and packing the materials so as to avoid loss or damage during handling and transport by air, sea, rail and road or any other means.

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All such packing shall allow to the extent possible for easy removal and checking at Site. The associate shall take special precautions to prevent rusting of steel and iron parts during transit by sea. Gas seals or other materials shall be utilized by the associate for protection against moisture during transit of all Plant and Equipment.

Each Equipment or parts of Equipment shall be tagged with reference to the assembly drawings and corresponding part numbers. Each bale or package shall contain a packing note quoting specifically the name of the associate, item description, quantity, item / package identification.

All packing cases, containers, packing and other similar materials shall be new and supplied free by the associate and it shall not be required to be returned to the associate.

Notwithstanding anything stated in this clause, the associate shall be entirely responsible for loss, damage or depreciation or deterioration to the materials and supplies due to faulty and/or insecure packing or otherwise during transportation to the Site until otherwise provided herein.

In case of the consignments dispatched by road, the associate shall ensure that it or its subcontractors:

- i) Identify and obtain the correct type of trucks/trailers, keeping in view the nature of consignments to be dispatched.
- ii) Take such actions as may be necessary to avoid all possible chances of damages during transit and to ensure that all packages are firmly secured.

Timelines for inspection and MDCC is as below:

S. No.	Inspection	MDCC issuance time including Inspection time (max.)
1	Outside Odisha	12 days
2	Within Odisha	5 days
3	Waiver*	3 working days

* Associate is expected to raise the inspection call assuming that Inspection shall be carried out by TPNODL. The decision for waiver of inspection shall be on sole discretion of TPNODL.

12.2 Right to Rejection on Receipt

Goods/Material/Equipment delivered in condition physically damaged & incomplete as a product ordered, or not packed and transported as per the terms and conditions of the contract is liable to be rejected. Such item shall be lifted back by Associates within 15 days from receipt of rejection note from TPNODL and have to supply back the material within next 30 days or within the timeframe mutually decided by Associate and TPNODL.

If delivery of the material is beyond the agreed time, Liquidated damage clause, mentioned in this GCC separately shall be applicable; but the period for levy of LD shall be considered as per the original delivery schedule and not from the agreed timelines for material rectification.

12.3 Consignee

Unless otherwise specified in the Contract Document, Materials/Goods/Equipment shall be consigned to "Stores-In-Charge", TPNODL, Balasore/ Jajpur/ others.

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12.4 Submission of mandatory documents on Delivery

Following documents shall be mandatorily submitted by BA along with supply of material to TPNODL stores/site:

S. No.	Documents	Requisite
1	Invoice copy in original	With all consignments
2	LR copy	Wherever required
3	Packing list	With all consignments
4	MDCC	With all consignments
5	Purchase order / Release order	Signed copy
6	Test certificates	With all consignments
7	Inspection/JVR report	In case pre-dispatch inspection is conducted
8	Device data in CD as per template for metering items	Wherever applicable

12.5 Dispatch and Delivery Instructions

S. No.	Instructions
1	Purchase order/ Release order no. shall be mentioned on invoice and on material
2	TPNODL material code and material description shall be mentioned in invoice and on material.
3	"Property of TPNODL" shall be embossed on material.
4	The material shall be properly sealed and packed in standard packing as per purchase order terms & conditions.
5	The weight and quantity of material shall be mentioned wherever applicable
6	The material supplied shall be co-related with the packing list.
7	The name plate detail on equipment shall include Material code, Material description, specification detail of material [as applicable], Serial No. Year of manufacturing, PO/RO no. and date, "PROPERTY OF TPNODL", Guarantee period and Associate's name.
8	In case of manual unloading, supplier / transporter shall deploy sufficient Labour for unloading the material at TPNODL central store. For heavy item(s), crane shall be arrange by the BA. However, in case, BA is not able to arrange the Crane, then TPNODL reserve the rights to hire the crane from market/ within internal resources and all expenditure/ unloading shall be recovered from BA.
9	The driver should have valid License and one helper in truck. All the documents of truck like registration papers, PUC etc. should be available in Truck.
10	BA representative should accompany the material and get it unloaded / stacked in his presence wherever possible.

13.0 GUARANTEE

13.1 Guarantee of Performance

Associates shall stand guarantee that the equipment and material supplied under the contract is free from design, manufacturing, material, construction, erection & installation and workmanship & quality defects and is capable of its due, rated and intended quality

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performance, as an integrated product delivered under the contract, for a specific period termed as Guarantee Period(as elaborated elsewhere in this clause). The Associate should also guarantee that the equipment/material is new and unused except for the usage required for the tests and checks required as part of quality assurance.

13.2 Guarantee Period

The Guarantee Period will be equipment/service/work specific and shall be as specified in the Standard Specifications of TPNODL for the equipment/material/service/work and where standard specifications are not part of contract documents or guarantee period is not specified in the standard specifications,, the guarantee period shall be as per the Special Terms and Conditions of the Contract. In case of no mention of the guarantee period in standard specifications or SCC Guarantee Period will be 12 Months from the Date of Commissioning or 24 months from the date of delivery of final lot of supplies made, whichever is earlier.

13.3 Failure in Guarantee Period (GP)

If the equipment and material supplied under the contract fails to perform its due, rated & intended quality performance, during the Guarantee period, the associate is liable to undertake repair/rectify/replace the equipment and material supplied within time frame specified in the SCC or elsewhere in the contract documents at associate's cost to make the equipment and material supplied/service or work rendered under the contract of performing its due, rated and intended quality performance. If Associate fails to repair/rectify/replace the equipment or material supplied rendered under the contract, failed in Guarantee Period, TPNODL will be at liberty to get the same done at Associate's risks and costs and recover all such expenses plus the TPNODL's own charges (@ 20% of expenses incurred), from the Associate or from the "Security cum Performance Deposit" as the case may be.

If during the Warranty/ Guarantee period some parts of the supplies are replaced owing to the defects/ damages under the Warranty, the Warranty period for such replaced parts shall be until the expiry of twelve months from the date of such replacement or renewal or until the end of original Guarantee period, whichever is later.

Any repairs during the Guarantee Period shall be carried out by the Associate within 30 days of reporting the issue to Associate by TPNODL. However, if replacement of the Equipment is required, Associate shall notify the same to TPNODL within 7 days of reporting the issue by TPNODL. Thereafter, the total time for supply of new equipment/ material shall be equal to the original delivery period of that equipment/ material as specified in the Contract. In case the Associate is not able to rectify/ replace the faulty equipment/ material within the stipulated timelines as mentioned above, penalty shall be levied as per the Liquidated Damages clause mentioned in this document. The penalty amount shall be recovered from the payment due to the vendor or by encashment of the SPBG as the case may be.

13.4 Cost of repairs on failure in GP

The cost of repairs/rectification/replacement, required transportation, site inspection /mobilization/dismantling and re-installation costs as applicable, to be borne by Associate. The Associate has to ensure that the interruption in the usage of intended purpose of the equipment is minimized to the maximum extent In lieu of the time taken for repairs/rectification/replacement.

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13.5 Guarantee period for Goods Outsourced

If the Associate outsources partly equipment/materials/services from third party as mutually agreed upon at the pre award stage of contract, TPNODL shall have the benefit of any additional guarantee period if provided by the third party for the part supplied/executed by them.

13.6 Latent Defect

Hidden defects in manufacturing or design of the product supplied and which could not be identified by the tests conducted but later manifested during operation of the equipment are termed as latent defects. Associates shall further be responsible for 'free replacement' for another period of THREE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Company.

13.7 Support beyond the Guarantee Period

The Associate shall ensure availability of spares and necessary support for a period of atleast 10 years post completion of guarantee period of equipment supplied against the contract.

14.0 LIQUIDATED DAMAGES

- a) For supplies which are of standalone use, multiple in quantities and having a single final delivery schedule, Liquidated damages shall be levied without prejudice to any of the other contractual rights of TPNODL, as described below:

For delay of each week and part thereof from the delivery schedule specified in the contract, 1% of contract value corresponding to undelivered quantity, provided full quantity is supplied within 130% of the original contract time. If full contractual quantity is not delivered within 130% of contract time for delivery, TPNODL has the right to levy LD on the entire contract value, subject to a maximum of 10% of the total contract value.

- b) For Supplies having phased delivery schedule as per contract terms, standalone use and multiple in quantities, Liquidated damages shall be levied without prejudice to any of the other contractual rights of TPNODL, as described below:

For the purpose of calculating and applying LD, each delivery lot shall be considered separately. For delay of each week and part thereof, from the delivery schedule specified for the lot, 1% of the contract value corresponding to the undelivered quantity of the lot subject to a maximum of 10% of the total contract value of the subject lot. However, if full contractual quantity is not delivered within 130% of contract time for delivery, TPNODL has the right to levy LD on the entire contract value, subject to a maximum of 10% of the total contract value. Deduction of LD shall be on landed cost i.e contract value inclusive of taxes and in pursuant statutory compliance GST would be applicable at the stipulated rate and the same shall be borne by Business Associate. In case of LD deduction, a GST invoice shall be issued by TPNODL as a proof of deduction/ recovery.

14.1 LD Waiver Request

Any request of LD waiver shall be submitted within thirty (30) days of deducting LD. Request submitted beyond the timeline shall not be entertained.

15.0 UNLAWFUL ACTIVITIES

The Associate shall have to ensure that none of its employees are engaged in any unlawful activities (whether covered under the scope of the present GCC or not) subversive of the

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TPNODL's interest failing which appropriate action (legal or otherwise) may be taken against the Associate by the TPNODL, in accordance with the terms of the present GCC.

16.0 CONFIDENTIALITY

Associate and its employees or representatives thereof shall strictly maintain the confidentiality of various information they come across while executing the contract as detailed below.

16.1 Documents

All maps, plans, drawings, specifications, schemes and other documents or information related to the Contract/Project and the subject matter contained therein and all other information given to the Associate by the TPNODL in connection with the performance of the contract shall be held confidential by the Associate and shall remain the property of the TPNODL and shall not be used or disclosed to third parties by the Associate for any purpose other than for which they have been supplied or prepared. The Associate may disclose to third parties, upon execution of confidentiality agreements, such part of the drawings, specifications or information if such disclosure is necessary for the performance of the Work provided such third parties agree in writing to keep such information confidential to the same extent and degree as provided herein, for the benefit of the TPNODL.

16.2 Geographical Data

Maps, layouts and photographs of the unit/plant including its surrounding regions showing vital installation for national security of country or those of TPNODL shall not be published or disclosed to the third parties or taken out of the country without prior written approval of the TPNODL and upon execution of confidentiality agreements satisfactory to the TPNODL with such third parties prior to disclosure.

16.3 Associate's Processes

Title to secret processes if any developed by the Associate on an exclusive basis and employed in the design of the equipment shall remain with the Associate. TPNODL shall hold in confidence such processes and shall not disclose such processes to the third parties without prior approval of the Associate and execution by such third parties of secrecy agreements satisfactory to the Associate prior to disclosure. Upon completion of contract, such processes shall become the property of the TPNODL. Title to technical specifications, drawings, flow sheets, norms, calculations, diagrams, interpretations of test results, schematics, layouts and such other information, which the Associate has supplied to the TPNODL under the Contract shall be passed on to the TPNODL. The TPNODL shall have the right to use these for construction, erection, start-up, Trial Run, operation, maintenance, modifications and/or expansion of the works including for the manufacture of spare parts.

16.4 Exclusions

The provision of Clauses 16.1 to 16.3 shall not apply to information:

- Which at the time of disclosure are in the public domain which later on become part of public domain through no fault of the party concerned, or
- Which were in the possession of the party concerned prior to disclosure to him by the other party, or
- Which were received by the party concerned after the time of disclosure without restriction on disclosure or use, from a third party who did not acquire such information

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directly or indirectly from the other party or has no obligation of confidentiality for such information.

16.5 Violation

In case of violation of this clause, the Associate is liable to pay compensation and damages as may be determined by the competent authority of TPNODL.

17.0 INTELLECTUAL PROPERTY RIGHTS

If, in the course of performance of its functions and duties as envisaged by the scope of the present GCC, the Associate acquires or develops, any unique knowledge or information which would be covered, or, is likely to be covered within the definition of a trademark, copyright, patent, business secret, geographical indication or any other form of intellectual property right, it shall be obliged, under the terms of this present GCC, to share such knowledge or information with the TPNODL. All rights, with respect to, or arising from such intellectual property, as afore mentioned, shall solely vest in TPNODL.

Moreover, the Associate undertakes not to breach any intellectual property right vesting in a third party/parties, whether by breach of statutory provision, passing off, or otherwise. In the event of any such breach, the Associate shall be wholly liable to compensate, indemnify or make good any loss suffered by such third party/parties, or any compensation/damages arising from any legal proceeding/s, or otherwise. No liability of TPNODL shall arise in this respect, and any costs, damages, expenses, compensation payable by TPNODL in this regard to a third party/parties, arising from a legal proceeding/s or otherwise, shall be recoverable from the Associate.

18.0 INDEMNITY

The Associate shall at all times indemnify, keep indemnified and hold harmless the TPNODL and its officers, directors, employees, affiliates, agents, successors and assigns against all actions, claims, demands, costs, charges and expenses arising from or incurred by reason of any infringement of patent, trade mark, registered design, copy rights and/or industrial property rights by manufacture, sale or use of the equipment supplied by the Associate whether or not the TPNODL is held liable for by any court judgement. In this connection, the TPNODL shall pass on all claims made against him to the Associate for settlement.

The Associate assumes responsibility for and shall indemnify and save harmless the TPNODL from all liability, claims, costs, expenses, taxes and assessments including penalties, punitive damages, attorney's fees and court costs which are or may be required to be paid by the TPNODL and its officers, directors, employees, affiliates, agents, successors and assigns arising from any breach of the Associate's obligations under the Contract or for which the Associate has assumed responsibilities under the Contract including those imposed under any local or national law or laws, or in respect to all salaries, wages or other compensation for all persons employed by the Associate or his Sub-Associates or suppliers in connection with the performance of any work covered by the Contract. The Associate shall execute, deliver and shall cause his Sub-Associate and suppliers to execute and deliver, such other further instruments and to comply with all the requirements of such laws and regulation as may be necessary there under to conform and effectuate the Contract and to protect the TPNODL.

The TPNODL shall not be held responsible for any accident or damages incurred or claims arising, due to the Associate's error there from prior to completion of work. The Associate shall be liable for such accidents and after completion of work for such accidents as the case may be

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due to negligence on his part to carry out Work in accordance with Indian laws and regulations and the specifications set forth herein.

19.0 LIABILITY & LIMITATIONS

19.1 Liability

Except for any specific liability which may be identified in the Contract and which may be payable hereunder, Associate shall not be liable for any special, incidental, indirect, or consequential Damages or any loss of business Contracts, revenues or other financial loss (or equivalents thereof no matter how claimed, computed or characterized) arising out of or in connection with the Performance of the Work or supply of Goods ***unless caused by Associate's negligence, willful misconduct or breach of contract.***

If the Associate is a joint venture or consortium, all concerned parties shall be jointly and severally bound to the TPNODL for the fulfillment of the provisions of the Contract. The consortium or the joint venture shall designate one party as their leader, who will be the coordinator between the parties and TPNODL. The constituents & leader of the consortium or joint venture shall not be changed without the prior consent of TPNODL.

TPNODL shall have no liability or any special, incidental, indirect or consequential Damages for any loss of Business Contracts, revenues or other financial loss arising out of this Contract.

19.2 Limitation of Liability

The total liability of Associate against any contract shall be limited to the Total All Inclusive Contract Value.

20.0 FORCE MAJEURE

Force Majeure applies if the performance by either Party ("the Affected Party") of its obligations under Contract is materially and adversely affected.

"Force Majeure" shall mean any event or circumstance or combination of events or circumstances referred below and their consequences that wholly or partly prevents or unavoidably delays any Party in the performance of its obligations under this Agreement, but only and to the extent that such events and circumstances are not within the reasonable control, directly or indirectly, of the Affected Party and could not have been avoided even if the Affected Party had taken reasonable care:

- Act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, embargo, blockade, revolution, riot, bombs, religious strife or civil commotion, etc. ▪ Politically motivated sabotage, or terrorism, etc.
- Action or Act of Government or Governmental agency for which remedy is beyond the control of the affected parties. ▪ Any act of God.

Note: Causes like power breakdown/ shortages/fire/strikes, accidents etc do not fall under Force Majeure.

Time being the essence of the Contract, if either party is prevented from the performance of its obligations in whole or in part due to an event of Force Majeure, then provided Notice of happening of any event by the Affected Party is given to the other party within seven (7) days from the date of occurrence of such event, which DIRECTLY has impact on works and submitted details and quantum of resulting effect, but at the same time had made all possible efforts to mitigate and overcome effects thereof, the Affected Party's performance under this

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Contract shall be suspended until such event ceases and the Scheduled Completion shall be delayed accordingly.

If Force Majeure event(s) continue for a period of more than three months, the parties shall hold consultation to discuss the further course of action.

Neither party shall be considered to be in default or in breach of its obligation under the Contract to the extent that performance of such obligation by either party is prevented by any circumstances of Force Majeure which arise after effective date of Contract.

Neither party can claim any compensation from the other party on account of Force Majeure.

21.0 SUSPENSION OF CONTRACT

21.1 Suspension for Convenience

TPNODL may, at any time and at its sole option, suspend execution of all or any portions of the schedule of items of contract to be supplied/work to be executed by Associate under the contract by providing to the Associate at least two business days written notice for contracts having contract completion period less than sixty days and at least seven business days' notice for all other contracts.

Upon receipt of any such notice, the Associate shall respond as follows as applicable as per contract construction.

- Immediately discontinue further supply of material/goods specified in the suspension notice for supply contracts
- Immediately discontinue further service/work and supply of materials of those services/materials/work specified in the suspension notice for service /composite contract
- Promptly make every reasonable effort to obtain suspension, upon terms satisfactory to TPNODL, of all orders, outsourcing arrangements, and rental Contracts to the extent that they relate to performance of the portion of Work suspended by the notice.
- Protect and maintain the portion of the service/Work already completed, including the portion of the Work suspended hereunder, unless otherwise specifically stated in the notice.
- Continue delivering/carrying out the supply/service/work items as per contract conditions, which do not fall under purview of the suspension notice.

On receipt of resumption notice from TPNODL, the Associate shall resume execution of contract as specified in the resumption notice, within the time frame specified in the resumption notice.

21.2 Suspension for Breach of Contract conditions.

TPNODL shall suspend execution of whole/or part thereof the contract till such time Associate complies with the conditions stipulated under section clause 22.1 for breach/default of contract conditions.

21.3 Compensation in lieu of Suspension

If the suspension of the contract in whole or in part is for convenience of TPNODL and not due to any breach of contract conditions by the associate, TPNODL at its discretion shall consider compensating all reasonable additional costs incurred by Associate in lieu of suspension of

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whole or part of contract, on representation of the Associate providing justified estimates of such additional costs and such estimates are found acceptable and approved by competent authority of TPNODL.

If the suspension of contract in whole or part thereof is due to breach of contract conditions (refer clause 22.1) by the Associate, Associate shall not be entitled for any compensation for any cost incurred in lieu of suspension of whole or part of contract and also shall be liable for compensating all the losses arising to TPNODL in lieu of suspension of contract. Resumption notice shall be subject to the Associate taking corrective action for the breach of contract conditions within the time frame and as per the terms specified in the suspension notice.

22 TERMINATION OF CONTRACT

22.1 Termination for Default/Breach of Contract

The contract / PO /RC shall be subject to termination by TPNODL in case of breach of the contract by the Associate which shall include but not be limited to the following:

- a. Withdrawal or intimation by the Associate of its intent to withdraw or surrender the execution / completion of the contracted work /PO or failure in ensuring adherence to any delivery schedules, in deviation of the contract/PO.
- b. Refusal or neglect on the part of the Associate to supply material/equipment of quantity or quality as specified by TPNODL and within the timeframe as specified in the contract document or refusal or neglect to execute the services/work in terms of the agreed standards of quantity or quality and/or within the timeframe specified in the contract/PO.
- c. Failure in any respect to perform any portion of the Work contracted with promptness, diligence, or in accordance with the terms of the contract.
- d. Failure to furnish guarantees as specified and /or failure to comply with the terms thereof.
- e. Failure to furnish such relevant documents or information within the time specified which may be necessary for due execution / completion of the works and documentation.
- f. Liquidation, bankruptcy either voluntary or involuntary OR entering into any composition or compromise with its creditors, or Insolvency.
- g. In case any reasonable information has been received by TPNODL that Associate has adopted/ or attempted to adopt any unethical conduct, action in award of the contract /PO or at any time thereafter.
- h. Failure to comply with applicable statutory provisions as contained in the contract or failure to comply with the applicable laws.
- i. Failure to comply with safety regulations/clauses stipulated in the contract or as may be generally instructed by TPNODL.

If the default or breach as specified under clause 22 (except sub clause g thereof) be committed by the associate for the first time, TPNODL shall issue, along the with notice of default or breach, a warning notice instructing the associate to take remedial/corrective action within the time frame stipulated in the warning notice and not to repeat the same in future. The timeframe for corrective action by the associate shall be specific to the nature of breach of contract and the same shall not be objected to by the Associate. If the Associate fails to comply with the instructions in the warning notice or in taking corrective action to the satisfaction of

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TPNODL then TPNODL may terminate the entire or part of contract at its discretion by issuing termination notice without incurring any liability on this ground.

In case the contract is terminated for any breach of the nature specified in clause 22 g stated above, TPNODL shall have the right to terminate all the contracts TPNODL is having with the Associate by issuing termination notice which shall be without prejudice to the other rights of TPNODL available to it under law.

Without prejudice to its right to terminate for breach of contract, TPNODL may, without assigning any reason, terminate the Contract in whole or in part at any time at its discretion while the contract is in force by serving a written notice of two weeks to the Associate.

In the event of TPNODL having proceeded with termination of the contract the associate shall comply and proceed further in the following manner:

- a) Associate shall discontinue the supply, on the expiry of the said period of two weeks.
- b) Associate shall ensure that no further steps are being taken towards discharge of the obligations, terms and conditions as contained in the contract/PO. This shall include initiation of actions not limited to discontinuation of other allied and associated arrangements which the associate might have entered into with third parties for due discharge of its obligations under the contract with TPNODL.
- c) The Associate shall perform thereafter such tasks as may be necessary to preserve and protect the terminated portion of the material/service/work in progress and the materials and equipment at TPNODL sites or in transit thereto. However the associate shall continue to fulfill its contractual obligations with regard to the part of contract not terminated.
- d) It shall be open for TPNODL to conduct a joint assessment with the associate of the material, supplies, equipment, works or in general as to the subject matter of the contract in regard to which the associate claims having completed its obligations before or during such termination.
- e) It shall be open to TPNODL to seek invocation of the performance bank guarantee or any other guarantee or other security deposit by whatever name called submitted by the associate, which shall not be objected to or protested against by the associate.

In case of termination of the contract the parties agree to be governed inter alia by the following:

- a) In case TPNODL exercises its right of termination as stated above the associate shall not dispute or object to the same.
- b) The Associate shall be entitled to receive and claim only such payments OR sums of money from TPNODL as may be found payable to it in regard to works executed by it under the terms of the contract and no other claim of any nature whatsoever shall be made by the Associate.
- c) All such provisions which the parties have agreed to survive and prevail even after termination of the contract shall remain effective despite the termination.

In the event of such termination, TPNODL may finish the Work by whatever method it may deem expedient, including the hiring of services and /or purchase of material equipment from such third parties as TPNODL may deem fit or may itself provide any labor or materials and

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perform any part of the Work. The associate undertakes to bear the incremental costs if any paid by TPNODL in such a case attributable to failure on the part of the associate. The Associate in such a case shall not be entitled to receive any further payments and any sums found payable to it may be adjusted by TPNODL against the amount recoverable from him on this ground. The same shall be without prejudice to other rights available to TPNODL under law against the associate.

Upon the termination of any of the contract due to occurrence of any circumstances provided in clauses stated above and constituting repeated breach or misconduct, TPNODL shall be entitled to bar the associates its agents, affiliates from undertaking any negotiation / tendering, bidding, participation activities concerning TPNODL for a period of two years from date of such termination. The same shall be without prejudice to other rights available to TPNODL.

22.2 Termination for Convenience of Associate

Associate at its convenience may request for termination of contract, clearly assigning the reason for such request. TPNODL has full right to accept, reject or partially accept such request. However, associate shall continue its supply as per contract till final approval is given to associates for such termination.

22.3 Termination for Convenience of TPNODL

TPNODL at its sole discretion may terminate the contract by giving 30 days prior notice in writing or through email to the Associate. TPNODL shall pay the Associate for all the supplies/ services rendered till the actual date of contract termination against submission of invoice by the Associate to that effect.

23.0 DISPUTE RESOLUTION & ARBITRATION

In case of any dispute or difference the parties shall endeavour to resolve the same through conciliatory and amicable measures within 15 Days failing which the matter may be referred by either party for resolution by the sole arbitrator to be appointed mutually by both the parties. The arbitral proceedings shall be conducted in accordance with Arbitration and Conciliation Act 1996 and the place of arbitration shall be Bhubaneswar. The language to be used at proceedings shall be English and the award of the arbitrator shall be final and binding on the parties. The parties shall bear their respective costs of arbitration. The associate shall continue to discharge its obligations towards due performance of the works as per the terms of the contract during the arbitration proceedings unless otherwise directed in writing by TPNODL or suspended by the arbitrator. Further, TPNODL shall continue making such payments as may be found due and payable to the associate for such works.

23.1 Governing Laws and Jurisdiction

The parties shall be subject to the jurisdiction of the courts of law in Bhubaneswar and any matter arising here from shall be subject to applicable law in force in India.

24.0 ATTRIBUTES OF GCC

24.1 Cancellation

The Company reserves the right to cancel, add, delete at its sole discretion, all or any terms of this GCC or any contract, order or terms agreed between the parties in pursuance without assigning any reasons and without any compensation to the Associates.

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24.2 Severability

If any portion of this GCC is held to be void, invalid, or otherwise unenforceable, in whole or part, the remaining portions of this GCC shall remain in effect.

24.3 Order of Priority

In case of any discrepancies between the stipulations in General Conditions of the Contract (GCC) and Special Conditions of Contract (SCC), the GCC shall stand superseded by the SCC to the extent stipulated hereinabove while balance portion of respective clauses of GCC shall continue to be applicable.

25.0 ERRORS AND OMISSIONS

The Associate shall be responsible for all discrepancies, errors and omissions in the drawings, documents or other information submitted by him, irrespective of whether these have been approved, reviewed or otherwise accepted by the TPNODL or not. However any error in design/drawing arising out of any incorrect data/written information from TPNODL will not be considered as error and omissions on part of the Associate.

26.0 TRANSFER OF TITLES

The title of ownership and property to all equipment, materials, drawings & documents shall pass to the TPNODL on acceptance of material by store/site after Inspection.

However, such passing of title of ownership and property to the TPNODL shall not in any way absolve, dilute or diminish the responsibility and obligations of the Associate under this Contract including loss or damages and all risks, which shall vest with the Associate.

27.0 INSURANCE

The Contractor shall take out the Insurance Policies which shall cover all risks including the following, as applicable:-

- a) The value of the policy shall cover the total value of all the items till they are handed over to TPNODL.
- b) TPNODL shall be the principal holder of the policy. The Associate shall be the loss payee under the policy. Associate / Sub-contractor of the Associate shall not be holders or beneficiaries in the policy nor shall they be named in the policy. TPNODL reserves the exclusive right to assign the policy.
- c) While the payment of premium may be phased in agreement with the insurance company, at no time shall goods and services required to be provided by the associate shall remain uninsured in accordance with (a) above.
- d) A copy of the Insurance policy shall be made available to TPNODL prior to first dispatch lot of any Equipment and policy shall be kept alive and valid at all times up to the stage of final acceptance.
- e) TPNODL reserves the right to take out whatever policy that is deemed necessary by him if the associate fails to keep the said policy alive and valid at all times and/or causes lapses in payment of premium thereby jeopardizing the said policy. The cost of such policy(s) shall be recovered / deducted from the amount payable to the associate.

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- f) The policy shall ensure that the TPNODL's decision regarding replacement of goods damaged, lost or rendered unusable shall be final.

In all cases, the associate shall lodge the claims with the underwriters and also settle the claims and shall also notify TPNODL of any filed claims. However, the associate shall proceed with the repairs and/or replacement of the equipment/components without waiting for the settlement of the claims. In case of seizure of materials by concerned authorities, the associate shall arrange prompt release against bond, security or cash as required. TPNODL, upon request by the associate, will extend all reasonable assistance to the associate in such a case.

All the insurance claims shall be processed and settled by the associate and the missing/damaged items shall be replaced/repared by them without any extra cost to TPNODL and without affecting the completion time.

28.0 SUGGESTIONS & FEEDBACK

We welcome all our Business Associates to write to us about their experience with TPNODL; be it our Company, our services or our people. Each and every concern, issue, query and suggestion from you will help us to become a better company to work with and shall help us develop a strong bonding of trust and a long term relationship with you.

You may send your feedback to HOD Contracts by filling up our Business Associate Feedback Form enclosed herewith as *Annexure-I*.

29.0 CONTACT POINTS

In case Business Associate needs information with respect to payments or has any grievances, he may contact to HoD-Contracts and Finance.

30.0 LIST OF ANNEXURES

S. No.	Subject	Annexure
1.	Performa for Bid Security Bank Guarantee	A
2.	Performa for Performance Bank Guarantee (CP cum EP)	B
3.	Performa for No Demand Certificate by Associate	C
4.	Performa For Application For Issuance of Consolidated TDS Certificate	D
5.	Business Associate Feedback Form	E
6.	Acceptance Form For Participation In Reverse Auction Event	F
7.	Form for RTGS Payment	G
8.	Vendor Appraisal Form	H
9.	Manufacturer Authorization Form	I
10.	Tata Code of Conduct	I

ANNEXURE-A

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PROFORMA FOR BID SECURITY BANK GUARANTEE

**TP Northern Odisha Distribution Limited
Balasore**

WHEREAS, (Name of the Bidder) _____
(hereinafter called "the BIDDER") has submitted his bid dated _____ for the
(Tender No. & Name of Contract) _____ (hereinafter
called "the BID").

KNOW ALL men by these presents we (Name of the
Bank) _____ of (Name of the
Country) _____ having our registered
office at _____ (hereinafter called "the BANK) are bound unto
TPNODL in the sum of _____ for which payment well and truly to be
made to the TPNODL the Bank binds himself, his successors and assigns by these
presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20_____.

The CONDITIONS of this obligation are:

- i) If the Bidder withdraws his Bid during the period of bid validity specified in the Proforma of Bid or
- ii) If the Bidder having been notified of the acceptance of his Bid by the TPNODL during the period of bid validity fails or refuses to furnish the Contract Performance Bank Guarantee, in accordance with the Instructions to Bidders.

We undertake to pay the TPNODL upto the above amount upon receipt of its first written demand, provided that in its demand the TPNODL will note that amount claimed by it is due to it owing to the occurrence of one or both conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force upto and including the date (No of days as mentioned in tender enquiry) days after the closing date of submission of bids as stated in the Invitation to Bid or as extended by you at any time prior to this date, notice of which extension to the Bank being hereby waived, and any demand in respect thereof should reach the Bank not later than the above date.

DATE	SIGNATURE OF THE BANK	
WITNESS	SEAL	

(Signature, Name & Address) (At least 2 witnesses)

ANNEXURE- B

PROFORMA FOR PERFORMANCE BANK GUARANTEE (CP cum EP)

(On Rs.100/- Stamp Paper) Note:

- a) Format shall be followed in toto
- b) Claim period of six months must be kept up

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- c) The guarantee to be accompanied by the covering letter from the bank confirming the signature to the guarantee

TP Northern Odisha Distribution Ltd.

Balasore

CP cum EP BG No.....

Order/Contract No.....dated.....

1. You have entered into a Contract No _____ with M/s. _____ (hereinafter referred to as "the Vendor") for the supply cum erection / civil work of _____ (hereinafter referred to as "the said Equipment") for the price and on the terms and conditions contained in the said contract.
2. In accordance with the terms of the said contract, "the Vendor" agreed to furnish you with an irrevocable, unconditional and acceptable bank guarantee for 10% of the value of contract and to be valid till the end of Guarantee period plus one month towards "Contract cum Equipment performance". For this purpose you have agreed to accept the guarantee.
3. In consideration thereof, we, _____ hereby irrevocably and unconditionally guarantee to pay to you on demand but in any case before the end of five working days from the date of the claim and without demur and without reference to "the Vendor" such amount or amounts not exceeding the sum of Rs. _____ (Rupees _____ only) being _____ % (_____ percent) of the total value of the contract on receipt of your intimating that "the Vendor" has not fulfilled his contractual obligations. You shall be the sole judge for such non-fulfillment and "the Vendor" shall have no right to question such judgment.
4. You shall have the right to file / make your claim on us under the guarantee for a **further period of one month** from the date of expiry.
5. This guarantee shall not be revoked without express consent and shall not be affected by your granting time or any other indulgence to "the Vendor", which shall include but not be limited to, postponement from time to time of the exercise the same in you or any right which you may have against "the Vendor" and to exercise the same in any covenant contained or implied in the said contract or any other course or remedy or security available to you, and our Bank shall not be released from its obligations under this guarantee by

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your exercising any of your rights with reference to matters aforesaid or any of them or by reasons of any other act or forbearance or other acts of omission or commission on your part or any other indulgence shown by you or by any other matter or thing whatsoever which under the law would, but for this provision have the effect of relieving our bank from its obligation under this guarantee.

6. We also agree that you shall be entitled at your option to enforce this guarantee against our bank as a principal debtor, in the first instance, notwithstanding any other security or guarantee that you may have in relation to "the Vendor's" liabilities in respect of the premises
7. This guarantee shall not be affected by any change in the constitution of our Bank or "the Vendor" or for any other reason whatsoever.
8. Any claim / extension under the guarantee can be lodge-able at outstation banks or at Balasore branch and claim will also be payable at Balasore Branch (to be confirmed by Balasore Branch by a letter to that effect in case BG is from the branch outside Balasore).
9. Notwithstanding anything herein contained, our liability under this guarantee is limited to Rs. _____ (Rupees _____) only and the guarantee will remain in force upto and including _____ (Date) and shall be extended from time to time for such period or period as may be desired by "the Vendor".
10. Unless a demand or claim under this guarantee is received by us in writing within six months from _____ (expiry date) i.e. on or before _____ (claim period end date), we shall be discharged from all liabilities under this guarantee thereafter.

Dated at _____ this _____ day of _____ 20__

Bank's rubber stamp

1. Banks full address

Designation of Signatory

2. Bank official number

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ANNEXURE-C

PROFORMA FOR “NO DEMAND CERTIFICATE” BY ASSOCIATE

(On Company's Letter head or with Company Seal)

(To be submitted by the Associate to TPNODL Accounts Department at the time of receipt of full and final payment)

(Certificate No. CCP/002)

Name of the Project Order/

Contract No.

Dated

Name of the Associate Scheme

No. / Job No.

We, M/s. _____ (Associate) do hereby acknowledge and confirm that we have received the full and final payment due and payable to us from TPNODL, in respect of our aforesaid Order No _____ dated _____ including amendments, if any, issued by TPNODL to our entire satisfaction and we further confirm that we have no claim whatsoever pending with TPNODL under the said contract / W.O.

Notwithstanding any protest recorded by us in any correspondence, documents, measurement books and / or final bills etc., we waive all our rights to lodge any claim or protest in future under this contract.

We are issuing this “NO DEMAND CERTIFICATE” in favour of TPNODL, with full knowledge and with our free consent without any undue influence, misrepresentation, coercion etc.

Place

Name

(Company Seal)

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ANNEXURE-D

**PROFORMA FOR APPLICATION FOR ISSUANCE OF CONSOLIDATED TDS
CERTIFICATE**

To be printed on the letterhead

To,

TPNODL,

Balasore

Sub: Application for issuance of Consolidated TDS Certificate for the FY _____

Dear Sir,

I / we hereby request / authorize you to issue me / us a consolidate TDS Certificate for the financial year _____ against tax deducted at source by you from my / our payments / bills during the said year from time to time under Chapter XVII – B of the Income Tax Act, 1961. For and on behalf of

Signature

Name

Address

Contact No. (Land Line)

(Mobile)

PAN #

Assessing authority

ATTACH THE COPY OF PAN CARD

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ANNEXURE-E

BUSINESS ASSOCIATE FEEDBACK FORM

With an objective to improve our internal processes and systems, and serve you better, we solicit your valuable feedback & suggestions. It is estimated that it will take about 10 minutes to complete this survey. We assure you that your feedback shall be kept confidential. Please send the duly filled feedback form in the "TPNODL addressed - attached envelop"

You are associated with us as

☐ OEMs ☐ Service Contractor ☐ Material Suppliers ☐ Material & Manpower Supplier

You are associated with us for

☐ Less than 1 year ☐ More than 1 year but less than 3 years ☐ More than 3 years

Your office is located at

☐ Balsore ☐ Within 200 kms from Balsore ☐ More than 200 kms from Balsore

Your nearly turnover with TPNODL

☐ Less than 25 Lacs ☐ 25 Lacs to 1 Crore ☐ More than 1 Cr.

Additional Information

Your Name	
Your Designation	
Your Organization	
Contact Nos.	
Email	

We once again thank you for your participation in this survey. Please spare 10 minutes to give your feedback on following pages (Section A to E)

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SECTION – A

(Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement).

S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
		Do Not Agree	Slightly in Agreement	In Fair Agreement	Mostly in Agreement	Fully Agree	
1	You receive all relevant queries / tenders from us in timely manner.						
2	We provide you enough lead time to respond to our queries / tenders.						
3	We provide you adequate support (drawings, documents, clarifications, briefing etc.) to enable you meet our requirements.						
4	All following elements of our contract / purchase order are rational :						
4.1	Scope of Work						
4.2	Delivery / Execution Schedule						
4.3	Payment Terms						
4.4	Liquidated Damages						
4.5	Performance Guarantee						
5	Our purchase orders / contracts are simple, specific & easy to understand						
6	TPNODL demonstrate willingness to be flexible in administration of Contract / Purchase Order						
7	We provide timely responses / clarifications to your queries						
8	TPNODL representative you interact / coordinate with is adequately empowered to support you in meeting contractual obligations						
9	TPNODL provide you all necessary infrastructure support for timely and quality completion of work (including AMC)						
10	TPNODL Engineer-in-Charge timely certifies the jobs executed/ material supplied						
11	TPNODL Engineer-in-Charge efficiently supervises the job execution for timely completion of job						
12	BIRD (Bill Inward Receipt Desk) initiative has improved payment disbursement process						

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S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
		Do Not Agree	Slightly in Agreement	In Fair Agreement	Mostly in Agreement	Fully Agree	
13	Our approach for Inspection and Quality Assurance effective to expedite project completion?						
14	TPNODL never defaults on contractual terms						
15	In TPNODL Contracts closure is done within set time limit						
16	Our material receiving procedures are well defined and efficiently deployed to reduce mutual inconvenience						
17	Bank Guarantees are released in time bound manner						
18	Our processes related to payment / account settlement are effective.						
19	You get payments on time						
20	TPNODL Employees follow Ethical behaviour						

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SECTION – B

SECTION – B (Please rate the following parameters on a scale of 1 to 5, where 1 - Minimum; 5 - Maximum)

S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
1	How do you rate courtesy/ empathy/ attitude level and warmth of TPNODL employees you interact with from following team?						
1.1	Project Engineering						
1.2	District / Zones						
1.3	Projects/HOG (TS &P)						
1.4	Inspection & Quality Assurance						
1.5	Stores						
1.6	Metering & Billing						
1.7	Accounts / Finance						
1.8	Administration						
1.9	IT & Automation						
2	How would you rate TPNODL in comparison to your other clients in terms of fairness of treatment and transparency with its Business Associates?						
3	How would you rate TPNODL in comparison to your other clients in terms of processes and systems to manage partnership with its Business Associates						
4	How would you rate TPNODL in comparison to your other clients in terms of building long term & mutually relationship with its Business Associates						

SECTION – C

Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement.

S. No.	Parameters	Certainly No	Probably No	Certainly Yes	Probably Yes	Remarks/ Suggestion
1	Based on your experience with TPNODL, would you like to continue your relationship with TPNODL?					
2	If someone asks you about TPNODL, would you talk “positively” about					

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	TPNODL?					
3	Would you refer TPNODL name to others in your community, fraternity and society as a professional & dynamic organization?					

SECTION - D

If we ask you to rate us on a scale of 1 to 10, how will you rate TPNODL, that truly represents your overall satisfaction with us (please tick appropriate box) -

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

SECTION – E

Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement.

Please spare your thoughts for TPNODL's improvement in particular areas of weaknesses, particularly relating to some great practices, attitudes that you have seen elsewhere in Indian and International Organizations, which you recommend TPNODL to adopt. Please give your valuable salient recommendations.

Please spare your thoughts for TPNODL's improvement in particular areas of major concerns for you. We also welcome your suggestions to adopt any best practices, attitudes that you

Recommendation	<i>Please tick (✓) your top 5 expectations out of the following 10 points listed below -</i>	
(Please list down improvement you expect from TPNODL)	<i>Timely payment</i>	
1	<i>Flexibility in Contracts/PO</i>	
	<i>Clarity in PO,s & Contracts</i>	
2	<i>Timely response to quarries</i>	
	<i>Timely certification of works executed</i>	
3	<i>Clarity in Specs, drawings, other docs etc.</i>	
	<i>Adequate information provided on website for tender notification, parties qualified etc.</i>	
4	<i>Timely receipt of material at site for execution</i>	
	<i>Performance Guarantee/EMD released in time</i>	

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5	Inspection & quality assurance support for timely job completion
---	--

We thank you for your time and courtesy!!

ANNEXURE-F

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder prior to participation in the auction event)

In a bid to make our entire procurement process more fair and transparent, TPNODL intends to use the reverse auctions through ARIBA tool as an integral part of the entire tendering process. All the bidders who are found as technically qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

The following terms and conditions are deemed as accepted by the bidder on participation in the bid event:

1. TPNODL shall provide the user id and password to the authorized representative of the bidder. (Authorization Letter in lieu of the same shall be submitted along with the signed and stamped Acceptance Form).
2. TPNODL will make every effort to make the bid process transparent. However, the award decision by TPNODL would be final and binding on the supplier.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of TPNODL, bid process, bid technology, bid documentation and bid details.
4. The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.
5. In case of bidding through Internet medium, bidders are further advised to ensure availability of the entire infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitch, internet response issues, software or hardware hangs, power failure or any other reason shall not be the responsibility of TPNODL.
6. In case of intranet medium, TPNODL shall provide the infrastructure to bidders. Further, TPNODL has sole discretion to extend or restart the auction event in case of any glitches in infrastructure observed which has restricted the bidders to submit the bids to ensure fair & transparent competitive bidding. In case an auction event is restarted, the best bid as already available in the system shall become the start price for the new auction.
7. In case the bidder fails to participate in the auction event due any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be outrightly rejected by TPNODL.
8. The bidder shall be prepared with competitive price quotes on the day of the bidding event.
9. The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR at TPNODL site.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder.
11. No requests for time extension of the auction event shall be considered by TPNODL.
12. The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all inclusive prices offered during conclusion of the auction event for arriving at Contract amount.

Signature & Seal of the Bidder

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Name of the Authorized Signatory: _____ :

Contact Person's Name:

Official Correspondence Address:

We confirm that we will bear the charges, if any, levied by our bank for the credit of NEFT/RTGS amounts in our account. Any change in above furnished information shall be informed to TPNODL well in time at our own. Further, we kept TPNODL indemnified for any loss incurred due to wrong furnishing of above information.

Thanking you,

For _____

(Authorised Signatory)

(Signature with Rubber Stamp)

Certification from Bank:

We confirm that we are enabled for receiving NEFT/RTGS credits and we further confirm that the account number (specify Bank a/c no.) of (Please mention here name of the account holder), the signature of the authorised signatory and the MICR and IFSC Code of our branch mentioned above are correct.

This also is certified that the above information is correct as per Bank record

(Manager's/ Officers Signature under Bank Stamp)

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ANNEXURE-H
VENDOR APPRAISAL FORM

TO BE SUBMITTED BY VENDOR (To be filled as applicable)			
Part A			
1.0	DETAILS OF THE FIRM		
	1.1	NAME (IN CAPITAL LETTERS)	
	1.2	TYPE OF CONCERN (PROPRIETARY) PARTNERSHIP PVT.LTD., PUBLIC LTD. ETC.	
	1.3	YEAR OF ESTABLISHMENT	
	1.4	LOCATION OF OFFICE POSTAL ADDRESS	
	1.5	CONTACT DETAIL OF BA's REPRESENTATIVE NAME E-MAIL ID CELL NO.	
	1.6	LOCATION OF MANUFACTURING UNITS	:
		i) UNITS 1	:
		ii) OTHER UNITS	:
2.0	PRODUCTS / SERVICES BEING OFFERED		:
3.0	TURNOVER DURING THE LAST 3 YEARS (TO BE VERIFIED WITH THE LATEST PROFIT & LOSS STATEMENT).		:
4.0	AVALABILITY OF STATUTORY DOCUMENTS I.E. COPY OF PAN CARD		:
5.0	AVALABILITY OF STATUTORY DOCUMENTS I.E. COPY OF GST REGISTRATION		÷
6.0	APPLICABILITY UNDER MSME CERTIFICATION		÷
7.0	BA BELONGS TO AA COMMUNITY (SC/ST)		÷
8.0	DOCUMENTS VERIFYING ADDRESS PROOF (SUPPORTED BY ANY GOVT. ISSUED DOCUMENT)		÷

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9.0	TECHNICAL		
	9.1	NO.OF DESIGN ENGINEERS (INDICATE NO.OF YEARS EXPERIENCE IN RELATED FIELDS)	:
	9.2	NO.OF DRAUGHTSMEN	:
	9.3	COLLABORATION DETAILS (IF ANY)	:
		9.3.1 DATE OF COLLABORATION	:
		9.3.2 NAME OF COLLABORATOR	:
		9.3.3 RBI APPROVAL DETAILS	:
		9.3.4 EXPERIENCE LIST OF COLLABORATOR	:
		9.3.5 DURATION OF AGREEMENT	:
	9.4	AVAILABILITY OF STANDARDS / DESIGN PROCEDURES / COLLABORATOR'S / DOCUMENTS (CHECK WHETHER THESE ARE LATEST/CURRENT)	:
	9.5	TECHNICAL SUPPORT, BACK-UP GUARANTEE, SUPERVISION, QUALITY CONTROL BY COLLABORATOR (WHEREVER ESSENTIAL). (THIS CLAUSE IS RELEVANT WHEN VENDOR'S EXPERIENCE IS INADEQUATE)	:
	9.6	QUALITY OF DRAWINGS	:
10.0	MANUFACTURE		
	10.1	SHOP SPACE, LAYOUT LIGHTING, VENTILATION, ETC.	:
	10.2	POWER (KVA)	:
		MAINS INSTALLED	:
		UTILISED	:
		STANDBY POWER SOURCE	:
	10.3	MANUFACTURING FACILITIES (ATTACH LIST OF EQUIPMENTS AS APPLICABLE)	:
		10.3.1 MATERIAL HANDLING	:
		10.3.2 MACHINING	:
		10.3.3 FABRICATION	:

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		10.3.4 HEAT TREATMENT	:
		10.3.5 BALANCING FACILITY	:
		10.3.6 SURFACE TREATMENT PRIOR TO PAINTING/ COATING, POLISHING, PICKLING, PASSIVATION, PAINTING, ETC.	:
	10.4	SUPERVISORY STAFF	:
	10.5	ADEQUACY OF SKILLED LABOURS (MACHINISTS, WELDERS, ETC.)	:
	10.6	NO. OF SHIFTS	:
	10.7	TYPE OF MATERIAL HANDLED (SUCH AS CS, SS, ETC.)	:
	10.8	WORKMANSHIP	:
	10.9	MATERIAL IN STOCK AND VALUE	:
	10.10	TRANSPORT FACILITIES	:
	10.11	CARE IN HANDLING	:
11.0	INSPECTION / QC / QA / TESTING		
	11.1	NUMBER OF PERSONNEL (INDICATE NO.OF YEARS OF EXPERIENCE)	:
	11.2	INDEPENDENCE FROM PRODUCTION	:
	11.3	AVAILABILITY OF PROCEDURAL WRITE UP/QUALITY PLAN	:
	11.4	INCOMING MATERIAL CONTROL AND DOCUMENTATION	:
	11.5	RELIABILITY/REPUTATION OF SUPPLY SOURCES	:
	11.6	STAGE INSPECTION AND DOCUMENTATION	:
	11.7	SUB-ASSEMBLY & DOCUMENTATION	:
	11.8	FINAL INSPECTION AND DOCUMENTATION	:
	11.9	PREPARATION OF FINAL DOCUMENTATION PACKAGE	:
	11.10	TYPE TEST FACILITIES	:
	11.11	ACCEPTANCE TEST FACILITIES	:

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	11.12	CALIBRATION OF INSTRUMENTS AND GAUGES (WITH TRACEABILITY TO NATIONAL STANDARDS) (ATTACH LIST)	:
	11.13	STATUTORY APPROVALS LIKE BIS, IBR, ETC.(AS APPLICABLE)	:
	11.14	SUB-VENDOR APPROVAL SYSTEM AND QUALITY CONTROL	:
	11.15	DETAILS OF TESTS CARRIED OUT AT INDEPENDENT RECOGNISED LABORATORIES	:
		i) FURNISH LIST OF TESTS CARRIED OUT AND THE NAME OF THE LABORATORY WHERE THE TESTS WERE CONDUCTED	:
		ii) CHECK AVAILABILITY OF CERTIFICATES AND REVIEW THESE WHEREVER POSSIBLE	:
12.0	EXPERIENCE (INCLUDING CONSTRUCTION / ERECTION / COMMISSIONING) TO BE FURNISHED IN THE FORMAT INDICATED IN APPENDIX)		:
13.0	SALES, SERVICE AND SITE ORGANISATIONAL DETAILS		:
14.0	CERTIFICATE FROM CUSTOMERS (ATTACH COPIES OF DOCUMENTS)		:
15.0	POWER SITUATION		:
16.0	LABOUR SITUATION		:
17.0	APPLICABILITY OF SC/ST RELAXATION (Y/N) IF YES, SUPPORTING DOCUMENTS TO BE ATTACHED		
Part C Supporting Documents			

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18.0	DOCUMENTS TO BE ENCLOSED:	
	1. Factory License 2. ISO Certificate 3. Registration of Central Excise 4. Income Tax Clearance. 5. PF Registration 6. ESI Registration 7. Insurance for Workman Compensation Act No. 8. Electrical Contract LIC No. 9. PAN No. 10. GST Registration 11. MSME Certification 12. WC Tax Registration 13. Organogram of Co. having organogram of Design, safety, quality, production and other teams. 14. Details of subscription of BIS, IEC, IEE, ASTM or other. 15. Details of the team in Design, Quality, Safety, Production. 16. List of manufacturing equipment as per Part C. 17. List of calibrated equipment as per Part C. 18. List of clients and order executed in past two years. 19. Complaint escalation matrix. 20. Performance Certificates of same product from Minimum two utilities. 21. e-Payment Form as per enclosed Annexure-G	

*** Classification of BAs under SC/ST shall be governed under following guidelines:**

- **Proprietorship/ Single Ownership Firm:** Proprietor of the firm should be from SC/ST community. Governing document shall be Proprietorship Deed.
- **Partnership Firm:** Only such firms shall qualify which have SC/ST partners holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Partnership Deed.
- **Private Limited Company:** Only such firms shall qualify which have SC/ST directors holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).
- The relaxation available for BAs under SC / STs shall be as per GCC for Tender Fees, EMD, PBG and Turnover criteria.

NOTE: Certification from SC/ST Commission shall be required for deciding upon SC/ST status of a person.

Annexure-G (e-Payment detail form) must be filled by Associate along with this form.

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ANNEXURE-I
MANUFACTURER AUTHORIZATION FORM

(To be submitted on OEM's Letter Head)

Date:

Tender Enquiry No.:

To,
Chief (Contracts & MM)
TPNODL,
Balasore

Sir,

WHEREAS M/s. [name of OEM], who are official manufacturers of having factories at [address of OEM] do hereby authorize M/s [name of bidder] to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by us

.....and
to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with the Special Conditions of Contract or as mentioned elsewhere in the Tender Document, with respect to the Goods offered by the above firm in reply to this Invitation for Bids.

We hereby confirm that in case, the channel partner fails to provide the necessary services as per the Tender Document referred above, M/s [name of OEM] shall provide standard warranty on the materials supplied against the contract. The warranty period and inclusion / exclusion of parts in the warranty shall remain same as defined in the contract issued to their channel partner against this tender enquiry.

Yours Sincerely,

For

Authorized Signatory

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Annexure-J

TATA CODE OF CONDUCT (TCoC)

Introducing Tata Code of Conduct (TCoC) in GCC, the following clause is proposed for inclusion as per suggestions from Chief Ethics Counsellor -

“TCoC is the overarching policy framework that applies to all TATA Group companies including TPNODL. TCoC provides for stakeholder-wise approach in each of the seven chapters.

The chapter “Our Value Chain Partners” states the policy as follows:

1. We shall select our suppliers and service providers fairly and transparently.
2. We seek to work with suppliers and service providers who can demonstrate that they share similar values. We expect them to adopt ethical standards comparable to our own.
3. Our suppliers and service providers shall represent our company only with duly authorized written permission from our company. They are expected to abide by the Code in their interactions with, and on behalf of us, including respecting the confidentiality of information shared with them.
4. We shall ensure that any gifts or hospitality received from, or given to, our suppliers or service providers comply with our company’s gifts and hospitality policy.
5. We respect our obligations on the use of third party intellectual property and data.

In case any Ethical Concern is faced during the course of your business dealings BA can write to Chief- Contracts & MM and CEO.

TPNODL is committed to follow Core Values and Core Principles mentioned in TCoC, cited below, in carrying out various activities as well as in discharge of bi-lateral and multi-lateral obligations involving other entities/organizations:

Core Values:

All six core values are already mentioned in GCC.

Core Principles:

1. **Zero tolerance to bribery or corruption** in any form.
2. Committed to **good corporate citizenship**
3. Contribute to the **economic development of the communities** of the countries & regions we operate in.
4. No compromise on **Safety**
5. Our conduct shall be **fair & transparent**
6. Respect the **human rights & dignity** of our stakeholders
7. **No unfair discrimination** of any kind
8. Statements made to stakeholders shall be **truthful** & made in **good faith**
9. Not engage in any restrictive or **unfair trade practice**
10. Provide avenues for our stakeholders to **raise concerns in good faith**
11. Environment **free from fear** of retribution to deal with concerns that are raised
12. Expect the leaders to be **role model**

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13. **Comply with the laws** of the countries in which we operate

Gift Policy:

Principles for acceptance of gifts/benefits –

A gift or benefit may be accepted only if it complies with all of the following principles:

- ✓ it does not influence,
- ✓ does not have the potential to influence, an employee in such a way as to compromise or appear to compromise integrity and impartiality
- ✓ does not create a conflict of interest or perception of conflict of interest;

Principles for non-acceptance of gifts/benefits -

The gift or benefit may not be accepted or given if any of the following principles apply:

- ✓ causes the recipient or donor **to act in partial manner** in the course of duty
- ✓ apprehension of the recipient becoming **obligated to the donor**
- ✓ it is **not offered openly**
- ✓ if is an **offer of money** or something readily convertible to money (e.g. Shares)

Violation –

1. Not abiding with this policy would constitute violation of “Our Employees” Stakeholder group Clause “Gifts and Hospitality” of the Tata Code of Conduct (TCoC) 2015. Prompt action will be taken against violations.
 2. Any deviation from this policy must be supported by appropriate rationale and must be duly approved by CEO who is also the Principal Ethics Officer. In any case, in dealing with such deviations, the spirit of the TCoC should in no case be compromised.
2. If it is determined that an employee / associate has violated this policy, appropriate action including termination of the employee's / associate's employment or association with TPNODL may be decided upon.

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1.0 ORGANIZATIONAL VALUES

The Tata Group has always been a value driven organization. These values continue to direct the Group's growth and businesses. The six core Tata Values underpinning the way we do business are:

Integrity - We must conduct our business fairly, with honesty and transparency. Everything we do must stand the test of public scrutiny.

Understanding - We must be caring, respectful, compassionate and humanitarian towards our colleagues and customers around the world and always work for the benefit of India.

Excellence - We must constantly strive to achieve the highest possible standards in our day to day work and in the quality of goods and services we provide.

Unity - We must work cohesively with our colleagues across the group and with our customers and partners around the world to build strong relationships based on tolerance, understanding and mutual co-operation.

Responsibility - We must continue to be responsible and sensitive to the countries, communities and environments in which we work, always ensuring that what comes from the people goes back to the people many times over.

Agility - We must work in a speedy and responsive manner and be proactive and innovative in our approach.

2.0 ETHICS

In our effort towards Excellence and in Management of Business Ethics at TPSODL, an Ethics Management Team is constituted.

The main objective of the Ethics Management Team is to:

1. Record, address and allay the issues and concerns on ethics raised by different stakeholders like employees, consumers, vendors, Associates etc. by initiating immediate corrective actions.
2. Ensure proper communication of the ethics policies and guidelines through prominent displays at all offices of TPSODL and through printed declarations in all concerned documents where external stakeholders are involved.
3. Ensure proper framework of policies as preventive measures against any ethics violation recorded by them.

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4. Prepare and submit MIS of all issues and concerns, corrective and preventive actions on monthly basis to the top management for their information.

All Associates and Stakeholders are requested to register any grievance on ethics violation on our website www.tpsouthernodisha.com

3.0 CONTRACT PARAMETERS

3.1 Issue/Award of Contract

TPSODL awards the contract to the Associate in writing in the form of Purchase Order (PO) or Rate Contract (RC), hereafter referred as Contract, through in any or all of following modes physical handover / post / e-mail / web document / fax with all the attachments/enclosures which shall be part of the contract document.

On receipt of the contract, the associate shall return to TPSODL copy of the contract document duly signed by legally authorized representative of associate, within two days of Effective Date of Contract for contracts having contract execution time less than 30 days and within five days for all other contracts.

3.2 Contract Commencement Date

The date of issue/award of contract shall be the Effective Date of Contract or Contract Commencement date.

3.3 Contract Completion Date

The date of expiry of Guarantee Period shall be deemed as the Contract Completion Date.

3.4 Contract Period/Time

The period from Contract Commencement Date to Contract Completion Date shall be deemed as the Contract Period/Time.

3.5 Contract Execution Completion Date

The stipulated date for completing the supply as per schedule of quantities shall be deemed as the Contract Execution Completion Date.

3.6 Contract Price /Value

The total all inclusive price/value mentioned in the PO/RC is the Contract Price/Value and is based on the quantity, unit rates and prices quoted and awarded and shall be subject to adjustment based on actual quantities supplied and accepted and certified by the authorized representative of the company unless otherwise specified in schedule of quantities or in contract documents.

3.7 Contract Document

The Contract Document shall mean and include but not limited to the following:

- NIT/Tender Enquiry, QR, Instruction to Bidders, Special Condition of Contract (SCC) of tender, GCC, Technical & Commercial Specifications including relevant annexure and attachments).

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- Bids & Proposals Received from Associate including relevant annexure/attachments.
- RC/PO with agreed deviations from the tender/bid documents.
- All the Inspection and Test reports, Detailed Engineering Drawings.
- Material Dispatch Clearance Certificate (MDCC).
- Minutes of Meeting (MoM)

3.8 Contract Language

All documents, instructions, catalogues, brochures, pamphlets, design data, norms and calculations, drawings, operation, maintenance and safety manuals, reports, labels, on deliveries and any other data shall be in English Language.

The Contract documents and all correspondence between the TPSODL, Third Parties associated with the contract, and the Associate shall be in English language.

However, all signboards required indicating "Danger" and/or security at site and otherwise statutory required shall be in English, Hindi, and local languages.

3.9 Reverse Auction

TPSODL reserves the right to conduct the reverse auction (instead of public opening of price bids) for the products / services being asked for in the tender. The terms and conditions for such reverse auction events shall be as per the Acceptance Form attached in Annexure F.

Bid validity will stand get automatically extended from the date of latest Negotiation event i.e. Reverse Auction or Manual Negotiation and accordingly bid shall be valid further

- i. For minimum 45 days if original bid validity duration is lesser than 45 days at latest negotiation date.
- ii. For actual bid validity duration if original bid validity is more than 45 days at latest negotiation date.

4.0 SCOPE OF WORK

All the activities that are to be undertaken by the Associate to realize the contractual deliverables in completeness form Scope of Work. Following clauses list, but not limited to, major requirements of the scope of work.

The associate shall satisfy himself and undertake fully the technical/commercial requirements of items to be supplied as listed in the Schedule of Quantities together with the tests to be performed /test reports to be furnished before dispatch, arrangement of stage and final inspections during manufacturing as per terms and conditions of contract, technical parameters & delivery terms and conditions including transit insurance to be met in order to fully meet TPSODL's requirements.

Completeness: Any supplies and services which might have not been specifically mentioned in the Contract but are necessary for the scope mentioned in Special Terms & Conditions and/or completeness of the works at the highest possible level, including any royalties, license fees & compensation to be paid, whether incurred by the associates or by a third party for the work covered in the scope, regardless of when incurred, shall be supplied/provided by the associate

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without any extra cost and within the time schedule for efficient , smooth and satisfactory operation and maintenance of the works at the highest possible level under Indian conditions (but according to international standards for facility of this type), unless expressly excluded from the scope of supplies and services in this Contract.

TPSODL have the right, during the performance of the Contract, to change the scope and/or technical character of the Project and/or of the supplies and services stipulated in the Contract by submitting a request in writing to the Associate. The Associate shall, within fifteen days of receipt of such request from the TPSODL, provide Purchaser with a reasonably detailed estimate of the cost of the change outlined in the request.

In the event, TPSODL requests a change, the Contract price and time shall be adjusted upwards or downwards, as the case may be and shall be mutually agreed to. The associate shall not be entitled to any extension of time unless such changes adversely affect the time schedule.

The Associate shall not proceed with the changes as requested till adjustment of contract price and time schedule where so applicable in terms of or otherwise directed by the TPSODL.

5.0 PRICES/RATES/TAXES

Unless specified elsewhere in the contract document, the prices/rates are inclusive of cost of finished product for which MDCC will be issued by TPSODL, packaging and forwarding charges, freight and transit insurance charges covering loading at Associate's works, transportation to TPSODL store/site & unloading & delivery at TPSODL stores/TPSODL site, cost of documentation including all the relevant test certificates and other supportive documents to be furnished.

The Prices/Rates are inclusive of all taxes, levies, cess and duties, particularly Goods and Services Tax as applicable. All government levy / taxes shall be paid only when the invoice is submitted according to the relevant act.

The prices/rates shall remain firm till actual completion of entire supply of goods/material/equipment as per contract is achieved and shall remain valid till the completion of the contract.

The prices shall remain unchanged irrespective of TPSODL making changes in quantum in all or any of the schedules of items of contract.

5.1 Changes in Statutory Tax Structure

If rate of any or all of the statutory taxes and duties applicable to the contract changes, such changes shall be incorporated by default if the changes occur within the contract execution time and shall be applicable if the contract is executed by the Associate within the Contract Execution Time.

For execution of contracts beyond contract execution time, where the delay is not attributable to TPSODL no upward revision in tax /duties shall be considered irrespective of changes in the statutory tax structure either within the contract execution time or beyond. However, in such cases, benefits due to any downward revisions in statutory tax rates shall be passed on to TPSODL.

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6.0 TERMS OF PAYMENT

On delivery of the materials in good condition and certification of acceptance by TPSODL official, Associate shall submit the Bills/Invoices in original in the name of “The TP Southern Odisha Distribution Limited” to invoice desk, complete with all required documents as under:

- Test Reports (4 sets).
- MDCC issued by TPSODL.
- Packing List.
- Drawing and Catalogue.
- Guarantee/Warrantee Card.
- Delivery Challan.
- O&M Manual.
- Copy of Order.
- Minutes of Meeting.

Bills/ invoices shall mention Supplier's GST Number. TPSODL will make 100% payment within 30 days of submission of the Bill/Invoice complete in all respects and along with all the requisite documents mentioned above, subject to condition that Associate has furnished the requisite Security-cum-Performance Guarantee as stipulated in the contract.

6.1 Quantity Variation

Payment will be made on the basis of actual quantity of supplies/actual measurement of works accepted by TPSODL and not on the basis of contract quantity.

6.2 Full and Final Payment

Full & Final Payment in all contracts shall be made subject to the associate submitting “No Demand Certificate” in the format as per Annexure-C.

7.0 MODE OF PAYMENT

Payment shall be made through crossed Cheque or RTGS whichever of the two modes chosen by the Associate, in favour of Associate's Bank Account on TPSODL records, on whose name Contract has been issued. Those Associates opting for the RTGS mode shall submit the details of Bank Account and other details as per annexure G. Further, for any payments made, TPSODL is not responsible for any consequences/disputes Associate have among the owners channel partners, sub-Associates and all such dispute/concerns shall be settled solely by the Associate.

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8.0 SECURITY CUM PERFORMANCE DEPOSIT

Associates shall submit within 15 days from the effective date of issue of PO/RC, Security Performance Bank Guarantee (SPBG) in the format as per Annexure B of this document from banks acceptable to TPSODL for:

(a) 5% of the PO value if purchase order value is more than Rs 5 Crores.

(b) 10% of the PO value if purchase order value is less than Rs 5 Crores.

This shall remain valid till the end of the Guarantee Period of contract, plus one month.

(c) 5% of the RC value in case of Rate Contract. This shall remain valid till the Guarantee period plus one month.

- For PO/RC values less than Rs. 5 lacs, Associate may request for deduction of amount equivalent to SPBG value from their first invoice. Such amount shall be withheld by TPSODL while processing the invoice and shall be released after completion of Guarantee Period plus one month.
- For PO/RC values less than Rs. 3 lacs, the clause (8.0) for Security cum Performance Bank Guarantee (SPBG) shall not be applicable.
- In case of RC (Rate Contract) after the expiry of RC validity, Associate shall have to submit SPBG. However, the Associate has the option to re-submit the SPBG as per actual RO (Release Order) value issued against the RC, valid for Guarantee Period plus one month. The Guarantee Period shall be considered as per the last RO issued against the said RC. The original SPBG as submitted against the RC shall be released on submission of the new SPBG to TPSODL. Alternatively, Associate may extend the validity of original SPBG only till the requisite period, i.e. Guarantee Period plus one month.

9.0 STATUTORY COMPLIANCE

9.1 Compliance to Various Acts

Associate should ensure adherence to all applicable laws, rules and regulation applicable under this contract from time to time. In case of violation any risk, costs etc shall be in associates account and keep TPSODL indemnified always till completion of contracts.

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9.2 SA 8000

TPSODL expects its Associates to follow guidelines of SA 8000:2014 on the following aspects

1. Child Labour
2. Forced or Compulsory Labour
3. Health & Safety
4. Freedom of Association & Right to Collective Bargaining
5. Discrimination
6. Disciplinary Practices
7. Working Hours
8. Remuneration
9. Management System

9.3 Affirmative Action

TPSODL appreciate and welcome the engagement/employment of persons from SC/ST community or any other deprived section of society by their business associates.

Relaxation in Contract Clauses under Affirmative Action for SC/ ST Business Associates**

TPSODL believes that inclusive growth is the key to sustainable development, and to promote the same Policy on Affirmative Action for Scheduled Caste & Scheduled Tribe Communities has been adopted across the company.

Under the same pre-text, and to promote entrepreneurship among SC/ST community TPSODL has taken initiative by proposing relaxations in contract clauses as per below:

S. No	Initiative	for SC/ ST BA's	Guideline Document
1	Tender Fees	100% waiver for SC/ST community	All Open Tenders
2	Earnest Money Deposit	50 % relaxation of estimated EMD value	All limited and Open Tenders
3	Performance Bank Guarantee	50% relaxation in PBG for order value above 50 lacs else 25% relaxation	All limited and Open tenders
4	Turnover	25% relaxation in company turnover under qualifying requirement criteria	All Open Tenders

**Classification of BAs under SC/ST shall be governed under following guidelines:

- Proprietorship/ Single Ownership Firm: Proprietor of the firm should be from SC/ST community. Governing document shall be duly audited balance Sheet for the last FY bearing the name of proprietor.

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- Partnership Firm: Only such firms shall qualify which have SC/ST partners holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Partnership Deed and audited balance sheet/ ITR for last FY.
- Private limited company: Only such firms shall qualify which have SC/ST directors holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

Note: Certification from SC/ST commission shall be required for deciding upon SC/ST status of a person.

9.4 Preferential norms for procurement from MSMEs registered in the State of Odisha

- i. MSME Business Associate registered in the State of Odisha is requested to inform the TPSODL if they fall under provisions of the Micro, Small and Medium Enterprises (MSME) Category and provide necessary documents to TPSODL. The Associate also needs to mention the relevant details on their invoice / bill.
- ii. MSME Business Associate registered in the State of Odisha shall submit the self-undertaking of registration in MSME category at the time of bidding as well as on an annual basis to TPSODL, enabling them to avail the consequent benefits, failing which TPSODL may take appropriate action against such defaults.
- iii. **Tender Fees** - To participate in the tender, MSMEs registered in the State of Odisha shall pay Rs.1,000/- including GST towards cost of tender paper.
- iv. **Earnest Money Deposit (EMD)** - EMD shall be exempted for MSME registered in the State of Odisha. However, Bidder shall be barred to participate in the tendering process for a period of 2 years in case it backs out post award of the contract.

v. Qualification Requirement for Open Tenders

Qualification Requirement of Financial Turnover for MSME registered in the State of Odisha shall be reduced to 20% of the existing criteria.

For Technical Qualification, instead of relying on the volumes / value of earlier Supplies / Projects, assessment of the Bidder shall be done on the basis of feedback from Customers. Past performance experience at Tata Power and its Group Companies shall supersede feedback from other Customers.

- vi. **Performance Bank Guarantees**- Performance Bank Guarantee for MSME registered in the State of Odisha shall be 25% of the value normally prescribed.

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10.0 QUALITY

10.1 Knowledge of Requirements

The Associate shall be deemed to have carefully examined and to have knowledge of the equipment, the general and other conditions, specifications, schedules, drawings, etc. forming part of the Contract and also to have satisfied himself as to the nature and character of the work to be executed and the type of the equipment and duties required including wherever necessary of the site conditions and relevant matters and details. Any information thus procured or otherwise obtained from TPSODL/Consultants shall not in any way relieve the Associate from his responsibility and executing the works in accordance with the terms of contract.

10.2 Material/Equipment/Works Quality

The items / works under the scope of the Associate shall be of the best quality and workmanship according to the latest engineering practice and shall be manufactured from materials of best quality considering strength and durability for their best performance and, in any case, in accordance with the specifications set forth in this Contract. All material shall be new. Substitution of specified material or variation from the process of fabrication/ construction/ manufacture may be permitted but only with the prior written approval of the TPSODL.

10.3 Adherence to Rules & Regulations

The Associate shall procure and/or fabricate/erect all materials and equipment in accordance with all requirements of Central and State enactment, rules and regulations governing such work in India and at site. This shall not be construed as relieving the Associate from complying with any requirement of TPSODL as enumerated in the Contract which may be more rigid than and not contrary to the above mentioned rules, nor providing such construction as may be required by the above mentioned rules and regulations. In case of variance of the Technical Specification from the laws, ordinance, rules and regulations governing the work, the Associate shall immediately notify the same to the TPSODL. It is the sole responsibility of the Associate, however, to determine that such variance exists. Wherever required by rules and regulations, the Associate shall also obtain the statutory authorities' approval for the plant, machinery and equipment to be supplied by the Associate.

10.4 Specifications and Standards

The Associate shall follow all codes and standards referred in the Contract Document. Codes and standards of other may be followed by the Associate with the prior written approval of TPSODL, provided materials, supplies and equipment according to the standard are equal to or better than the corresponding standards specified in the Contract.

Brand names mentioned in the Contract documents are for the purpose of establishing the type and quality of products to be used. The Associate shall not change the brand name and qualities of the bought out items without the prior written approval of the TPSODL. All such products and equipment shall be used or installed in strict accordance with original manufacturer's recommendations, unless

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otherwise directed by the TPSODL. In any circumstances the codes, specimen and standards prescribed by any government agency should not be violated.

11.0 INSPECTION/PARTICIPATION

11.1 Right to Carry Out Inspection

TPSODL reserves the right to send its representatives for inspection or participation at various stages of contract execution listed below, applicable as per contract construction.

- During basic design and detail engineering of material/ Equipment carried out by Associate /Outsourced Agencies.
- During manufacturing stages of the product at Associate's/Associate's Outsourced Agency's Plant/Facility.
- During Pre-dispatch Inspection and Testing of finished/manufactured product at Associate's/Associate's outsourced Agency's Plant/Facility.
- During Installation & Commissioning Activities/Stages.
- Prior to Clearing of the completed installation for commissioning.
- Any other stage as find appropriate by TPSODL during contract execution time.

All inspections and participations shall be carried out by TPSODL giving written intimation to the Associate or receiving appropriate advance written inspection call from the Associate, unless otherwise specified elsewhere in the contract document.

11.2 Facilitating Inspection

The Associate shall provide all opportunities and information to TPSODL's engineers to get acquainted with the technical know-how and the methods and practices adopted by the Associate in basic and detail engineering. The Associate shall provide documents, drawings, calculations etc. as may be required by TPSODL's Engineers.

The Associate shall provide free of charge office accommodation, office facilities, secretarial services, communication facilities, general and drawing office stationary, etc. as may be reasonably required by the TPSODL's engineers. Similarly, facilities shall also be provided by Associate's outsource agencies/ partners/ authorized dealers (collectively termed as sub associates) if such basic and detail engineering activities are carried out in the design offices of sub-Associates.

The Associate shall be responsible for the safety of employees of TPSODL/Third Party Agency when they are at the Associate's /Associate's outsource agency's plant or facility for carrying out/witnessing inspection/testing. All statutory safety precautions as applicable shall be followed by the Associate during Inspection Testing. If TPSODL inspectors are not satisfied with the safety arrangements at the plant, TPSODL have the right to call off inspection till such time corrective action is taken by the Associate.

Before raising the call for pre-dispatch final inspection and testing, the Associate shall conduct all the tests—type tests, routine tests etc-as specified in the contract document and submit copies of the test certificates to TPSODL along with the inspection call, for scrutiny of TPSODL.

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The Associate and TPSODL shall jointly document all the observations, comments and action points after completion of inspection and it shall be binding on the Associate to provide compliance on all the points requiring compliance and furnish the compliance report to the designated authority of TPSODL for receiving clearance for dispatch of materials

11.3 Third Party Nomination

TPSODL also may nominate a third party for the purpose of carrying out the inspection and such an agency shall be entitled to all the rights and privileges of TPSODL as far as conducting the inspection.

11.4 Waiver of Inspections

TPSODL on its own discretion shall chose to waive off any inspection and ask the Associate to submit all the test reports as applicable as per contract specifications, related to inspection and testing of the goods ordered for scrutiny and clearance for dispatch.

11.5 Incorrect Inspection Call

In case it is observed that the material offered for inspection is not ready at the time of TPSODL inspection visit rendering it as futile, all costs towards such inspection shall be recovered from the BA. Taxes as applicable on such recoveries shall be borne by the BA.

12.0 MDCC & DELIVERY OF MATERIALS

12.1 Material Dispatch Clearance Certificate

Associate shall deliver material/goods/equipment against Supply Contracts or Supply Part of Composite/Service Contracts only after receiving Material Dispatch Clearance Certificate (hereafter termed as MDCC) issued by designated authority of TPSODL. Material delivered at TPSODL stores or at project site without a valid MDCC issued by the designated official of TPSODL shall be rejected. MDCC shall be issued to associate furnishing compliance report on the action points documented during pre-dispatch inspection and testing at Associate's/ Sub Associate's plant/ facility. In case Pre-dispatch inspection is waived at the discretion of TPSODL, then, MDCC shall be issued on receiving all the test reports-routine& type-from the Associate and finding them in order.

The associate shall include and provide for securely protecting and packing the materials so as to avoid loss or damage during handling and transport by air, sea, rail and road or any other means.

All such packing shall allow to the extent possible for easy removal and checking at Site. The associate shall take special precautions to prevent rusting of steel and iron parts during transit by sea. Gas seals or other materials shall be utilized by the associate for protection against moisture during transit of all Plant and Equipment.

Each Equipment or parts of Equipment shall be tagged with reference to the assembly drawings and corresponding part numbers. Each bale or package shall contain a packing note quoting specifically the name of the associate, item description, quantity, item / package identification.

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All packing cases, containers, packing and other similar materials shall be new and supplied free by the associate and it shall not be required to be returned to the associate.

Notwithstanding anything stated in this clause, the associate shall be entirely responsible for loss, damage or depreciation or deterioration to the materials and supplies due to faulty and/or insecure packing or otherwise during transportation to the Site until otherwise provided herein.

In case of the consignments dispatched by road, the associate shall ensure that it or its subcontractors:

- i) Identify and obtain the correct type of trucks/trailers, keeping in view the nature of consignments to be dispatched.
- ii) Take such actions as may be necessary to avoid all possible chances of damages during transit and to ensure that all packages are firmly secured.

Timelines for inspection and MDCC is as below:

S. No.	Inspection	MDCC issuance time including Inspection time (max.)
1	Outside Berhampur	12 days
2	Within Berhampur	5 days
3	Waiver*	3 working days

* Associate is expected to raise the inspection call assuming that Inspection shall be carried out by TPSODL. The decision for waiver of inspection shall be on sole discretion of TPSODL.

12.2 Right to Rejection on Receipt

Goods/Material/Equipment delivered in condition physically damaged & incomplete as a product ordered, or not packed and transported as per the terms and conditions of the contract is liable to be rejected. Such item shall be lifted back by Associates within 15 days from receipt of rejection note from TPSODL and have to supply back the material within next 30 days or within the timeframe mutually decided by Associate and TPSODL.

If delivery of the material is beyond the agreed time, Liquidated damage clause, mentioned in this GCC separately shall be applicable; but the period for levy of LD shall be considered as per the original delivery schedule and not from the agreed timelines for material rectification.

12.3 Consignee

Unless otherwise specified in the Contract Document/ Purchase Order/ Release Order, Materials/ Goods/ Equipment shall be consigned to "Stores-In-Charge", TPSODL, Berhampur

12.4 Submission of mandatory documents on Delivery

Following documents shall be mandatorily submitted by BA along with supply of material to TPSODL stores/site:

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S. No.	Documents	Requisite
1	Invoice copy in original	With all consignments
2	LR copy	Wherever required
3	Packing list	With all consignments
4	MDCC	With all consignments
5	Purchase order / Release order	Signed copy
6	Test certificates	With all consignments
7	Inspection/JVR report	In case pre-dispatch inspection is conducted
8	Device data in CD as per template for metering items	Wherever applicable

12.5 Dispatch and Delivery Instructions

S. No.	Instructions
1	Purchase order/ Release order no. shall be mentioned on invoice and on material
2	TPSODL material code and material description shall be mentioned in invoice and on material.
3	"Property of TPSODL" shall be embossed on material.
4	The material shall be properly sealed and packed in standard packing as per purchase order terms & conditions.
5	The weight and quantity of material shall be mentioned wherever applicable
6	The material supplied shall be co-related with the packing list.
7	The name plate detail on equipment shall include Material code, Material description, specification detail of material [as applicable], Serial No. Year of manufacturing, PO/ RO no. and date, "PROPERTY OF TPSODL, Berhampur", Guarantee period and Associate's name.
8	In case of manual unloading, supplier / transporter shall deploy sufficient Labour for unloading the material at TPSODL central store. For heavy item(s), crane will be provided by TPSODL [unloading cost will be recovered from the associate].
9	The driver should have valid License and one helper in truck. All the documents of truck like registration papers, PUC etc. should be available in Truck.
10	BA representative should accompany the material and get it unloaded / stacked in his presence wherever possible.

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13.0 GUARANTEE

13.1 Guarantee of Performance

Associates shall stand guarantee that the equipment and material supplied under the contract is free from design, manufacturing, material, construction, erection & installation and workmanship & quality defects and is capable of its due, rated and intended quality performance, as an integrated product delivered under the contract, for a specific period termed as Guarantee Period(as elaborated elsewhere in this clause). The Associate should also guarantee that the equipment/material is new and unused except for the usage required for the tests and checks required as part of quality assurance.

13.2 Guarantee Period

The Guarantee Period will be equipment/service/work specific and shall be as specified in the Standard Specifications of TPSODL for the equipment/material/service/work and where standard specifications are not part of contract documents or guarantee period is not specified in the standard specifications,, the guarantee period shall be as per the Special Terms and Conditions of the Contract. In case of no mention of the guarantee period in standard specifications or SCC Guarantee Period will be 12 Months from the Date of Commissioning or 24 months from the date of delivery of final lot of supplies made, whichever is earlier.

13.3 Failure in Guarantee Period (GP)

If the equipment and material supplied under the contract fails to perform its due, rated & intended quality performance, during the Guarantee period, the associate is liable to undertake repair/rectify/replace the equipment and material supplied within time frame specified in the SCC or elsewhere in the contract documents at associate's cost to make the equipment and material supplied/service or work rendered under the contract of performing its due, rated and intended quality performance. If Associate fails to repair/rectify/replace the equipment or material supplied rendered under the contract, failed in Guarantee Period, TPSODL will be at liberty to get the same done at Associate's risks and costs and recover all such expenses plus the TPSODL's own charges (@ 20% of expenses incurred), from the Associate or from the "Security cum Performance Deposit" as the case may be.

If during the Warranty/ Guarantee period some parts of the supplies are replaced owing to the defects/ damages under the Warranty, the Warranty period for such replaced parts shall be until the expiry of twelve months from the date of such replacement or renewal or until the end of original Guarantee period, whichever is later.

Any repairs during the Guarantee Period shall be carried out by the Associate within 30 days of reporting the issue to Associate by TPSODL. However, if replacement of the Equipment is required, Associate shall notify the same to TPSODL within 7 days of reporting the issue by TPSODL. Thereafter, the total time for supply of new equipment/ material shall be equal to the original delivery period of that equipment/ material as specified in the Contract. In case the Associate is not able to

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rectify/ replace the faulty equipment/ material within the stipulated timelines as mentioned above, penalty shall be levied as per the Liquidated Damages clause mentioned in this document. The penalty amount shall be recovered from the payment due to the vendor or by encashment of the SPBG as the case may be.

13.4 Cost of repairs on failure in GP

The cost of repairs/rectification/replacement, required transportation, site inspection /mobilization/dismantling and re-installation costs as applicable, to be borne by Associate. The Associate has to ensure that the interruption in the usage of intended purpose of the equipment is minimized to the maximum extent In lieu of the time taken for repairs/rectification/replacement.

13.5 Guarantee period for Goods Outsourced

If the Associate outsources partly equipment/materials/services from third party as mutually agreed upon at the pre award stage of contract, TPSODL shall have the benefit of any additional guarantee period if provided by the third party for the part supplied/executed by them.

13.6 Latent Defect

Hidden defects in manufacturing or design of the product supplied and which could not be identified by the tests conducted but later manifested during operation of the equipment are termed as latent defects. Associates shall further be responsible for 'free replacement' for another period of THREE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Company.

13.7 Support beyond the Guarantee Period

The Associate shall ensure availability of spares and necessary support for a period of atleast 10 years post completion of guarantee period of equipment supplied against the contract.

14.0 LIQUIDATED DAMAGES

- a) For supplies which are of standalone use, multiple in quantities and having a single final delivery schedule, Liquidated damages shall be levied without prejudice to any of the other contractual rights of TPSODL, as described below:

For delay of each week and part thereof from the delivery schedule specified in the contract, 1% of contract value corresponding to undelivered quantity, provided full quantity is supplied within 130% of the original contract time. If full contractual quantity is not delivered within 130% of contract time for delivery, TPSODL has the right to levy LD on the entire contract value, subject to a maximum of 10% of the total contract value.

- b) For Supplies having phased delivery schedule as per contract terms, standalone use and multiple in quantities, Liquidated damages shall be levied without prejudice to any of the other contractual rights of TPSODL, as described below:

For the purpose of calculating and applying LD, each delivery lot shall be considered separately. For delay of each week and part thereof, from the delivery schedule specified for the lot, 1% of the

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contract value corresponding to the undelivered quantity of the lot subject to a maximum of 10% of the total contract value of the subject lot. However, if full contractual quantity is not delivered within 130% of contract time for delivery, TPSODL has the right to levy LD on the entire contract value, subject to a maximum of 10% of the total contract value. Deduction of LD shall be on landed cost i.e contract value inclusive of taxes and in pursuant statutory compliance GST would be applicable at the stipulated rate and the same shall be borne by Business Associate. In case of LD deduction, a GST invoice shall be issued by TPSODL as a proof of deduction/ recovery.

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14.1 LD Waiver Request

Any request of LD waiver shall be submitted within thirty (30) days of deducting LD. Request submitted beyond the timeline shall not be entertained.

15.0 UNLAWFUL ACTIVITIES

The Associate shall have to ensure that none of its employees are engaged in any unlawful activities (whether covered under the scope of the present GCC or not) subversive of the TPSODL's interest failing which appropriate action (legal or otherwise) may be taken against the Associate by the TPSODL, in accordance with the terms of the present GCC.

16.0 CONFIDENTIALITY

Associate and its employees or representatives thereof shall strictly maintain the confidentiality of various information they come across while executing the contract as detailed below.

16.1 Documents

All maps, plans, drawings, specifications, schemes and other documents or information related to the Contract/Project and the subject matter contained therein and all other information given to the Associate by the TPSODL in connection with the performance of the contract shall be held confidential by the Associate and shall remain the property of the TPSODL and shall not be used or disclosed to third parties by the Associate for any purpose other than for which they have been supplied or prepared. The Associate may disclose to third parties, upon execution of confidentiality agreements, such part of the drawings, specifications or information if such disclosure is necessary for the performance of the Work provided such third parties agree in writing to keep such information confidential to the same extent and degree as provided herein, for the benefit of the TPSODL.

16.2 Geographical Data

Maps, layouts and photographs of the unit/plant including its surrounding regions showing vital installation for national security of country or those of TPSODL shall not be published or disclosed to the third parties or taken out of the country without prior written approval of the TPSODL and upon execution of confidentiality agreements satisfactory to the TPSODL with such third parties prior to disclosure.

16.3 Associate's Processes

Title to secret processes if any developed by the Associate on an exclusive basis and employed in the design of the equipment shall remain with the Associate. TPSODL shall hold in confidence such processes and shall not disclose such processes to the third parties without prior approval of the Associate and execution by such third parties of secrecy agreements satisfactory to the Associate prior to disclosure. Upon completion of contract, such processes shall become the property of the TPSODL. Title to technical specifications, drawings, flow sheets, norms, calculations, diagrams, interpretations of test results, schematics, layouts and such other information, which the Associate has supplied to the TPSODL under the Contract shall be passed on to the TPSODL. The TPSODL

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shall have the right to use these for construction, erection, start-up, Trial Run, operation, maintenance, modifications and/or expansion of the works including for the manufacture of spare parts.

16.4 Exclusions

The provision of Clauses 16.1 to 16.3 shall not apply to information:

- Which at the time of disclosure are in the public domain which later on become part of public domain through no fault of the party concerned, or
- Which were in the possession of the party concerned prior to disclosure to him by the other party, or
- Which were received by the party concerned after the time of disclosure without restriction on disclosure or use, from a third party who did not acquire such information directly or indirectly from the other party or has no obligation of confidentiality for such information.

16.5 Violation

In case of violation of this clause, the Associate is liable to pay compensation and damages as may be determined by the competent authority of TPSODL.

17.0 INTELLECTUAL PROPERTY RIGHTS

If, in the course of performance of its functions and duties as envisaged by the scope of the present GCC, the Associate acquires or develops, any unique knowledge or information which would be covered, or, is likely to be covered within the definition of a trademark, copyright, patent, business secret, geographical indication or any other form of intellectual property right, it shall be obliged, under the terms of this present GCC, to share such knowledge or information with the TPSODL. All rights, with respect to, or arising from such intellectual property, as afore mentioned, shall solely vest in TPSODL.

Moreover, the Associate undertakes not to breach any intellectual property right vesting in a third party/parties, whether by breach of statutory provision, passing off, or otherwise. In the event of any such breach, the Associate shall be wholly liable to compensate, indemnify or make good any loss suffered by such third party/parties, or any compensation/damages arising from any legal proceeding/s, or otherwise. No liability of TPSODL shall arise in this respect, and any costs, damages, expenses, compensation payable by TPSODL in this regard to a third party/parties, arising from a legal proceeding/s or otherwise, shall be recoverable from the Associate.

18.0 INDEMNITY

The Associate shall at all times indemnify, keep indemnified and hold harmless the TPSODL and its officers, directors, employees, affiliates, agents, successors and assigns against all actions, claims, demands, costs, charges and expenses arising from or incurred by reason of any infringement of patent, trade mark, registered design, copy rights and/or industrial property rights by manufacture, sale or use of the equipment supplied by the Associate whether or not the TPSODL is held liable for

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by any court judgement. In this connection, the TPSODL shall pass on all claims made against him to the Associate for settlement.

The Associate assumes responsibility for and shall indemnify and save harmless the TPSODL from all liability, claims, costs, expenses, taxes and assessments including penalties, punitive damages, attorney's fees and court costs which are or may be required to be paid by the TPSODL and its officers, directors, employees, affiliates, agents, successors and assigns arising from any breach of the Associate's obligations under the Contract or for which the Associate has assumed responsibilities under the Contract including those imposed under any local or national law or laws, or in respect to all salaries, wages or other compensation for all persons employed by the Associate or his Sub-Associates or suppliers in connection with the performance of any work covered by the Contract. The Associate shall execute, deliver and shall cause his Sub-Associate and suppliers to execute and deliver, such other further instruments and to comply with all the requirements of such laws and regulation as may be necessary there under to conform and effectuate the Contract and to protect the TPSODL.

The TPSODL shall not be held responsible for any accident or damages incurred or claims arising, due to the Associate's error there from prior to completion of work. The Associate shall be liable for such accidents and after completion of work for such accidents as the case may be due to negligence on his part to carry out Work in accordance with Indian laws and regulations and the specifications set forth herein.

19.0 LIABILITY & LIMITATIONS

19.1 Liability

Except for any specific liability which may be identified in the Contract and which may be payable hereunder, Associate shall not be liable for any special, incidental, indirect, or consequential Damages or any loss of business Contracts, revenues or other financial loss (or equivalents thereof no matter how claimed, computed or characterized) arising out of or in connection with the Performance of the Work or supply of Goods ***unless caused by Associate's negligence, willful misconduct or breach of contract.***

If the Associate is a joint venture or consortium, all concerned parties shall be jointly and severally bound to the TPSODL for the fulfillment of the provisions of the Contract. The consortium or the joint venture shall designate one party as their leader, who will be the coordinator between the parties and TPSODL. The constituents & leader of the consortium or joint venture shall not be changed without the prior consent of TPSODL.

TPSODL shall have no liability or any special, incidental, indirect or consequential Damages for any loss of Business Contracts, revenues or other financial loss arising out of this Contract.

19.2 Limitation of Liability

The total liability of Associate against any contract shall be limited to the Total All Inclusive Contract Value.

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20.0 FORCE MAJEURE

Force Majeure applies if the performance by either Party ("the Affected Party") of its obligations under Contract is materially and adversely affected.

"Force Majeure" shall mean any event or circumstance or combination of events or circumstances referred below and their consequences that wholly or partly prevents or unavoidably delays any Party in the performance of its obligations under this Agreement, but only and to the extent that such events and circumstances are not within the reasonable control, directly or indirectly, of the Affected Party and could not have been avoided even if the Affected Party had taken reasonable care:

- Act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, embargo, blockade, revolution, riot, bombs, religious strife or civil commotion, etc.
- Politically motivated sabotage, or terrorism, etc.
- Action or Act of Government or Governmental agency for which remedy is beyond the control of the affected parties.
- Any act of God.

Note: Causes like power breakdown/ shortages/fire/strikes, accidents etc do not fall under Force Majeure.

Time being the essence of the Contract, if either party is prevented from the performance of its obligations in whole or in part due to an event of Force Majeure, then provided Notice of happening of any event by the Affected Party is given to the other party within seven (7) days from the date of occurrence of such event, which DIRECTLY has impact on works and submitted details and quantum of resulting effect, but at the same time had made all possible efforts to mitigate and overcome effects thereof, the Affected Party's performance under this Contract shall be suspended until such event ceases and the Scheduled Completion shall be delayed accordingly.

If Force Majeure event(s) continue for a period of more than three months, the parties shall hold consultation to discuss the further course of action.

Neither party shall be considered to be in default or in breach of its obligation under the Contract to the extent that performance of such obligation by either party is prevented by any circumstances of Force Majeure which arise after effective date of Contract.

Neither party can claim any compensation from the other party on account of Force Majeure.

21.0 SUSPENSION OF CONTRACT

21.1 Suspension for Convenience

TPSODL may, at any time and at its sole option, suspend execution of all or any portions of the schedule of items of contract to be supplied/work to executed by Associate under the contract by providing to the Associate at least two business days written notice for contracts having contract

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completion period less than sixty days and at least seven business days' notice for all other contracts.

Upon receipt of any such notice, the Associate shall respond as follows as applicable as per contract construction.

- Immediately discontinue further supply of material/goods specified in the suspension notice for supply contracts
- Immediately discontinue further service/work and supply of materials of those services/materials/work specified in the suspension notice for service /composite contract
- Promptly make every reasonable effort to obtain suspension, upon terms satisfactory to TPSODL, of all orders, outsourcing arrangements, and rental Contracts to the extent that they relate to performance of the portion of Work suspended by the notice.
- Protect and maintain the portion of the service/Work already completed, including the portion of the Work suspended hereunder, unless otherwise specifically stated in the notice.
- Continue delivering/carrying out the supply/service/work items as per contract conditions, which do not fall under purview of the suspension notice.

On receipt of resumption notice from TPSODL, the Associate shall resume execution of contract as specified in the resumption notice, within the time frame specified in the resumption notice.

21.2 Suspension for Breach of Contract conditions.

TPSODL shall suspend execution of whole/or part thereof the contract till such time Associate complies with the conditions stipulated under section clause 22.1 for breach/default of contract conditions.

21.3 Compensation in lieu of Suspension

If the suspension of the contract in whole or in part is for convenience of TPSODL and not due to any breach of contract conditions by the associate, TPSODL at its discretion shall consider compensating all reasonable additional costs incurred by Associate in lieu of suspension of whole or part of contract, on representation of the Associate providing justified estimates of such additional costs and such estimates are found acceptable and approved by competent authority of TPSODL.

If the suspension of contract in whole or part thereof is due to breach of contract conditions (refer clause 22.1) by the Associate, Associate shall not be entitled for any compensation for any cost incurred in lieu of suspension of whole or part of contract and also shall be liable for compensating all the losses arising to TPSODL in lieu of suspension of contract. Resumption notice shall be subject to the Associate taking corrective action for the breach of contract conditions within the time frame and as per the terms specified in the suspension notice.

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22 TERMINATION OF CONTRACT

22.1 Termination for Default/Breach of Contract

The contract / PO /RC shall be subject to termination by TPSODL in case of breach of the contract by the Associate which shall include but not be limited to the following:

- a. Withdrawal or intimation by the Associate of its intent to withdraw or surrender the execution / completion of the contracted work /PO or failure in ensuring adherence to any delivery schedules, in deviation of the contract/PO.
- b. Refusal or neglect on the part of the Associate to supply material/equipment of quantity or quality as specified by TPSODL and within the timeframe as specified in the contract document or refusal or neglect to execute the services/work in terms of the agreed standards of quantity or quality and/or within the timeframe specified in the contract/PO.
- c. Failure in any respect to perform any portion of the Work contracted with promptness, diligence, or in accordance with the terms of the contract.
- d. Failure to furnish guarantees as specified and /or failure to comply with the terms thereof.
- e. Failure to furnish such relevant documents or information within the time specified which may be necessary for due execution / completion of the works and documentation.
- f. Liquidation, bankruptcy either voluntary or involuntary OR entering into any composition or compromise with its creditors, or Insolvency.
- g. In case any reasonable information has been received by TPSODL that Associate has adopted/ or attempted to adopt any unethical conduct, action in award of the contract /PO or at any time thereafter.
- h. Failure to comply with applicable statutory provisions as contained in the contract or failure to comply with the applicable laws.
- i. Failure to comply with safety regulations/clauses stipulated in the contract or as may be generally instructed by TPSODL.

If the default or breach as specified under clause 22 (except sub clause g thereof) be committed by the associate for the first time, TPSODL shall issue, along the with notice of default or breach, a warning notice instructing the associate to take remedial/corrective action within the time frame stipulated in the warning notice and not to repeat the same in future. The timeframe for corrective action by the associate shall be specific to the nature of breach of contract and the same shall not be objected to by the Associate. If the Associate fails to comply with the instructions in the warning notice or in taking corrective action to the satisfaction of TPSODL then TPSODL may terminate the entire or part of contract at its discretion by issuing termination notice without incurring any liability on this ground.

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In case the contract is terminated for any breach of the nature specified in clause 22 g stated above, TPSODL shall have the right to terminate all the contracts TPSODL is having with the Associate by issuing termination notice which shall be without prejudice to the other rights of TPSODL available to it under law.

Without prejudice to its right to terminate for breach of contract, TPSODL may, without assigning any reason, terminate the Contract in whole or in part at any time at its discretion while the contract is in force by serving a written notice of two weeks to the Associate.

In the event of TPSODL having proceeded with termination of the contract the associate shall comply and proceed further in the following manner:

- a) Associate shall discontinue the supply, on the expiry of the said period of two weeks.
- b) Associate shall ensure that no further steps are being taken towards discharge of the obligations, terms and conditions as contained in the contract/PO. This shall include initiation of actions not limited to discontinuation of other allied and associated arrangements which the associate might have entered into with third parties for due discharge of its obligations under the contract with TPSODL.
- c) The Associate shall perform thereafter such tasks as may be necessary to preserve and protect the terminated portion of the material/service/work in progress and the materials and equipment at TPSODL sites or in transit thereto. However the associate shall continue to fulfill its contractual obligations with regard to the part of contract not terminated.
- d) It shall be open for TPSODL to conduct a joint assessment with the associate of the material, supplies, equipment, works or in general as to the subject matter of the contract in regard to which the associate claims having completed its obligations before or during such termination.
- e) It shall be open to TPSODL to seek invocation of the performance bank guarantee or any other guarantee or other security deposit by whatever name called submitted by the associate, which shall not be objected to or protested against by the associate.

In case of termination of the contract the parties agree to be governed inter alia by the following:

- a) In case TPSODL exercises its right of termination as stated above the associate shall not dispute or object to the same.
- b) The Associate shall be entitled to receive and claim only such payments OR sums of money from TPSODL as may be found payable to it in regard to works executed by it under the terms of the contract and no other claim of any nature whatsoever shall be made by the Associate.
- c) All such provisions which the parties have agreed to survive and prevail even after termination of the contract shall remain effective despite the termination.

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In the event of such termination, TPSODL may finish the Work by whatever method it may deem expedient, including the hiring of services and /or purchase of material equipment from such third parties as TPSODL may deem fit or may itself provide any labor or materials and perform any part of the Work. The associate undertakes to bear the incremental costs if any paid by TPSODL in such a case attributable to failure on the part of the associate. The Associate in such a case shall not be entitled to receive any further payments and any sums found payable to it may be adjusted by TPSODL against the amount recoverable from him on this ground. The same shall be without prejudice to other rights available to TPSODL under law against the associate.

Upon the termination of any of the contract due to occurrence of any circumstances provided in clauses stated above and constituting repeated breach or misconduct, TPSODL shall be entitled to bar the associates its agents, affiliates from undertaking any negotiation / tendering, bidding, participation activities concerning TPSODL for a period of two years from date of such termination. The same shall be without prejudice to other rights available to TPSODL.

22.2 Termination for Convenience of Associate

Associate at its convenience may request for termination of contract, clearly assigning the reason for such request. TPSODL has full right to accept, reject or partially accept such request. However, associate shall continue its supply as per contract till final approval is given to associates for such termination.

22.3 Termination for Convenience of TPSODL

TPSODL at its sole discretion may terminate the contract by giving 30 days prior notice in writing or through email to the Associate. TPSODL shall pay the Associate for all the supplies/ services rendered till the actual date of contract termination against submission of invoice by the Associate to that effect.

23.0 DISPUTE RESOLUTION & ARBITRATION

In case of any dispute or difference the parties shall endeavour to resolve the same through conciliatory and amicable measures within 15 Days failing which the matter may be referred by either party for resolution by the sole arbitrator to be appointed mutually by both the parties. The arbitral proceedings shall be conducted in accordance with Arbitration and Conciliation Act 1996 and the place of arbitration shall be Bhubaneswar. The language to be used at proceedings shall be English and the award of the arbitrator shall be final and binding on the parties. The parties shall bear their respective costs of arbitration. The associate shall continue to discharge its obligations towards due performance of the works as per the terms of the contract during the arbitration proceedings unless otherwise directed in writing by TPSODL or suspended by the arbitrator. Further, TPSODL shall continue making such payments as may be found due and payable to the associate for such works.

23.1 Governing Laws and Jurisdiction

The parties shall be subject to the jurisdiction of the courts of law in Berhampur and any matter arising here from shall be subject to applicable law in force in India.

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24.0 ATTRIBUTES OF GCC

24.1 Cancellation

The Company reserves the right to cancel, add, delete at its sole discretion, all or any terms of this GCC or any contract, order or terms agreed between the parties in pursuance without assigning any reasons and without any compensation to the Associates.

24.2 Severability

If any portion of this GCC is held to be void, invalid, or otherwise unenforceable, in whole or part, the remaining portions of this GCC shall remain in effect.

24.3 Order of Priority

In case of any discrepancies between the stipulations in General Conditions of the Contract (GCC) and Special Conditions of Contract (SCC), the GCC shall stand superseded by the SCC to the extent stipulated hereinabove while balance portion of respective clauses of GCC shall continue to be applicable.

25.0 ERRORS AND OMISSIONS

The Associate shall be responsible for all discrepancies, errors and omissions in the drawings, documents or other information submitted by him, irrespective of whether these have been approved, reviewed or otherwise accepted by the TPSODL or not. However any error in design/drawing arising out of any incorrect data/written information from TPSODL will not be considered as error and omissions on part of the Associate.

26.0 TRANSFER OF TITLES

The title of ownership and property to all equipment, materials, drawings & documents shall pass to the TPSODL on acceptance of material by store/site after Inspection.

However, such passing of title of ownership and property to the TPSODL shall not in any way absolve, dilute or diminish the responsibility and obligations of the Associate under this Contract including loss or damages and all risks, which shall vest with the Associate.

27.0 INSURANCE

The Contractor (BA) shall take out the Insurance Policies which shall cover all risks including the following, as applicable:-

- a) The value of the policy shall cover the total value of all the items till they are handed over to TPSODL.
- b) TPSODL shall be the principal holder of the policy. The Associate shall be the loss payee under the policy. Associate / Sub-contractor of the Associate shall not be holders or beneficiaries in the policy nor shall they be named in the policy. TPSODL reserves the exclusive right to assign the policy.

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- c) While the payment of premium may be phased in agreement with the insurance company, at no time shall goods and services required to be provided by the associate shall remain uninsured in accordance with (a) above.
- d) A copy of the Insurance policy shall be made available to TPSODL prior to first dispatch lot of any Equipment and policy shall be kept alive and valid at all times up to the stage of final acceptance.
- e) TPSODL reserves the right to take out whatever policy that is deemed necessary by him if the associate fails to keep the said policy alive and valid at all times and/or causes lapses in payment of premium thereby jeopardizing the said policy. The cost of such policy(s) shall be recovered / deducted from the amount payable to the associate.
- f) The policy shall ensure that the TPSODL's decision regarding replacement of goods damaged, lost or rendered unusable shall be final.

In all cases, the associate shall lodge the claims with the underwriters and also settle the claims and shall also notify TPSODL of any filed claims. However, the associate shall proceed with the repairs and/or replacement of the equipment/components without waiting for the settlement of the claims. In case of seizure of materials by concerned authorities, the associate shall arrange prompt release against bond, security or cash as required. TPSODL, upon request by the associate, will extend all reasonable assistance to the associate in such a case.

All the insurance claims shall be processed and settled by the associate and the missing/damaged items shall be replaced/repared by them without any extra cost to TPSODL and without affecting the completion time.

28.0 SUGGESTIONS & FEEDBACK

We welcome all our Business Associates to write to us about their experience with TPSODL; be it our Company, our services or our people. Each and every concern, issue, query and suggestion from you will help us to become a better company to work with and shall help us develop a strong bonding of trust and a long term relationship with you.

You may send your feedback by filling up our Business Associate Feedback Form enclosed herewith as *Annexure-E*. You can also log on to our website www.tpsouthernodisha.com to provide your feedback.

- Suggestions for us
- Feedback form
- Knowledge Sharing/ Experience with TPSODL
- Any issues with TPSODL.

Submission of feedback form is mandatory before the release of final payment to the BA.

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29.0 CONTACT POINTS

In case Business Associate needs information with respect to payments or has any grievances, same may be lodged by log on to our website www.tpsouthernodisha.com

30.0 LIST OF ANNEXURES

S. No.	Subject	Annexure
1.	Performa for Bid Security Bank Guarantee	A
2.	Performa for Performance Bank Guarantee (CP cum EP)	B
3.	Performa for No Demand Certificate by Associate	C
4.	Performa For Application For Issuance of Consolidated TDS Certificate	D
5.	Business Associate Feedback Form	E
6.	Acceptance Form For Participation In Reverse Auction Event	F
7.	Form for RTGS Payment	G
8.	Vendor Appraisal Form	H
9.	Manufacturer Authorization Form	I

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ANNEXURE-A

PROFORMA FOR BID SECURITY BANK GUARANTEE

**The TP Southern Odisha Distribution Limited
Berhampur**

WHEREAS, (Name of the Bidder) _____
(hereinafter called "the BIDDER") has submitted his bid dated _____ for the (Name of Contract) _____ (hereinafter called "the BID").

KNOW ALL men by these presents we (Name of the Bank) _____ of (Name of the Country) _____ having our registered office at _____ (hereinafter called "the BANK") are bound unto The TP Southern Odisha Distribution Limited (TPSODL) in the sum of _____ for which payment well and truly to be made to the TPSODL the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20____.

The CONDITIONS of this obligation are:

- i) If the Bidder withdraws his Bid during the period of bid validity specified in the Proforma of Bid or
- ii) If the Bidder having been notified of the acceptance of his Bid by the TPSODL during the period of bid validity fails or refuses to furnish the Contract Performance Bank Guarantee, in accordance with the Instructions to Bidders.

We undertake to pay the TPSODL upto the above amount upon receipt of its first written demand, provided that in its demand the TPSODL will note that amount claimed by it is due to it owing to the occurrence of one or both conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force upto and including the date (No of days as mentioned in tender enquiry) days after the closing date of submission of bids as stated in the Invitation to Bid or as extended by you at any time prior to this date, notice of which extension to the Bank being hereby waived, and any demand in respect thereof should reach the Bank not later than the above date.

DATE **SIGNATURE OF THE BANK**

WITNESS **SEAL**

(Signature, Name & Address) (At least 2 witnesses)

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ANNEXURE- B

PROFORMA FOR PERFORMANCE BANK GUARANTEE (CP cum EP)

(On Rs.100/- Stamp Paper) Note:

- a) Format shall be followed in toto
- b) Claim period of one month must be kept up
- c) The guarantee to be accompanied by the covering letter from the bank confirming the signature to the guarantee

**The TP Central Odisha Distribution Limited
Berhampur**

CP cum EP BG No.....

Order/Contract No.....dated.....

1. You have entered into a Contract No _____ with M/s. _____
(hereinafter referred to as "the Vendor"/ 'BA')) for the supply of _____
(hereinafter referred to as "the said Equipment") for the price and on the terms and conditions contained in the said contract.
2. In accordance with the terms of the said contract, "the Vendor" agreed to furnish you with an irrevocable, unconditional and acceptable bank guarantee for _____% of the value of contract and to be valid till the end of Guarantee period plus one month towards "Contract cum Equipment performance". For this purpose you have agreed to accept the guarantee.
3. In consideration thereof, we, _____ hereby irrevocably and unconditionally guarantee to pay to you on demand but in any case before the end of five working days from the date of the claim and without demur and without reference to "the Vendor" such amount or amounts not exceeding the sum of
Rs. _____ (Rupees _____ only) being _____%
(_____ percent) of the total value of the contract on receipt of your intimating that "the Vendor" has not fulfilled his contractual obligations. You shall be the sole judge for such non-fulfillment and "the Vendor" shall have no right to question such judgment.
4. You shall have the right to file / make your claim on us under the guarantee for a **further period of one month** from the date of expiry.
5. This guarantee shall not be revoked without express consent and shall not be affected by your granting time or any other indulgence to "the Vendor", which shall include but not be limited to, postponement from time to time of the exercise the same in you or any right which you may have against "the Vendor" and to exercise the same in any covenant contained or implied in the said contract or any other course or remedy or security available to you, and our Bank shall not be released from its obligations under this guarantee by your exercising any of your rights with

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reference to matters aforesaid or any of them or by reasons of any other act or forbearance or other acts of omission or commission on your part or any other indulgence shown by you or by any other matter or thing whatsoever which under the law would, but for this provision have the effect of relieving our bank from its obligation under this guarantee.

6. We also agree that you shall be entitled at your option to enforce this guarantee against our bank as a principal debtor, in the first instance, notwithstanding any other security or guarantee that you may have in relation to "the Vendor's" liabilities in respect of the premises
7. This guarantee shall not be affected by any change in the constitution of our Bank or "the Vendor" or for any other reason whatsoever.
8. Any claim / extension under the guarantee can be lodge-able at Berhampur branch of the bank. However, in specific scenario, where Treasury Branch of the bank is not available at Berhampur, then any claim / extension under the guarantee can be lodge-able at Bhubaneswar branch of the bank.
9. Notwithstanding anything herein contained, our liability under this guarantee is limited to Rs. _____ (Rupees _____) only and the guarantee will remain in force upto and including _____ (Date) and shall be extended from time to time for such period or period as may be desired by "the Vendor".
10. Unless a demand or claim under this guarantee is received by us in writing within one months from _____ (expiry date) i.e. on or before _____ (claim period end date), we shall be discharged from all liabilities under this guarantee thereafter.

Dated at _____ this _____ day of _____ 20__

Bank's rubber stamp

1. Banks full address

Designation of Signatory

2. Bank official number

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ANNEXURE-C

PROFORMA FOR “NO DEMAND CERTIFICATE” BY ASSOCIATE

(On Company's Letter head or with Company Seal)

(To be submitted by the Associate to TPSODL Accounts Department at the time of receipt of full and final payment)

(Certificate No. CCP/002)

Name of the Project Order/

Contract No.

Dated

Name of the Associate Scheme

No. / Job No.

We, M/s. _____ (Associate) do hereby acknowledge and confirm that we have received the full and final payment due and payable to us from TPSODL, in respect of our aforesaid Order No _____ dated _____ including amendments, if any, issued by TPSODL to our entire satisfaction and we further confirm that we have no claim whatsoever pending with TPSODL under the said contract / W.O.

Notwithstanding any protest recorded by us in any correspondence, documents, measurement books and / or final bills etc., we waive all our rights to lodge any claim or protest in future under this contract.

We are issuing this “NO DEMAND CERTIFICATE” in favour of TPSODL, with full knowledge and with our free consent without any undue influence, misrepresentation, coercion etc.

Place

Name

(Company Seal)

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ANNEXURE-D

**PROFORMA FOR APPLICATION FOR ISSUANCE OF CONSOLIDATED TDS
CERTIFICATE**

To be printed on the letterhead

To,

The TP Southern Odisha Distribution Limited,

Berhampur

Sub: Application for issuance of Consolidated TDS Certificate for the FY _____

Dear Sir,

I / we hereby request / authorize you to issue me / us a consolidate TDS Certificate for the financial year _____ against tax deducted at source by you from my / our payments / bills during the said year from time to time under Chapter XVII – B of the Income Tax Act, 1961. For and on behalf of

Signature

Name

Address

Contact No. (Land Line)

(Mobile)

PAN #

Assessing authority

ATTACH THE COPY OF PAN CARD

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ANNEXURE-E

BUSINESS ASSOCIATE FEEDBACK FORM

With an objective to improve our internal processes and systems, and serve you better, we solicit your valuable feedback & suggestions. It is estimated that it will take about 10 minutes to complete this survey. We assure you that your feedback shall be kept confidential. Please send the duly filled feedback form in the "TPSODL addressed - attached envelop"

You are associated with us as

☐ OEMs ☐ Service Contractor ☐ Material Suppliers ☐ Material & Manpower Supplier

You are associated with us for

☐ Less than 1 year ☐ More than 1 year but less than 3 years ☐ More than 3 years

Your office is located at

☐ Berhampur ☐ Within 200 kms from Berhampur ☐ More than 200 kms from Berhampur

Your nearly turnover with TPSODL

☐ Less than 25 Lacs ☐ 25 Lacs to 1 Crore ☐ More than 1 Cr.

Additional Information

Your Name	
Your Designation	
Your Organization	
Contact Nos.	
Email	

We once again thank you for your participation in this survey. Please spare 10 minutes to give your feedback on following pages (Section A to E)

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SECTION – A

(Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement).

S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
		Do Not Agree	Slightly in Agreement	In Fair Agreement	Mostly in Agreement	Fully Agree	
1	You receive all relevant queries / tenders from us in timely manner.						
2	We provide you enough lead time to respond to our queries / tenders.						
3	We provide you adequate support (drawings, documents, clarifications, briefing etc.) to enable you meet our requirements.						
4	All following elements of our contract / purchase order are rational :						
4.1	Scope of Work						
4.2	Delivery / Execution Schedule						
4.3	Payment Terms						
4.4	Liquidated Damages						
4.5	Performance Guarantee						
5	Our purchase orders / contracts are simple, specific & easy to understand						
6	TPSODL demonstrate willingness to be flexible in administration of Contract / Purchase Order						
7	We provide timely responses / clarifications to your queries						
8	TPSODL representative you interact / coordinate with is adequately empowered to support you in meeting contractual obligations						
9	TPSODL provide you all necessary infrastructure support for timely and quality completion of work (including AMC)						
10	TPSODL Engineer-in-Charge timely certifies the jobs executed/ material supplied						
11	TPSODL Engineer-in-Charge efficiently supervises the job execution for timely completion of job						
12	BIRD (Bill Inward Receipt Desk) initiative has improved payment disbursement process* (under development)						

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S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
		Do Not Agree	Slightly in Agreement	In Fair Agreement	Mostly in Agreement	Fully Agree	
13	Our approach for Inspection and Quality Assurance effective to expedite project completion?						
14	TPSODL never defaults on contractual terms						
15	In TPSODL Contracts closure is done within set time limit						
16	Our material receiving procedures are well defined and efficiently deployed to reduce mutual inconvenience						
17	Bank Guarantees are released in time bound manner						
18	Our processes related to payment / account settlement are effective.						
19	You get payments on time						
20	TPSODL Employees follow Ethical behaviour						

SECTION – B

SECTION – B (Please rate the following parameters on a scale of 1 to 5, where 1 - Minimum; 5 - Maximum)

S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
1	How do you rate courtesy/ empathy/ attitude level and warmth of TPSODL employees you interact with from following team?						
1.1	Project Engineering						
1.2	District / Zones						
1.3	Projects/HOG (TS &P)						
1.4	Inspection & Quality Assurance						
1.5	Stores						
1.6	Metering & Billing						
1.7	Accounts / Finance						
1.8	Administration						
1.9	IT & Automation						
2	How would you rate TPSODL in comparison						

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	to your other clients in terms of fairness of treatment and transparency with its Business Associates?						
3	How would you rate TPSODL in comparison to your other clients in terms of processes and systems to manage partnership with its Business Associates						
4	How would you rate TPSODL in comparison to your other clients in terms of building long term & mutually relationship with its Business Associates						

SECTION – C

Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement.

S. No.	Parameters	Certainly No	Probably No	Certainly Yes	Probably Yes	Remarks/ Suggestion
1	Based on your experience with TPSODL, would you like to continue your relationship with TPSODL?					
2	If someone asks you about TPSODL, would you talk “positively” about TPSODL?					
3	Would you refer TPSODL name to others in your community, fraternity and society as a professional & dynamic organization?					

SECTION - D

If we ask you to rate us on a scale of 1 to 10, how will you rate TPSODL, that truly represents your overall satisfaction with us (please tick appropriate box) -

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

SECTION – E

Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement.

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Please spare your thoughts for TPSODL's improvement in particular areas of weaknesses, particularly relating to some great practices, attitudes that you have seen elsewhere in Indian and International Organizations, which you recommend TPSODL to adopt. Please give your valuable salient recommendations.

Please spare your thoughts for TPSODL's improvement in particular areas of major concerns for you. We also welcome your suggestions to adopt any best practices, altitudes that you

Recommendation	Please tick (✓) your top 5 expectations out of the following 10 points listed below -	
(Please list down improvement you expect from TPSODL)	Timely payment	
1	Flexibility in Contracts/PO	
	Clarity in PO,s & Contracts	
2	Timely response to quarries	
	Timely certification of works executed	
3	Clarity in Specs, drawings, other docs etc.	
	Adequate information provided on website for tender notification, parties qualified etc.	
4	Timely receipt of material at site for execution	
	Performance Guarantee/EMD released in time	
5	Inspection & quality assurance support for timely job completion	

We thank you for your time and courtesy!!

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ANNEXURE-F

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder prior to participation in the auction event)

In a bid to make our entire procurement process more fair and transparent, TPSODL intends to use the reverse auctions through SAP-SRM tool as an integral part of the entire tendering process. All the bidders who are found as technically qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

The following terms and conditions are deemed as accepted by the bidder on participation in the bid event:

1. TPSODL shall provide the user id and password to the authorized representative of the bidder. (Authorization Letter in lieu of the same shall be submitted along with the signed and stamped Acceptance Form).
2. TPSODL will make every effort to make the bid process transparent. However, the award decision by TPSODL would be final and binding on the supplier.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of TPSODL, bid process, bid technology, bid documentation and bid details.
4. The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.
5. In case of bidding through Internet medium, bidders are further advised to ensure availability of the entire infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitch, internet response issues, software or hardware hangs, power failure or any other reason shall not be the responsibility of TPSODL.
6. In case of intranet medium, TPSODL shall provide the infrastructure to bidders. Further, TPSODL has sole discretion to extend or restart the auction event in case of any glitches in infrastructure observed which has restricted the bidders to submit the bids to ensure fair & transparent competitive bidding. In case an auction event is restarted, the best bid as already available in the system shall become the start price for the new auction.
7. In case the bidder fails to participate in the auction event due any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be out rightly rejected by TPSODL.
8. The bidder shall be prepared with competitive price quotes on the day of the bidding event.
9. The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR at TPSODL site.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder.
11. No requests for time extension of the auction event shall be considered by TPSODL.
12. The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all inclusive prices offered during conclusion of the auction event for arriving at Contract amount.

Signature & Seal of the Bidder

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Name of the Authorized Signatory: _____ :

Contact Person's Name:

Official Correspondence Address:

We confirm that we will bear the charges, if any, levied by our bank for the credit of NEFT/RTGS amounts in our account. Any change in above furnished information shall be informed to TPSODL well in time at our own. Further, we kept TPSODL indemnified for any loss incurred due to wrong furnishing of above information.

Thanking you,

For _____

(Authorised Signatory)

(Signature with Rubber Stamp)

Certification from Bank:

We confirm that we are enabled for receiving NEFT/RTGS credits and we further confirm that the account number (specify Bank a/c no.) of (Please mention here name of the account holder), the signature of the authorised signatory and the MICR and IFSC Code of our branch mentioned above are correct.

This also is certified that the above information is correct as per Bank record

(Manager's/ Officers Signature under Bank Stamp)

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ANNEXURE-H
VENDOR APPRAISAL FORM

TO BE SUBMITTED BY VENDOR (To be filled as applicable)			
VENDOR:			
1.0	DETAILS OF THE FIRM		
	1.1	NAME (IN CAPITAL LETTERS)	:
	1.2	TYPE OF CONCERN (PROPRIETARY) Partnership, Pvt. Ltd., Public Ltd. etc.	:
	1.3	YEAR OF ESTABLISHMENT	:
	1.4	LOCATION OF OFFICE POSTAL ADDRESS TELEGRAPHIC ADDRESSES, TELEX NO. FAX NO.	:
	1.5	LOCATION OF MANUFACTURING UNITS	:
		i) UNITS 1	:
		ii) OTHER UNITS	:
2.0	PRODUCTS MANUFACTURED		:
3.0	TURNOVER DURING THE LAST 3 YEARS (TO BE VERIFIED WITH THE LATEST PROFIT & LOSS STATEMENT).		:
4.0	VALUE OF FIXED ASSETS		:
5.0	NAME & ADDRESS OF THE BANKERS		:
6.0	BANK GUARANTEE LIMIT		:
7.0	CREDIT LIMIT		:
8.0	TECHNICAL		
	8.1	NO. OF DESIGN ENGINEERS (INDICATE NO. OF YEARS EXPERIENCE IN RELATED FIELDS)	:
	8.2	NO. OF DRAUGHTS MEN	:
	8.3	COLLABORATION DETAILS (IF ANY)	:
		8.3.1 DATE OF COLLABORATION	:
		8.3.2 NAME OF COLLABORATOR	:
		8.3.3 RBI APPROVAL DETAILS	:
		8.3.4 EXPERIENCE LIST OF COLLABORATOR	:
		8.3.5 DURATION OF AGREEMENT	:
	8.4	AVAILABILITY OF STANDARDS / DESIGN PROCEDURES / COLLABORATOR'S /	:

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		DOCUMENTS (CHECK WHETHER THESE ARE LATEST/CURRENT	
	8.5	TECHNICAL SUPPORT, BACK-UP GUARANTEE, SUPERVISION, QUALITY CONTROL BY COLLABORATOR (WHEREVER ESSENTIAL). (THIS CLAUSE IS RELEVANT WHEN VENDOR'S EXPERIENCE IS INADEQUATE)	:
	8.6	QUALITY OF DRAWINGS	:
9.0	MANUFACTURE		
	9.1	SHOP SPACE, LAYOUT LIGHTING, VENTILATION, ETC.	:
	9.2	POWER (KVA)	:
		MAINS INSTALLED	:
		UTILIZED	:
		STANDBY POWER SOURCE	:
	9.3	MANUFACTURING FACILITIES (ATTACH LIST OF EQUIPMENT AS APPLICABLE)	:
		9.3.1 MATERIAL HANDLING	:
		9.3.2 MACHINING	:
		9.3.3 FABRICATION	:
		9.3.4 HEAT TREATMENT	:
		9.3.5 BALANCING FACILITY	:
		9.3.6 SURFACE TREATMENT PRIOR TO PAINTING/ COATING, POLISHING, PICKLING, PASSIVATION, PAINTING, ETC.	:
	9.4	SUPERVISORY STAFF	:
	9.5	ADEQUACY OF SKILLED LABOURS (MACHINISTS, WELDERS, ETC.)	:
	9.6	NO. OF SHIFTS	:
	9.7	TYPE OF MATERIAL HANDLED (SUCH AS CS, SS, ETC.)	:
	9.8	WORKMANSHIP	:
	9.9	MATERIAL IN STOCK AND VALUE	:
	9.10	TRANSPORT FACILITIES	:
	9.11	CARE IN HANDLING	:
10.0	INSPECTION / QC / QA / TESTING		
	10.1	NUMBER OF PERSONNEL (INDICATE NO. OF YEARS OF EXPERIENCE)	:
	10.2	INDEPENDENCE FROM PRODUCTION	:

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	10.3	AVAILABILITY OF PROCEDURAL WRITE UP/QUALITY PLAN	:
	10.4	INCOMING MATERIAL CONTROL AND DOCUMENTATION	:
	10.5	RELIABILITY/REPUTATION OF SUPPLY SOURCES	:
	10.6	STAGE INSPECTION AND DOCUMENTATION	:
	10.7	SUB-ASSEMBLY & DOCUMENTATION	:
	10.8	FINAL INSPECTION AND DOCUMENTATION	:
	10.9	PREPARATION OF FINAL DOCUMENTATION PACKAGE	:
	10.10	TYPE TEST FACILITIES	:
	10.11	ACCEPTANCE TEST FACILITIES	:
	10.12	CALIBRATION OF INSTRUMENTS AND GAUGES (WITH TRACEABILITY TO NATIONAL STANDARDS) (ATTACH LIST)	:
	10.13	STATUTORY APPROVALS LIKE BIS, IBR, ETC.(AS APPLICABLE)	:
	10.14	SUB-VENDOR APPROVAL SYSTEM AND QUALITY CONTROL	:
	10.15	DETAILS OF TESTS CARRIED OUT AT INDEPENDENT RECOGNIZED LABORATORIES	:
		i) FURNISH LIST OF TESTS CARRIED OUT AND THE NAME OF THE LABORATORY WHERE THE TESTS WERE CONDUCTED	:
		ii) CHECK AVAILABILITY OF CERTIFICATES AND REVIEW THESE WHEREVER POSSIBLE	:
11.0	EXPERIENCE (INCLUDING CONSTRUCTION / ERECTION / COMMISSIONING) TO BE FURNISHED IN THE FORMAT INDICATED IN APPENDIX)		:
12.0	SALES, SERVICE AND SITE ORGANIZATIONAL DETAILS		:
13.0	CERTIFICATE FROM CUSTOMERS (ATTACH COPIES OF DOCUMENTS)		:
14.0	POWER SITUATION		:
15.0	LABOUR SITUATION		:
16.0 *	APPLICABILITY OF SC/ST RELAXATION (Y/N) IF YES, SUPPORTING DOCUMENTS TO BE ATTACHED		
17.0	ORGANIZATIONAL DETAILS 1. PF NO 2. ESI NO 3. INSURANCE FOR WORK MAN COMPENSATION ACT NO 4. ELECTRICAL CONTRACT LIC NO 5. ITCC / PAN NO 6. SALES TAX NO 7. WC TAX REG. NO		:
18.0	DOCUMENTS TO BE ENCLOSED:		

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	1. FACTORY LICENSE 2. ANNUAL REPORT FOR LAST THREE YEARS 3. TYPE TEST REPORT FOR THE ITEM 4. PAST EXPERIENCE REPORTS 5. ISO CERTIFICATE –QMS, EMS, OHAS, SA 6. REGISTRATION OF SALES TAX 7. COPY OF TIN NO. 8. COPY OF SERVICE TAX NO. 9. REGISTRATION OF CENTRAL EXCISE 10. COPY OF INCOME TAX CLEARANCE. 11. COPY OF PF REGISTRATION 12. COPY OF ESI REGISTRATION 13. COPY OF INSURANCE FOR WORK MAN COMPENSATION ACT NO 14. COPY OF ELECTRICAL CONTRACT LIC NO 15. COPY OF PAN NO 16. COPY OF WC TAX REGISTRATION 17. DOCUMENTS IN SUPPORT OF SC/ST RELAXATION AT S.NO.16.0 18. GSTN CERTIFICATE	
--	--	--

*** Classification of BA s under SC/ST shall be governed under following guidelines:**

- **Proprietorship/ Single Ownership Firm:** Proprietor of the firm should be from SC/ST community. Governing document shall be Proprietorship Deed.
- **Partnership Firm:** Only such firms shall qualify which have SC/ST partners holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Partnership Deed.
- **Private Limited Company:** Only such firms shall qualify which have SC/ST directors holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

NOTE: Certification from SC/ST Commission shall be required for deciding upon SC/ST status of a person.

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ANNEXURE-I
MANUFACTURER AUTHORIZATION FORM

(To be submitted on OEM's Letter Head)

Date:

Tender Enquiry No.:

To,

Chief (Contracts & Stores)

The TP Southern Odisha Distribution Limited,
Berhampur.

Sir,

WHEREAS M/s. [name of OEM], who are official manufacturers of having factories at [address of OEM] do hereby authorize M/s [name of bidder] to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by us

.....and
to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with the Special Conditions of Contract or as mentioned elsewhere in the Tender Document, with respect to the Goods offered by the above firm in reply to this Invitation for Bids.

We hereby confirm that in case, the channel partner fails to provide the necessary services as per the Tender Document referred above, M/s [name of OEM] shall provide standard warranty on the materials supplied against the contract. The warranty period and inclusion / exclusion of parts in the warranty shall remain same as defined in the contract issued to their channel partner against this tender enquiry.

Yours Sincerely,

For

Authorized Signatory

	TP WESTERN ODISHA DISTRIBUTION LIMITED	
	WORK INSTRUCTION /OPERATING GUIDELINES	
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CONTENTS	
CLAUSE NO.	DESCRIPTION
1.0	ORGANIZATIONAL VALUES
2.0	ETHICS
3.0	CONTRACT PARAMETERS
3.1	Issue/Award of Contract
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1.0 ORGANIZATIONAL VALUES

The Tata Group has always been a value driven organization. These values continue to direct the Group's growth and businesses. The six core Tata Values underpinning the way we do business are:

Integrity - We must conduct our business fairly, with honesty and transparency. Everything we do must stand the test of public scrutiny.

Understanding - We must be caring, respectful, compassionate and humanitarian towards our colleagues and customers around the world and always work for the benefit of India.

Excellence - We must constantly strive to achieve the highest possible standards in our day to day work and in the quality of goods and services we provide.

Unity - We must work cohesively with our colleagues across the group and with our customers and partners around the world to build strong relationships based on tolerance, understanding and mutual co-operation.

Responsibility - We must continue to be responsible and sensitive to the countries, communities and environments in which we work, always ensuring that what comes from the people goes back to the people many times over.

Agility - We must work in a speedy and responsive manner and be proactive and innovative in our approach.

2.0 ETHICS

In our effort towards Excellence and in Management of Business Ethics at TPWODL, an Ethics Management Team is constituted.

The main objective of the Ethics Management Team is to:

1. Record, address and allay the issues and concerns on ethics raised by different stakeholders like employees, consumers, vendors, Associates etc. by initiating immediate corrective actions.
2. Ensure proper communication of the ethics policies and guidelines through prominent displays at all offices of TPWODL and through printed declarations in all concerned documents where external stakeholders are involved.
3. Ensure proper framework of policies as preventive measures against any ethics violation recorded by them.
4. Prepare and submit MIS of all issues and concerns, corrective and preventive actions on monthly basis to the top management for their information.

All Associates and Stakeholders are requested to register any grievance on ethics violation on our website www.tatapower.com

3.0 CONTRACT PARAMETERS

3.1 Issue/Award of Contract

TPWODL awards the contract to the Associate in writing in the form of Purchase Order (PO) or Rate Contract (RC), hereafter referred as Contract, through in any or all of following modes physical handover / post / e-mail / web document / fax with all the attachments/enclosures which shall be part of the contract document.

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On receipt of the contract, the associate shall return to TPWODL copy of the contract document duly signed by legally authorized representative of associate, within two days of Effective Date of Contract for contracts having contract execution time less than 30 days and within five days for all other contracts.

3.2 Contract Commencement Date

The date of issue/award of contract shall be the Effective Date of Contract or Contract Commencement date.

3.3 Contract Completion Date

The date of expiry of Guarantee Period shall be deemed as the Contract Completion Date.

3.4 Contract Period/Time

The period from Contract Commencement Date to Contract Completion Date shall be deemed as the Contract Period/Time.

3.5 Contract Execution Completion Date

The stipulated date for completing the supply as per schedule of quantities shall be deemed as the Contract Execution Completion Date.

3.6 Contract Price /Value

The total all inclusive price/value mentioned in the PO/RC is the Contract Price/Value and is based on the quantity, unit rates and prices quoted and awarded and shall be subject to adjustment based on actual quantities supplied and accepted and certified by the authorized representative of the company unless otherwise specified in schedule of quantities or in contract documents.

3.7 Contract Document

The Contract Document shall mean and include but not limited to the following:

- NIT/Tender Enquiry, QR, Instruction to Bidders, Special Condition of Contract (SCC) of tender, GCC, Technical & Commercial Specifications including relevant annexure and attachments).
- Bids & Proposals Received from Associate including relevant annexure/attachments.
- RC/PO with agreed deviations from the tender/bid documents.
- All the Inspection and Test reports, Detailed Engineering Drawings.
- Material Dispatch Clearance Certificate (MDCC).
- Minutes of Meeting (MoM)

3.8 Contract Language

All documents, instructions, catalogues, brochures, pamphlets, design data, norms and calculations, drawings, operation, maintenance and safety manuals, reports, labels, on deliveries and any other data shall be in English Language.

The Contract documents and all correspondence between the TPWODL, Third Parties associated with the contract, and the Associate shall be in English language.

However, all signboards required indicating "Danger" and/or security at site and otherwise statutory required shall be in English, Hindi, and local languages.

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3.9 Reverse Auction

TPWODL reserves the right to conduct the reverse auction (instead of public opening of price bids) for the products / services being asked for in the tender. The terms and conditions for such reverse auction events shall be as per the Acceptance Form attached in Annexure F. The bidders along with the tender document shall mandatorily submit a duly signed copy of the Acceptance Form as mentioned in the Annexure J as a token of acceptance for the same.

4.0 SCOPE OF WORK

All the activities that are to be undertaken by the Associate to realize the contractual deliverables in completeness form Scope of Work. Following clauses list, but not limited to, major requirements of the scope of work.

The associate shall satisfy himself and undertake fully the technical/commercial requirements of items to be supplied as listed in the Schedule of Quantities together with the tests to be performed /test reports to be furnished before dispatch, arrangement of stage and final inspections during manufacturing as per terms and conditions of contract, technical parameters & delivery terms and conditions including transit insurance to be met in order to fully meet TPWODL's requirements.

Completeness: Any supplies and services which might have not been specifically mentioned in the Contract but are necessary for the scope mentioned in Special Terms & Conditions and/or completeness of the works at the highest possible level, including any royalties, license fees & compensation to be paid, whether incurred by the associates or by a third party for the work covered in the scope, regardless of when incurred, shall be supplied/provided by the associate without any extra cost and within the time schedule for efficient , smooth and satisfactory operation and maintenance of the works at the highest possible level under Indian conditions (but according to international standards for facility of this type), unless expressly excluded from the scope of supplies and services in this Contract.

TPWODL have the right, during the performance of the Contract, to change the scope and/or technical character of the Project and/or of the supplies and services stipulated in the Contract by submitting a request in writing to the Associate. The Associate shall, within fifteen days of receipt of such request from the TPWODL, provide Purchaser with a reasonably detailed estimate of the cost of the change outlined in the request.

In the event, TPWODL requests a change, the Contract price and time shall be adjusted upwards or downwards, as the case may be and shall be mutually agreed to. The associate shall not be entitled to any extension of time unless such changes adversely affect the time schedule.

The Associate shall not proceed with the changes as requested till adjustment of contract price and time schedule where so applicable in terms of or otherwise directed by the TPWODL.

5.0 PRICES/RATES/TAXES

Unless specified elsewhere in the contract document, the prices/rates are inclusive of cost of finished product for which MDCC will be issued by TPWODL, packaging and forwarding charges, freight and transit insurance charges covering loading at Associate's works, transportation to TPWODL store/site & unloading & delivery at TPWODL stores/TPWODL site, cost of documentation including all the relevant test certificates and other supportive documents to be furnished.

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The Prices/Rates are inclusive of all taxes, levies, cess and duties, particularly Goods and Services Tax as applicable. All government levy / taxes shall be paid only when the invoice is submitted according to the relevant act.

The prices/rates shall remain firm till actual completion of entire supply of goods/material/equipment as per contract is achieved and shall remain valid till the completion of the contract.

The prices shall remain unchanged irrespective of TPWODL making changes in quantum in all or any of the schedules of items of contract.

5.1 Changes in Statutory Tax Structure

If rate of any or all of the statutory taxes and duties applicable to the contract changes, such changes shall be incorporated by default if the changes occur within the contract execution time and shall be applicable if the contract is executed by the Associate within the Contract Execution Time.

For execution of contracts beyond contract execution time, where the delay is not attributable to TPWODL no upward revision in tax /duties shall be considered irrespective of changes in the statutory tax structure either within the contract execution time or beyond. However, in such cases, benefits due to any downward revisions in statutory tax rates shall be passed on to TPWODL.

6.0 TERMS OF PAYMENT

On delivery of the materials in good condition and certification of acceptance by TPWODL official, Associate shall submit the Bills/Invoices in original in the name of "TP Western Odisha Distribution Ltd" to invoice desk, complete with all required documents as under:

- Test Reports (4 sets).
- MDCC issued by TPWODL.
- Packing List.
- Drawing and Catalogue.
- Guarantee/Warranty Card.
- Delivery Challan.
- O&M Manual.
- Copy of Order.
- Minutes of Meeting.

Bills/ invoices shall mention Supplier's GST Number. TPWODL will make 100% payment within 30 days of submission of the Bill/Invoice complete in all respects and along with all the requisite documents mentioned above, subject to condition that Associate has furnished the requisite Security-cum-Performance Guarantee as stipulated in the contract.

6.1 Quantity Variation

Payment will be made on the basis of actual quantity of supplies/actual measurement of works accepted by TPWODL and not on the basis of contract quantity.

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6.2 Full and Final Payment

Full & Final Payment in all contracts shall be made subject to the associate submitting "No Demand Certificate" in the format as per Annexure-C.

7.0 MODE OF PAYMENT

Payment shall be made through crossed Cheque or RTGS whichever of the two modes chosen by the Associate, in favour of Associate's Bank Account on TPWODL records, on whose name Contract has been issued. Those Associates opting for the RTGS mode shall submit the details of Bank Account and other details as per annexure G. Further, for any payments made, TPWODL is not responsible for any consequences/disputes Associate have among the owners channel partners, sub-Associates and all such dispute/concerns shall be settled solely by the Associate.

8.0 SECURITY CUM PERFORMANCE DEPOSIT

Associates shall submit within 15 days from the effective date of issue of PO/RC, Security Performance Bank Guarantee (SPBG) in the format as per Annexure B of this document from banks acceptable to TPWODL for:

- (a) 5% of the PO value if purchase order value is more than Rs 5 Crores.
 - (b) 10% of the PO value if purchase order value is less than Rs 5 Crores.
- This shall remain valid till the end of the Guarantee Period of contract, plus one month.
- (c) 5% of the RC value in case of Rate Contract. This shall remain valid till the Guarantee period plus one month.
 - For PO/RC values less than Rs. 5 lacs, Associate may request for deduction of amount equivalent to SPBG value from their first invoice. Such amount shall be withheld by TPWODL while processing the invoice and shall be released after completion of Guarantee Period plus one month.
 - For PO/RC values less than Rs. 3 lacs, the clause (8.0) for Security cum Performance Bank Guarantee (SPBG) shall not be applicable.
 - In case of RC (Rate Contract) after the expiry of RC validity, Associate shall have to submit SPBG. However, the Associate has the option to re-submit the SPBG as per actual RO (Release Order) value issued against the RC, valid for Guarantee Period plus one month. The Guarantee Period shall be considered as per the last RO issued against the said RC. The original SPBG as submitted against the RC shall be released on submission of the new SPBG to TPWODL. Alternatively, Associate may extend the validity of original SPBG only till the requisite period, i.e. Guarantee Period plus one month.

9.0 STATUTORY COMPLIANCE

9.1 Compliance to Various Acts

Associate should ensure adherence to all applicable laws, rules and regulation applicable under this contract from time to time. In case of violation any risk, costs etc shall be in associates account and keep TPWODL indemnified always till completion of contracts.

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9.2 SA 8000

As TPWODL is SA 8000 compliant, it expects its Associates to follow guidelines of SA 8000:2014 on the following aspects

1. Child Labour
2. Forced or Compulsory Labour
3. Health & Safety
4. Freedom of Association & Right to Collective Bargaining
5. Discrimination
6. Disciplinary Practices
7. Working Hours
8. Remuneration
9. Management System

9.3 Affirmative Action

TPWODL appreciate and welcome the engagement/employment of persons from SC/ST community or any other deprived section of society by their business associates.

Relaxation in Contract Clauses under Affirmative Action for SC/ ST Business Associates**

TPWODL believes that inclusive growth is the key to sustainable development, and to promote the same Policy on Affirmative Action for Scheduled Caste & Scheduled Tribe Communities has been adopted across the company.

Under the same pre-text, and to promote entrepreneurship among SC/ST community TPWODL has taken initiative by proposing relaxations in contract clauses as per below:

S. No	Initiative	for SC/ ST BA's	Guideline Document
1	Tender Fees	100% waiver for SC/ST community	All Open Tenders
2	Earnest Money Deposit	50 % relaxation of estimated EMD value	All limited and Open Tenders
3	Performance Bank Guarantee	50% relaxation in PBG for order value above 50 lacs else 25% relaxation	All limited and Open tenders
4	Turnover	25% relaxation in company turnover under qualifying requirement criteria	All Open Tenders

**Classification of BAs under SC/ST shall be governed under following guidelines:

- Proprietorship/ Single Ownership Firm: Proprietor of the firm should be from SC/ST community. Governing document shall be duly audited balance Sheet for the last FY bearing the name of proprietor.
- Partnership Firm: Only such firms shall qualify which have SC/ST partners holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Partnership Deed and audited balance sheet/ ITR for last FY.
- Private limited company: Only such firms shall qualify which have SC/ST directors holding equal to or more than 50% of the total ownership pattern of the firm. Governing

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document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

Note: Certification from SC/ST commission shall be required for deciding upon SC/ST status of a person.

10.0 QUALITY

10.1 Knowledge of Requirements

The Associate shall be deemed to have carefully examined and to have knowledge of the equipment, the general and other conditions, specifications, schedules, drawings, etc. forming part of the Contract and also to have satisfied himself as to the nature and character of the work to be executed and the type of the equipment and duties required including wherever necessary of the site conditions and relevant matters and details. Any information thus procured or otherwise obtained from TPWODL/Consultants shall not in any way relieve the Associate from his responsibility and executing the works in accordance with the terms of contract.

10.2 Material/Equipment/Works Quality

The items / works under the scope of the Associate shall be of the best quality and workmanship according to the latest engineering practice and shall be manufactured from materials of best quality considering strength and durability for their best performance and, in any case, in accordance with the specifications set forth in this Contract. All material shall be new. Substitution of specified material or variation from the process of fabrication/ construction/ manufacture may be permitted but only with the prior written approval of the TPWODL.

10.3 Adherence to Rules & Regulations

The Associate shall procure and/or fabricate/erect all materials and equipment in accordance with all requirements of Central and State enactment, rules and regulations governing such work in India and at site. This shall not be construed as relieving the Associate from complying with any requirement of TPWODL as enumerated in the Contract which may be more rigid than and not contrary to the above mentioned rules, nor providing such construction as may be required by the above mentioned rules and regulations. In case of variance of the Technical Specification from the laws, ordinance, rules and regulations governing the work, the Associate shall immediately notify the same to the TPWODL. It is the sole responsibility of the Associate, however, to determine that such variance exists. Wherever required by rules and regulations, the Associate shall also obtain the statutory authorities' approval for the plant, machinery and equipment to be supplied by the Associate.

10.4 Specifications and Standards

The Associate shall follow all codes and standards referred in the Contract Document. Codes and standards of other may be followed by the Associate with the prior written approval of TPWODL, provided materials, supplies and equipment according to the standard are equal to or better than the corresponding standards specified in the Contract.

Brand names mentioned in the Contract documents are for the purpose of establishing the type and quality of products to be used. The Associate shall not change the brand name and

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qualities of the bought out items without the prior written approval of the TPWODL. All such products and equipment shall be used or installed in strict accordance with original manufacturer's recommendations, unless otherwise directed by the TPWODL. In any circumstances the codes, specimen and standards prescribed by any government agency should not be violated.

11.0 INSPECTION/PARTICIPATION

11.1 Right to Carry Out Inspection

TPWODL reserves the right to send its representatives for inspection or participation at various stages of contract execution listed below, applicable as per contract construction.

- During basic design and detail engineering of material/ Equipment carried out by Associate /Outsourced Agencies.
- During manufacturing stages of the product at Associate's/Associate's Outsourced Agency's Plant/Facility.
- During Pre-dispatch Inspection and Testing of finished/manufactured product at Associate's/Associate's outsourced Agency's Plant/Facility.
- During Installation & Commissioning Activities/Stages.
- Prior to Clearing of the completed installation for commissioning.
- Any other stage as find appropriate by TPWODL during contract execution time.

All inspections and participations shall be carried out by TPWODL giving written intimation to the Associate or receiving appropriate advance written inspection call from the Associate, unless otherwise specified elsewhere in the contract document.

11.2 Facilitating Inspection

The Associate shall provide all opportunities and information to TPWODL's engineers to get acquainted with the technical know-how and the methods and practices adopted by the Associate in basic and detail engineering. The Associate shall provide documents, drawings, calculations etc. as may be required by TPWODL's Engineers.

The Associate shall provide free of charge office accommodation, office facilities, secretarial services, communication facilities, general and drawing office stationary, etc. as may be reasonably required by the TPWODL's engineers. Similarly, facilities shall also be provided by Associate's outsource agencies/partners/authorized dealers (collectively termed as sub associates) if such basic and detail engineering activities are carried out in the design offices of sub-Associates.

The Associate shall be responsible for the safety of employees of TPWODL/Third Party Agency when they are at the Associate's /Associate's outsource agency's plant or facility for carrying out/witnessing inspection/testing. All statutory safety precautions as applicable shall be followed by the Associate during Inspection Testing. If TPWODL inspectors are not satisfied with the safety arrangements at the plant, TPWODL have the right to call off inspection till such time corrective action is taken by the Associate.

Before raising the call for pre-dispatch final inspection and testing, the Associate shall conduct all the tests—type tests, routine tests etc-as specified in the contract document and submit copies of the test certificates to TPWODL along with the inspection call, for scrutiny of TPWODL.

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The Associate and TPWODL shall jointly document all the observations, comments and action points after completion of inspection and it shall be binding on the Associate to provide compliance on all the points requiring compliance and furnish the compliance report to the designated authority of TPWODL for receiving clearance for dispatch of materials

11.3 Third Party Nomination

TPWODL also may nominate a third party for the purpose of carrying out the inspection and such an agency shall be entitled to all the rights and privileges of TPWODL as far as conducting the inspection.

11.4 Waiver of Inspections

TPWODL on its own discretion shall chose to waive off any inspection and ask the Associate to submit all the test reports as applicable as per contract specifications, related to inspection and testing of the goods ordered for scrutiny and clearance for dispatch.

11.5 Incorrect Inspection Call

In case it is observed that the material offered for inspection is not ready at the time of TPWODL inspection visit rendering it as futile, all costs towards such inspection shall be recovered from the BA. Taxes as applicable on such recoveries shall be borne by the BA.

12.0 MDCC & DELIVERY OF MATERIALS

12.1 Material Dispatch Clearance Certificate

Associate shall deliver material/goods/equipment against Supply Contracts or Supply Part of Composite/Service Contracts only after receiving Material Dispatch Clearance Certificate (hereafter termed as MDCC) issued by designated authority of TPWODL. Material delivered at TPWODL stores or at project site without a valid MDCC issued by the designated official of TPWODL shall be rejected. MDCC shall be issued to associate furnishing compliance report on the action points documented during pre-dispatch inspection and testing at Associate's/ Sub Associate's plant/ facility. In case Pre-dispatch inspection is waived at the discretion of TPWODL, then, MDCC shall be issued on receiving all the test reports-routine& type-from the Associate and finding them in order.

The associate shall include and provide for securely protecting and packing the materials so as to avoid loss or damage during handling and transport by air, sea, rail and road or any other means.

All such packing shall allow to the extent possible for easy removal and checking at Site. The associate shall take special precautions to prevent rusting of steel and iron parts during transit by sea. Gas seals or other materials shall be utilized by the associate for protection against moisture during transit of all Plant and Equipment.

Each Equipment or parts of Equipment shall be tagged with reference to the assembly drawings and corresponding part numbers. Each bale or package shall contain a packing note quoting specifically the name of the associate, item description, quantity, item / package identification.

All packing cases, containers, packing and other similar materials shall be new and supplied free by the associate and it shall not be required to be returned to the associate.

Notwithstanding anything stated in this clause, the associate shall be entirely responsible for loss, damage or depreciation or deterioration to the materials and supplies due to faulty and/or insecure packing or otherwise during transportation to the Site until otherwise provided herein.

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In case of the consignments dispatched by road, the associate shall ensure that it or its subcontractors:

- i) Identify and obtain the correct type of trucks/trailers, keeping in view the nature of consignments to be dispatched.
- ii) Take such actions as may be necessary to avoid all possible chances of damages during transit and to ensure that all packages are firmly secured.

Timelines for inspection and MDCC is as below:

S. No.	Inspection	MDCC issuance time including Inspection time (max.)
1	Outside Sambalpur	12 days
2	Within Sambalpur	5 days
3	Waiver*	3 working days

* Associate is expected to raise the inspection call assuming that Inspection shall be carried out by TPWODL. The decision for waiver of inspection shall be on sole discretion of TPWODL.

12.2 Right to Rejection on Receipt

Goods/Material/Equipment delivered in condition physically damaged & incomplete as a product ordered, or not packed and transported as per the terms and conditions of the contract is liable to be rejected. Such item shall be lifted back by Associates within 15 days from receipt of rejection note from TPWODL and have to supply back the material within next 30 days or within the timeframe mutually decided by Associate and TPWODL.

If delivery of the material is beyond the agreed time, Liquidated damage clause, mentioned in this GCC separately shall be applicable; but the period for levy of LD shall be considered as per the original delivery schedule and not from the agreed timelines for material rectification.

12.3 Consignee

Unless otherwise specified in the Contract Document, Materials/Goods/Equipment shall be consigned to "Stores-In-Charge", TPWODL, Burla.

12.4 Submission of mandatory documents on Delivery

Following documents shall be mandatorily submitted by BA along with supply of material to TPWODL stores/site:

S. No.	Documents	Requisite
1	Invoice copy in original	With all consignments
2	LR copy	Wherever required
3	Packing list	With all consignments
4	MDCC	With all consignments
5	Purchase order / Release order	Signed copy
6	Test certificates	With all consignments
7	Inspection/JVR report	In case pre-dispatch inspection is conducted
8	Device data in CD as per template for metering items	Wherever applicable

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12.5 Dispatch and Delivery Instructions

S. No.	Instructions
1	Purchase order/ Release order no. shall be mentioned on invoice and on material
2	TPWODL material code and material description shall be mentioned in invoice and on material.
3	"Property of TPWODL" shall be embossed on material.
4	The material shall be properly sealed and packed in standard packing as per purchase order terms & conditions.
5	The weight and quantity of material shall be mentioned wherever applicable
6	The material supplied shall be co-related with the packing list.
7	The name plate detail on equipment shall include Material code, Material description, specification detail of material [as applicable], Serial No. Year of manufacturing, PO/RO no. and date, "PROPERTY OF TPWODL, Burla", Guarantee period and Associate's name.
8	In case of manual unloading, supplier / transporter shall deploy sufficient Labour for unloading the material at TPWODL central store. For heavy item(s), crane will be provided by TPWODL [unloading cost will be recovered from the associate].
9	The driver should have valid License and one helper in truck. All the documents of truck like registration papers, PUC etc. should be available in Truck.
10	BA representative should accompany the material and get it unloaded / stacked in his presence wherever possible.

13.0 GUARANTEE

13.1 Guarantee of Performance

Associates shall stand guarantee that the equipment and material supplied under the contract is free from design, manufacturing, material, construction, erection & installation and workmanship & quality defects and is capable of its due, rated and intended quality performance, as an integrated product delivered under the contract, for a specific period termed as Guarantee Period(as elaborated elsewhere in this clause). The Associate should also guarantee that the equipment/material is new and unused except for the usage required for the tests and checks required as part of quality assurance.

13.2 Guarantee Period

The Guarantee Period will be equipment/service/work specific and shall be as specified in the Standard Specifications of TPWODL for the equipment/material/service/work and where standard specifications are not part of contract documents or guarantee period is not specified in the standard specifications,, the guarantee period shall be as per the Special Terms and Conditions of the Contract. In case of no mention of the guarantee period in standard specifications or SCC Guarantee Period will be 12 Months from the Date of Commissioning or 24 months from the date of delivery of final lot of supplies made, whichever is earlier.

13.3 Failure in Guarantee Period (GP)

If the equipment and material supplied under the contract fails to perform its due, rated & intended quality performance, during the Guarantee period, the associate is liable to undertake repair/rectify/replace the equipment and material supplied within time frame specified in the SCC or elsewhere in the contract documents at associate's cost to make the equipment and material supplied/service or work rendered under the contract of performing its due, rated and

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intended quality performance. If Associate fails to repair/rectify/replace the equipment or material supplied rendered under the contract, failed in Guarantee Period, TPWODL will be at liberty to get the same done at Associate's risks and costs and recover all such expenses plus the TPWODL's own charges (@ 20% of expenses incurred), from the Associate or from the "Security cum Performance Deposit" as the case may be.

If during the Warranty/ Guarantee period some parts of the supplies are replaced owing to the defects/ damages under the Warranty, the Warranty period for such replaced parts shall be until the expiry of twelve months from the date of such replacement or renewal or until the end of original Guarantee period, whichever is later.

Any repairs during the Guarantee Period shall be carried out by the Associate within 30 days of reporting the issue to Associate by TPWODL. However, if replacement of the Equipment is required, Associate shall notify the same to TPWODL within 7 days of reporting the issue by TPWODL. Thereafter, the total time for supply of new equipment/ material shall be equal to the original delivery period of that equipment/ material as specified in the Contract. In case the Associate is not able to rectify/ replace the faulty equipment/ material within the stipulated timelines as mentioned above, penalty shall be levied as per the Liquidated Damages clause mentioned in this document. The penalty amount shall be recovered from the payment due to the vendor or by encashment of the SPBG as the case may be.

13.4 Cost of repairs on failure in GP

The cost of repairs/rectification/replacement, required transportation, site inspection /mobilization/dismantling and re-installation costs as applicable, to be borne by Associate. The Associate has to ensure that the interruption in the usage of intended purpose of the equipment is minimized to the maximum extent. In lieu of the time taken for repairs/rectification/replacement.

13.5 Guarantee period for Goods Outsourced

If the Associate outsources partly equipment/materials/services from third party as mutually agreed upon at the pre award stage of contract, TPWODL shall have the benefit of any additional guarantee period if provided by the third party for the part supplied/executed by them.

13.6 Latent Defect

Hidden defects in manufacturing or design of the product supplied and which could not be identified by the tests conducted but later manifested during operation of the equipment are termed as latent defects. Associates shall further be responsible for 'free replacement' for another period of THREE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Company.

13.7 Support beyond the Guarantee Period

The Associate shall ensure availability of spares and necessary support for a period of atleast 10 years post completion of guarantee period of equipment supplied against the contract.

14.0 LIQUIDATED DAMAGES

- a) For supplies which are of standalone use, multiple in quantities and having a single final delivery schedule, Liquidated damages shall be levied without prejudice to any of the other contractual rights of TPWODL, as described below:

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For delay of each week and part thereof from the delivery schedule specified in the contract, 1% of contract value corresponding to undelivered quantity, provided full quantity is supplied within 130% of the original contract time. If full contractual quantity is not delivered within 130% of contract time for delivery, TPWODL has the right to levy LD on the entire contract value, subject to a maximum of 10% of the total contract value.

- b) For Supplies having phased delivery schedule as per contract terms, standalone use and multiple in quantities, Liquidated damages shall be levied without prejudice to any of the other contractual rights of TPWODL, as described below:

For the purpose of calculating and applying LD, each delivery lot shall be considered separately. For delay of each week and part thereof, from the delivery schedule specified for the lot, 1% of the contract value corresponding to the undelivered quantity of the lot subject to a maximum of 10% of the total contract value of the subject lot. However, if full contractual quantity is not delivered within 130% of contract time for delivery, TPWODL has the right to levy LD on the entire contract value, subject to a maximum of 10% of the total contract value. Deduction of LD shall be on landed cost i.e contract value inclusive of taxes and in pursuant statutory compliance GST would be applicable at the stipulated rate and the same shall be borne by Business Associate. In case of LD deduction, a GST invoice shall be issued by TPWODL as a proof of deduction/ recovery.

14.1 LD Waiver Request

Any request of LD waiver shall be submitted within thirty (30) days of deducting LD. Request submitted beyond the timeline shall not be entertained.

15.0 UNLAWFUL ACTIVITIES

The Associate shall have to ensure that none of its employees are engaged in any unlawful activities (whether covered under the scope of the present GCC or not) subversive of the TPWODL's interest failing which appropriate action (legal or otherwise) may be taken against the Associate by the TPWODL, in accordance with the terms of the present GCC.

16.0 CONFIDENTIALITY

Associate and its employees or representatives thereof shall strictly maintain the confidentiality of various information they come across while executing the contract as detailed below.

16.1 Documents

All maps, plans, drawings, specifications, schemes and other documents or information related to the Contract/Project and the subject matter contained therein and all other information given to the Associate by the TPWODL in connection with the performance of the contract shall be held confidential by the Associate and shall remain the property of the TPWODL and shall not be used or disclosed to third parties by the Associate for any purpose other than for which they have been supplied or prepared. The Associate may disclose to third parties, upon execution of confidentiality agreements, such part of the drawings, specifications or information if such disclosure is necessary for the performance of the Work provided such third parties agree in writing to keep such information confidential to the same extent and degree as provided herein, for the benefit of the TPWODL.

16.2 Geographical Data

Maps, layouts and photographs of the unit/plant including its surrounding regions showing vital installation for national security of country or those of TPWODL shall not be published or

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disclosed to the third parties or taken out of the country without prior written approval of the TPWODL and upon execution of confidentiality agreements satisfactory to the TPWODL with such third parties prior to disclosure.

16.3 Associate's Processes

Title to secret processes if any developed by the Associate on an exclusive basis and employed in the design of the equipment shall remain with the Associate. TPWODL shall hold in confidence such processes and shall not disclose such processes to the third parties without prior approval of the Associate and execution by such third parties of secrecy agreements satisfactory to the Associate prior to disclosure. Upon completion of contract, such processes shall become the property of the TPWODL. Title to technical specifications, drawings, flow sheets, norms, calculations, diagrams, interpretations of test results, schematics, layouts and such other information, which the Associate has supplied to the TPWODL under the Contract shall be passed on to the TPWODL. The TPWODL shall have the right to use these for construction, erection, start-up, Trial Run, operation, maintenance, modifications and/or expansion of the works including for the manufacture of spare parts.

16.4 Exclusions

The provision of Clauses 16.1 to 16.3 shall not apply to information:

- Which at the time of disclosure are in the public domain which later on become part of public domain through no fault of the party concerned, or
- Which were in the possession of the party concerned prior to disclosure to him by the other party, or
- Which were received by the party concerned after the time of disclosure without restriction on disclosure or use, from a third party who did not acquire such information directly or indirectly from the other party or has no obligation of confidentiality for such information.

16.5 Violation

In case of violation of this clause, the Associate is liable to pay compensation and damages as may be determined by the competent authority of TPWODL.

17.0 INTELLECTUAL PROPERTY RIGHTS

If, in the course of performance of its functions and duties as envisaged by the scope of the present GCC, the Associate acquires or develops, any unique knowledge or information which would be covered, or, is likely to be covered within the definition of a trademark, copyright, patent, business secret, geographical indication or any other form of intellectual property right, it shall be obliged, under the terms of this present GCC, to share such knowledge or information with the TPWODL. All rights, with respect to, or arising from such intellectual property, as afore mentioned, shall solely vest in TPWODL.

Moreover, the Associate undertakes not to breach any intellectual property right vesting in a third party/parties, whether by breach of statutory provision, passing off, or otherwise. In the event of any such breach, the Associate shall be wholly liable to compensate, indemnify or make good any loss suffered by such third party/parties, or any compensation/damages arising from any legal proceeding/s, or otherwise. No liability of TPWODL shall arise in this respect, and any costs, damages, expenses, compensation payable by TPWODL in this regard to a third party/parties, arising from a legal proceeding/s or otherwise, shall be recoverable from the Associate.

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18.0 INDEMNITY

The Associate shall at all times indemnify, keep indemnified and hold harmless the TPWODL and its officers, directors, employees, affiliates, agents, successors and assigns against all actions, claims, demands, costs, charges and expenses arising from or incurred by reason of any infringement of patent, trade mark, registered design, copy rights and/or industrial property rights by manufacture, sale or use of the equipment supplied by the Associate whether or not the TPWODL is held liable for by any court judgement. In this connection, the TPWODL shall pass on all claims made against him to the Associate for settlement.

The Associate assumes responsibility for and shall indemnify and save harmless the TPWODL from all liability, claims, costs, expenses, taxes and assessments including penalties, punitive damages, attorney's fees and court costs which are or may be required to be paid by the TPWODL and its officers, directors, employees, affiliates, agents, successors and assigns arising from any breach of the Associate's obligations under the Contract or for which the Associate has assumed responsibilities under the Contract including those imposed under any local or national law or laws, or in respect to all salaries, wages or other compensation for all persons employed by the Associate or his Sub-Associates or suppliers in connection with the performance of any work covered by the Contract. The Associate shall execute, deliver and shall cause his Sub-Associate and suppliers to execute and deliver, such other further instruments and to comply with all the requirements of such laws and regulation as may be necessary there under to conform and effectuate the Contract and to protect the TPWODL.

The TPWODL shall not be held responsible for any accident or damages incurred or claims arising, due to the Associate's error there from prior to completion of work. The Associate shall be liable for such accidents and after completion of work for such accidents as the case may be due to negligence on his part to carry out Work in accordance with Indian laws and regulations and the specifications set forth herein.

19.0 LIABILITY & LIMITATIONS

19.1 Liability

Except for any specific liability which may be identified in the Contract and which may be payable hereunder, Associate shall not be liable for any special, incidental, indirect, or consequential Damages or any loss of business Contracts, revenues or other financial loss (or equivalents thereof no matter how claimed, computed or characterized) arising out of or in connection with the Performance of the Work or supply of Goods ***unless caused by Associate's negligence, willful misconduct or breach of contract.***

If the Associate is a joint venture or consortium, all concerned parties shall be jointly and severally bound to the TPWODL for the fulfillment of the provisions of the Contract. The consortium or the joint venture shall designate one party as their leader, who will be the coordinator between the parties and TPWODL. The constituents & leader of the consortium or joint venture shall not be changed without the prior consent of TPWODL.

TPWODL shall have no liability or any special, incidental, indirect or consequential Damages for any loss of Business Contracts, revenues or other financial loss arising out of this Contract.

19.2 Limitation of Liability

The total liability of Associate against any contract shall be limited to the Total All Inclusive Contract Value.

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20.0 FORCE MAJEURE

Force Majeure applies if the performance by either Party ("the Affected Party") of its obligations under Contract is materially and adversely affected.

"Force Majeure" shall mean any event or circumstance or combination of events or circumstances referred below and their consequences that wholly or partly prevents or unavoidably delays any Party in the performance of its obligations under this Agreement, but only and to the extent that such events and circumstances are not within the reasonable control, directly or indirectly, of the Affected Party and could not have been avoided even if the Affected Party had taken reasonable care:

- Act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, embargo, blockade, revolution, riot, bombs, religious strife or civil commotion, etc. ▪ Politically motivated sabotage, or terrorism, etc.
- Action or Act of Government or Governmental agency for which remedy is beyond the control of the affected parties. ▪ Any act of God.

Note: Causes like power breakdown/ shortages/fire/strikes, accidents etc do not fall under Force Majeure.

Time being the essence of the Contract, if either party is prevented from the performance of its obligations in whole or in part due to an event of Force Majeure, then provided Notice of happening of any event by the Affected Party is given to the other party within seven (7) days from the date of occurrence of such event, which DIRECTLY has impact on works and submitted details and quantum of resulting effect, but at the same time had made all possible efforts to mitigate and overcome effects thereof, the Affected Party's performance under this Contract shall be suspended until such event ceases and the Scheduled Completion shall be delayed accordingly.

If Force Majeure event(s) continue for a period of more than three months, the parties shall hold consultation to discuss the further course of action.

Neither party shall be considered to be in default or in breach of its obligation under the Contract to the extent that performance of such obligation by either party is prevented by any circumstances of Force Majeure which arise after effective date of Contract.

Neither party can claim any compensation from the other party on account of Force Majeure.

21.0 SUSPENSION OF CONTRACT

21.1 Suspension for Convenience

TPWODL may, at any time and at its sole option, suspend execution of all or any portions of the schedule of items of contract to be supplied/work to be executed by Associate under the contract by providing to the Associate at least two business days written notice for contracts having contract completion period less than sixty days and at least seven business days' notice for all other contracts.

Upon receipt of any such notice, the Associate shall respond as follows as applicable as per contract construction.

- Immediately discontinue further supply of material/goods specified in the suspension notice for supply contracts

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- Immediately discontinue further service/work and supply of materials of those services/materials/work specified in the suspension notice for service /composite contract
- Promptly make every reasonable effort to obtain suspension, upon terms satisfactory to TPWODL, of all orders, outsourcing arrangements, and rental Contracts to the extent that they relate to performance of the portion of Work suspended by the notice.
- Protect and maintain the portion of the service/Work already completed, including the portion of the Work suspended hereunder, unless otherwise specifically stated in the notice.
- Continue delivering/carrying out the supply/service/work items as per contract conditions, which do not fall under purview of the suspension notice.

On receipt of resumption notice from TPWODL, the Associate shall resume execution of contract as specified in the resumption notice, within the time frame specified in the resumption notice.

21.2 Suspension for Breach of Contract conditions.

TPWODL shall suspend execution of whole/or part thereof the contract till such time Associate complies with the conditions stipulated under section clause 22.1 for breach/default of contract conditions.

21.3 Compensation in lieu of Suspension

If the suspension of the contract in whole or in part is for convenience of TPWODL and not due to any breach of contract conditions by the associate, TPWODL at its discretion shall consider compensating all reasonable additional costs incurred by Associate in lieu of suspension of whole or part of contract, on representation of the Associate providing justified estimates of such additional costs and such estimates are found acceptable and approved by competent authority of TPWODL.

If the suspension of contract in whole or part thereof is due to breach of contract conditions (refer clause 22.1) by the Associate, Associate shall not be entitled for any compensation for any cost incurred in lieu of suspension of whole or part of contract and also shall be liable for compensating all the losses arising to TPWODL in lieu of suspension of contract. Resumption notice shall be subject to the Associate taking corrective action for the breach of contract conditions within the time frame and as per the terms specified in the suspension notice.

22 TERMINATION OF CONTRACT

22.1 Termination for Default/Breach of Contract

The contract / PO /RC shall be subject to termination by TPWODL in case of breach of the contract by the Associate which shall include but not be limited to the following:

- a. Withdrawal or intimation by the Associate of its intent to withdraw or surrender the execution / completion of the contracted work /PO or failure in ensuring adherence to any delivery schedules, in deviation of the contract/PO.
- b. Refusal or neglect on the part of the Associate to supply material/equipment of quantity or quality as specified by TPWODL and within the timeframe as specified in the contract document or refusal or neglect to execute the services/work in terms of the agreed standards of quantity or quality and/or within the timeframe specified in the contract/PO.

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- c. Failure in any respect to perform any portion of the Work contracted with promptness, diligence, or in accordance with the terms of the contract.
- d. Failure to furnish guarantees as specified and /or failure to comply with the terms thereof.
- e. Failure to furnish such relevant documents or information within the time specified which may be necessary for due execution / completion of the works and documentation.
- f. Liquidation, bankruptcy either voluntary or involuntary OR entering into any composition or compromise with its creditors, or Insolvency.
- g. In case any reasonable information has been received by TPWODL that Associate has adopted/ or attempted to adopt any unethical conduct, action in award of the contract /PO or at any time thereafter.
- h. Failure to comply with applicable statutory provisions as contained in the contract or failure to comply with the applicable laws.
- i. Failure to comply with safety regulations/clauses stipulated in the contract or as may be generally instructed by TPWODL.

If the default or breach as specified under clause 22 (except sub clause g thereof) be committed by the associate for the first time, TPWODL shall issue, along the with notice of default or breach, a warning notice instructing the associate to take remedial/corrective action within the time frame stipulated in the warning notice and not to repeat the same in future. The timeframe for corrective action by the associate shall be specific to the nature of breach of contract and the same shall not be objected to by the Associate. If the Associate fails to comply with the instructions in the warning notice or in taking corrective action to the satisfaction of TPWODL then TPWODL may terminate the entire or part of contract at its discretion by issuing termination notice without incurring any liability on this ground.

In case the contract is terminated for any breach of the nature specified in clause 22 g stated above, TPWODL shall have the right to terminate all the contracts TPWODL is having with the Associate by issuing termination notice which shall be without prejudice to the other rights of TPWODL available to it under law.

Without prejudice to its right to terminate for breach of contract, TPWODL may, without assigning any reason, terminate the Contract in whole or in part at any time at its discretion while the contract is in force by serving a written notice of two weeks to the Associate.

In the event of TPWODL having proceeded with termination of the contract the associate shall comply and proceed further in the following manner:

- a) Associate shall discontinue the supply, on the expiry of the said period of two weeks.
- b) Associate shall ensure that no further steps are being taken towards discharge of the obligations, terms and conditions as contained in the contract/PO. This shall include initiation of actions not limited to discontinuation of other allied and associated arrangements which the associate might have entered into with third parties for due discharge of its obligations under the contract with TPWODL.
- c) The Associate shall perform thereafter such tasks as may be necessary to preserve and protect the terminated portion of the material/service/work in progress and the materials and equipment at TPWODL sites or in transit thereto. However the associate shall continue to fulfill its contractual obligations with regard to the part of contract not terminated.

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- d) It shall be open for TPWODL to conduct a joint assessment with the associate of the material, supplies, equipment ,works or in general as to the subject matter of the contract in regard to which the associate claims having completed its obligations before or during such termination.
- e) It shall be open to TPWODL to seek invocation of the performance bank guarantee or any other guarantee or other security deposit by whatever name called submitted by the associate, which shall not be objected to or protested against by the associate.

In case of termination of the contract the parties agree to be governed inter alia by the following:

- a) In case TPWODL exercises its right of termination as stated above the associate shall not dispute or object to the same.
- b) The Associate shall be entitled to receive and claim only such payments OR sums of money from TPWODL as may be found payable to it in regard to works executed by it under the terms of the contract and no other claim of any nature whatsoever shall be made by the Associate.
- c) All such provisions which the parties have agreed to survive and prevail even after termination of the contract shall remain effective despite the termination.

In the event of such termination, TPWODL may finish the Work by whatever method it may deem expedient, including the hiring of services and /or purchase of material equipment from such third parties as TPWODL may deem fit or may itself provide any labor or materials and perform any part of the Work. The associate undertakes to bear the incremental costs if any paid by TPWODL in such a case attributable to failure on the part of the associate. The Associate in such a case shall not be entitled to receive any further payments and any sums found payable to it may be adjusted by TPWODL against the amount recoverable from him on this ground. The same shall be without prejudice to other rights available to TPWODL under law against the associate.

Upon the termination of any of the contract due to occurrence of any circumstances provided in clauses stated above and constituting repeated breach or misconduct , TPWODL shall be entitled to bar the associates its agents , affiliates from undertaking any negotiation / tendering, bidding , participation activities concerning TPWODL for a period of two years from date of such termination. The same shall be without prejudice to other rights available to TPWODL.

22.2 Termination for Convenience of Associate

Associate at its convenience may request for termination of contract, clearly assigning the reason for such request. TPWODL has full right to accept, reject or partially accept such request. However, associate shall continue its supply as per contract till final approval is given to associates for such termination.

22.3 Termination for Convenience of TPWODL

TPWODL at its sole discretion may terminate the contract by giving 30 days prior notice in writing or through email to the Associate. TPWODL shall pay the Associate for all the supplies/ services rendered till the actual date of contract termination against submission of invoice by the Associate to that effect.

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23.0 DISPUTE RESOLUTION & ARBITRATION

In case of any dispute or difference the parties shall endeavor to resolve the same through conciliatory and amicable measures within 15 Days failing which the matter may be referred by either party for resolution by the sole arbitrator to be appointed mutually by both the parties. The arbitral proceedings shall be conducted in accordance with Arbitration and Conciliation Act 1996 and the place of arbitration shall be Sambalpur. The language to be used at proceedings shall be English and the award of the arbitrator shall be final and binding on the parties. The parties shall bear their respective costs of arbitration. The associate shall continue to discharge its obligations towards due performance of the works as per the terms of the contract during the arbitration proceedings unless otherwise directed in writing by TPWODL or suspended by the arbitrator. Further, TPWODL shall continue making such payments as may be found due and payable to the associate for such works.

23.1 Governing Laws and Jurisdiction

The parties shall be subject to the jurisdiction of the courts of law in Sambalpur and any matter arising here from shall be subject to applicable law in force in India.

24.0 ATTRIBUTES OF GCC

24.1 Cancellation

The Company reserves the right to cancel, add, delete at its sole discretion, all or any terms of this GCC or any contract, order or terms agreed between the parties in pursuance without assigning any reasons and without any compensation to the Associates.

24.2 Severability

If any portion of this GCC is held to be void, invalid, or otherwise unenforceable, in whole or part, the remaining portions of this GCC shall remain in effect.

24.3 Order of Priority

In case of any discrepancies between the stipulations in General Conditions of the Contract (GCC) and Special Conditions of Contract (SCC), the GCC shall stand superseded by the SCC to the extent stipulated hereinabove while balance portion of respective clauses of GCC shall continue to be applicable.

25.0 ERRORS AND OMISSIONS

The Associate shall be responsible for all discrepancies, errors and omissions in the drawings, documents or other information submitted by him, irrespective of whether these have been approved, reviewed or otherwise accepted by the TPWODL or not. However any error in design/drawing arising out of any incorrect data/written information from TPWODL will not be considered as error and omissions on part of the Associate.

26.0 TRANSFER OF TITLES

The title of ownership and property to all equipment, materials, drawings & documents shall pass to the TPWODL on acceptance of material by store/site after Inspection.

However, such passing of title of ownership and property to the TPWODL shall not in any way absolve, dilute or diminish the responsibility and obligations of the Associate under this Contract including loss or damages and all risks, which shall vest with the Associate.

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27.0 INSURANCE

The Contractor shall take out the Insurance Policies which shall cover all risks including the following, as applicable:-

- a) The value of the policy shall cover the total value of all the items till they are handed over to TPWODL.
- b) TPWODL shall be the principal holder of the policy. The Associate shall be the loss payee under the policy. Associate / Sub-contractor of the Associate shall not be holders or beneficiaries in the policy nor shall they be named in the policy. TPWODL reserves the exclusive right to assign the policy.
- c) While the payment of premium may be phased in agreement with the insurance company, at no time shall goods and services required to be provided by the associate shall remain uninsured in accordance with (a) above.
- d) A copy of the Insurance policy shall be made available to TPWODL prior to first dispatch lot of any Equipment and policy shall be kept alive and valid at all times up to the stage of final acceptance.
- e) TPWODL reserves the right to take out whatever policy that is deemed necessary by him if the associate fails to keep the said policy alive and valid at all times and/or causes lapses in payment of premium thereby jeopardizing the said policy. The cost of such policy(s) shall be recovered / deducted from the amount payable to the associate.
- f) The policy shall ensure that the TPWODL's decision regarding replacement of goods damaged, lost or rendered unusable shall be final.

In all cases, the associate shall lodge the claims with the underwriters and also settle the claims and shall also notify TPWODL of any filed claims. However, the associate shall proceed with the repairs and/or replacement of the equipment/components without waiting for the settlement of the claims. In case of seizure of materials by concerned authorities, the associate shall arrange prompt release against bond, security or cash as required. TPWODL, upon request by the associate, will extend all reasonable assistance to the associate in such a case.

All the insurance claims shall be processed and settled by the associate and the missing/damaged items shall be replaced/repared by them without any extra cost to TPWODL and without affecting the completion time.

28.0 SUGGESTIONS & FEEDBACK

We welcome all our Business Associates to write to us about their experience with TPWODL; be it our Company, our services or our people. Each and every concern, issue, query and suggestion from you will help us to become a better company to work with and shall help us develop a strong bonding of trust and a long term relationship with you.

You may send your feedback by filling up our Business Associate Feedback Form enclosed herewith as *Annexure-I*. You can also log on to our website www.tatapower.com to provide your feedback.

- Suggestions for us
- Feedback form
- Knowledge Sharing/ Experience with TPWODL

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- Any issues with TPWODL.

Submission of feedback form is mandatory before the release of final payment to the BA.

29.0 CONTACT POINTS

In case Business Associate needs information with respect to payments or has any grievances, same may be lodged by log on to our website www.tatapower.com

30.0 LIST OF ANNEXURES

S. No.	Subject	Annexure
1.	Performa for Bid Security Bank Guarantee	A
2.	Performa for Performance Bank Guarantee (CP cum EP)	B
3.	Performa for No Demand Certificate by Associate	C
4.	Performa For Application For Issuance of Consolidated TDS Certificate	D
5.	Business Associate Feedback Form	E
6.	Acceptance Form For Participation In Reverse Auction Event	F
7.	Form for RTGS Payment	G
8.	Vendor Appraisal Form	H
9.	Manufacturer Authorization Form	I

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ANNEXURE-A

PROFORMA FOR BID SECURITY BANK GUARANTEE

**TP Western Odisha Distribution Ltd
Burla**

WHEREAS, (Name of the Bidder) _____
(hereinafter called "the BIDDER") has submitted his bid dated _____ for the
(Name of Contract) _____ (hereinafter called "the BID").

KNOW ALL men by these presents we (Name of the
Bank) _____ of (Name of the
Country) _____ having our registered
office at _____ (hereinafter called "the BANK) are bound unto The
TP Western Odisha Distribution Ltd (TPWODL) in the sum of _____ for
which payment well and truly to be made to the TPWODL the Bank binds himself, his
successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 20_____.

The CONDITIONS of this obligation are:

- i) If the Bidder withdraws his Bid during the period of bid validity specified in the Proforma of Bid or
- ii) If the Bidder having been notified of the acceptance of his Bid by the TPWODL during the period of bid validity fails or refuses to furnish the Contract Performance Bank Guarantee, in accordance with the Instructions to Bidders.

We undertake to pay the TPWODL upto the above amount upon receipt of its first written demand, provided that in its demand the TPWODL will note that amount claimed by it is due to it owing to the occurrence of one or both conditions, specifying the occurred condition or conditions.

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This Guarantee will remain in force upto and including the date (No of days as mentioned in tender enquiry) days after the closing date of submission of bids as stated in the Invitation to Bid or as extended by you at any time prior to this date, notice of which extension to the Bank being hereby waived, and any demand in respect thereof should reach the Bank not later than the above date.

DATE SIGNATURE OF THE BANK
WITNESS SEAL
(Signature, Name & Address) (At least 2 witnesses)

ANNEXURE- B

PROFORMA FOR PERFORMANCE BANK GUARANTEE (CP cum EP)

(On Rs.100/- Stamp Paper) Note:

- Format shall be followed in toto
- Claim period of one month must be kept up
- The guarantee to be accompanied by the covering letter from the bank confirming the signature to the guarantee

TP Western Odisha Distribution Ltd

Burla

CP cum EP BG No.....

Order/Contract No.....dated.....

- You have entered into a Contract No _____ with M/s. _____
(hereinafter referred to as "the Vendor") for the supply cum erection / civil work of _____ (hereinafter referred to as "the said Equipment") for the price and on the terms and conditions contained in the said contract.
- In accordance with the terms of the said contract, "the Vendor" agreed to furnish you with an irrevocable, unconditional and acceptable bank guarantee for 10% of the value of contract and to be valid till the end of Guarantee period plus one month towards "Contract cum Equipment performance". For this purpose you have agreed to accept the guarantee.
- In consideration thereof, we, _____
hereby irrevocably and unconditionally guarantee to pay to you on demand but in any case before the end of five working days from the date of the claim and without demur and without reference to "the Vendor" such amount or amounts not exceeding the sum of Rs. _____ (Rupees _____ only) being _____ %
(_____ percent) of the total value of the contract on receipt of your intimating that "the

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Vendor” has not fulfilled his contractual obligations. You shall be the sole judge for such non-fulfillment and “the Vendor” shall have no right to question such judgment.

4. You shall have the right to file / make your claim on us under the guarantee for a **further period of one month** from the date of expiry.
5. This guarantee shall not be revoked without express consent and shall not be affected by your granting time or any other indulgence to “the Vendor”, which shall include but not be limited to, postponement from time to time of the exercise the same in you or any right which you may have against “the Vendor” and to exercise the same in any covenant contained or implied in the said contract or any other course or remedy or security available to you, and our Bank shall not be released from its obligations under this guarantee by

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your exercising any of your rights with reference to matters aforesaid or any of them or by reasons of any other act or forbearance or other acts of omission or commission on your part or any other indulgence shown by you or by any other matter or thing whatsoever which under the law would, but for this provision have the effect of relieving our bank from its obligation under this guarantee.

6. We also agree that you shall be entitled at your option to enforce this guarantee against our bank as a principal debtor, in the first instance, notwithstanding any other security or guarantee that you may have in relation to "the Vendor's" liabilities in respect of the premises
7. This guarantee shall not be affected by any change in the constitution of our Bank or "the Vendor" or for any other reason whatsoever.
8. Any claim / extension under the guarantee can be lodge-able at outstation banks or at Sambalpur branch and claim will also be payable at Sambalpur Branch (to be confirmed by Sambalpur Branch by a letter to that effect in case BG is from the branch outside Sambalpur).
9. Notwithstanding anything herein contained, our liability under this guarantee is limited to Rs. _____ (Rupees _____) only and the guarantee will remain in force upto and including _____ (Date) and shall be extended from time to time for such period or period as may be desired by "the Vendor".
10. Unless a demand or claim under this guarantee is received by us in writing within one months from _____ (expiry date) i.e. on or before _____ (claim period end date), we shall be discharged from all liabilities under this guarantee thereafter.

Dated at _____ this _____ day of _____ 20__

Bank's rubber stamp

1. Banks full address

Designation of Signatory

2. Bank official number

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ANNEXURE-C

PROFORMA FOR “NO DEMAND CERTIFICATE” BY ASSOCIATE

(On Company's Letter head or with Company Seal)

(To be submitted by the Associate to TPWODL Accounts Department at the time of receipt of full and final payment)

(Certificate No. CCP/002)

Name of the Project Order/

Contract No.

Dated

Name of the Associate Scheme

No. / Job No.

We, M/s. _____ (Associate) do hereby acknowledge and confirm that we have received the full and final payment due and payable to us from TPWODL, in respect of our aforesaid Order No _____ dated _____ including amendments, if any, issued by TPWODL to our entire satisfaction and we further confirm that we have no claim whatsoever pending with TPWODL under the said contract / W.O.

Notwithstanding any protest recorded by us in any correspondence, documents, measurement books and / or final bills etc., we waive all our rights to lodge any claim or protest in future under this contract.

We are issuing this “NO DEMAND CERTIFICATE” in favour of TPWODL, with full knowledge and with our free consent without any undue influence, misrepresentation, coercion etc.

Place

Name

(Company Seal)

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ANNEXURE-D

**PROFORMA FOR APPLICATION FOR ISSUANCE OF CONSOLIDATED TDS
CERTIFICATE**

To be printed on the letterhead

To,

The TP Western Odisha Distribution Ltd,

Burla

Sub: Application for issuance of Consolidated TDS Certificate for the FY _____

Dear Sir,

I / we hereby request / authorize you to issue me / us a consolidate TDS Certificate for the financial year _____ against tax deducted at source by you from my / our payments / bills during the said year from time to time under Chapter XVII – B of the Income Tax Act, 1961. For and on behalf of

Signature

Name

Address

Contact No. (Land Line)

(Mobile)

PAN #

Assessing authority

ATTACH THE COPY OF PAN CARD

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ANNEXURE-E

BUSINESS ASSOCIATE FEEDBACK FORM

With an objective to improve our internal processes and systems, and serve you better, we solicit your valuable feedback & suggestions. It is estimated that it will take about 10 minutes to complete this survey. We assure you that your feedback shall be kept confidential. Please send the duly filled feedback form in the "TPWODL addressed - attached envelop"

You are associated with us as

☐ OEMs ☐ Service Contractor ☐ Material Suppliers ☐ Material & Manpower Supplier

You are associated with us for

☐ Less than 1 year ☐ More than 1 year but less than 3 years ☐ More than 3 years

Your office is located at

☐ Sambalpur ☐ Within 200 kms from Sambalpur ☐ More than 200 kms from Sambalpur

Your nearly turnover with TPWODL

☐ Less than 25 Lacs ☐ 25 Lacs to 1 Crore ☐ More than 1 Cr.

Additional Information

Your Name	
Your Designation	
Your Organization	
Contact Nos.	
Email	

We once again thank you for your participation in this survey. Please spare 10 minutes to give your feedback on following pages (Section A to E)

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SECTION – A

(Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement).

S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
		Do Not Agree	Slightly in Agreement	In Fair Agreement	Mostly in Agreement	Fully Agree	
1	You receive all relevant queries / tenders from us in timely manner.						
2	We provide you enough lead time to respond to our queries / tenders.						
3	We provide you adequate support (drawings, documents, clarifications, briefing etc.) to enable you meet our requirements.						
4	All following elements of our contract / purchase order are rational :						
4.1	Scope of Work						
4.2	Delivery / Execution Schedule						
4.3	Payment Terms						
4.4	Liquidated Damages						
4.5	Performance Guarantee						
5	Our purchase orders / contracts are simple, specific & easy to understand						
6	TPWODL demonstrate willingness to be flexible in administration of Contract / Purchase Order						
7	We provide timely responses / clarifications to your queries						
8	TPWODL representative you interact / coordinate with is adequately empowered to support you in meeting contractual obligations						
9	TPWODL provide you all necessary infrastructure support for timely and quality completion of work (including AMC)						
10	TPWODL Engineer-in-Charge timely certifies the jobs executed/ material supplied						
11	TPWODL Engineer-in-Charge efficiently supervises the job execution for timely completion of job						
12	BIRD (Bill Inward Receipt Desk) initiative has improved payment disbursement process						

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S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
		Do Not Agree	Slightly in Agreement	In Fair Agreement	Mostly in Agreement	Fully Agree	
13	Our approach for Inspection and Quality Assurance effective to expedite project completion?						
14	TPWODL never defaults on contractual terms						
15	In TPWODL Contracts closure is done within set time limit						
16	Our material receiving procedures are well defined and efficiently deployed to reduce mutual inconvenience						
17	Bank Guarantees are released in time bound manner						
18	Our processes related to payment / account settlement are effective.						
19	You get payments on time						
20	TPWODL Employees follow Ethical behaviour						

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SECTION – B

SECTION – B (Please rate the following parameters on a scale of 1 to 5, where 1 - Minimum; 5 - Maximum)

S. No.	Parameters	1	2	3	4	5	Remarks/ Suggestion
1	How do you rate courtesy/ empathy/ attitude level and warmth of TPWODL employees you interact with from following team?						
1.1	Project Engineering						
1.2	District / Zones						
1.3	Projects/HOG (TS &P)						
1.4	Inspection & Quality Assurance						
1.5	Stores						
1.6	Metering & Billing						
1.7	Accounts / Finance						
1.8	Administration						
1.9	IT & Automation						
2	How would you rate TPWODL in comparison to your other clients in terms of fairness of treatment and transparency with its Business Associates?						
3	How would you rate TPWODL in comparison to your other clients in terms of processes and systems to manage partnership with its Business Associates						
4	How would you rate TPWODL in comparison to your other clients in terms of building long term & mutually relationship with its Business Associates						

SECTION – C

Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement.

S. No.	Parameters	Certainly No	Probably No	Certainly Yes	Probably Yes	Remarks/ Suggestion
1	Based on your experience with TPWODL, would you like to continue your relationship with TPWODL?					
2	If someone asks you about TPWODL, would you talk “positively” about					

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	TPWODL?					
3	Would you refer TPWODL name to others in your community, fraternity and society as a professional & dynamic organization?					

SECTION - D

If we ask you to rate us on a scale of 1 to 10, how will you rate TPWODL, that truly represents your overall satisfaction with us (please tick appropriate box) -

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

SECTION – E

Please ✓ mark in the relevant box and give your remarks / suggestions / information for our improvement.

Please spare your thoughts for TPWODL's improvement in particular areas of weaknesses, particularly relating to some great practices, attitudes that you have seen elsewhere in Indian and International Organizations, which you recommend TPWODL to adopt. Please give your valuable salient recommendations.

Please spare your thoughts for TPWODL's improvement in particular areas of major concerns for you. We also welcome your suggestions to adopt any best practices, attitudes that you

Recommendation	Please tick (✓) your top 5 expectations out of the following 10 points listed below -	
(Please list down improvement you expect from TPWODL)	Timely payment	
1	Flexibility in Contracts/PO	
	Clarity in PO,s & Contracts	
2	Timely response to quarries	
	Timely certification of works executed	
3	Clarity in Specs, drawings, other docs etc.	
	Adequate information provided on website for tender notification, parties qualified etc.	
4	Timely receipt of material at site for execution	

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	Performance Guarantee/EMD released in time	
5	Inspection & quality assurance support for timely job completion	

We thank you for your time and courtesy!!

ANNEXURE-F

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder prior to participation in the auction event)

In a bid to make our entire procurement process more fair and transparent, TPWODL intends to use the reverse auctions through SAP-SRM tool as an integral part of the entire tendering process. All the bidders who are found as technically qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

The following terms and conditions are deemed as accepted by the bidder on participation in the bid event:

1. TPWODL shall provide the user id and password to the authorized representative of the bidder. (Authorization Letter in lieu of the same shall be submitted along with the signed and stamped Acceptance Form).
2. TPWODL will make every effort to make the bid process transparent. However, the award decision by TPWODL would be final and binding on the supplier.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of TPWODL, bid process, bid technology, bid documentation and bid details.
4. The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.
5. In case of bidding through Internet medium, bidders are further advised to ensure availability of the entire infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitch, internet response issues, software or hardware hangs, power failure or any other reason shall not be the responsibility of TPWODL.
6. In case of intranet medium, TPWODL shall provide the infrastructure to bidders. Further, TPWODL has sole discretion to extend or restart the auction event in case of any glitches in infrastructure observed which has restricted the bidders to submit the bids to ensure fair & transparent competitive bidding. In case an auction event is restarted, the best bid as already available in the system shall become the start price for the new auction.
7. In case the bidder fails to participate in the auction event due any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be out rightly rejected by TPWODL.
8. The bidder shall be prepared with competitive price quotes on the day of the bidding event.
9. The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR at TPWODL site.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder.
11. No requests for time extension of the auction event shall be considered by TPWODL.
12. The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all inclusive prices offered during conclusion of the auction event for arriving at Contract amount.

Signature & Seal of the Bidder

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ANNEXURE-G

To,

DGM (Finance)
The TP Western Odisha Distribution Ltd
Burla

Sub: e-Payments through National Electronic Fund Transfer (NEFT) OR Real Time Gross Settlement System (RTGS)

Dear Sir,

We request and authorize you to affect e-payment through NEFT/RTGS to our Bank Account as per the details given below:-

Vendor Code :

Title of Account in the Bank :

Account Type :

(Please mention here whether account is
Savings/Current/Cash Credit)

Bank Account Number :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Name & Address of Bank :

Bank Contact Person's Names :

Bank Tele Numbers with STD Code :

Bank Branch MICR Code :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(Please enclose a Xerox a copy of a cheque.
This cheque should not be a payable at par
cheque)

Bank Branch IFSC Code :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

(You can obtain this from branch where you
have your account)

Email Address of accounts person: :
(to send payment information)

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Name of the Authorized Signatory: _____ :

Contact Person's Name:

Official Correspondence Address:

We confirm that we will bear the charges, if any, levied by our bank for the credit of NEFT/RTGS amounts in our account. Any change in above furnished information shall be informed to TPWODL well in time at our own. Further, we kept TPWODL indemnified for any loss incurred due to wrong furnishing of above information.

Thanking you,

For _____

(Authorised Signatory)

(Signature with Rubber Stamp)

Certification from Bank:

We confirm that we are enabled for receiving NEFT/RTGS credits and we further confirm that the account number (specify Bank a/c no.) of (Please mention here name of the account holder), the signature of the authorised signatory and the MICR and IFSC Code of our branch mentioned above are correct.

This also is certified that the above information is correct as per Bank record

(Manager's/ Officers Signature under Bank Stamp)

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ANNEXURE-H
VENDOR APPRAISAL FORM

TO BE SUBMITTED BY VENDOR (To be filled as applicable)			
VENDOR:			
1.0	DETAILS OF THE FIRM		
	1.1	NAME (IN CAPITAL LETTERS)	:
	1.2	TYPE OF CONCERN (PROPRIETARY) Partnership, Pvt. Ltd., Public Ltd. etc.	:
	1.3	YEAR OF ESTABLISHMENT	:
	1.4	LOCATION OF OFFICE POSTAL ADDRESS TELEGRAPHIC ADDRESSES, TELEX NO. FAX NO.	:
	1.5	LOCATION OF MANUFACTURING UNITS	:
		i) UNITS 1	:
		ii) OTHER UNITS	:
2.0	PRODUCTS MANUFACTURED		:
3.0	TURNOVER DURING THE LAST 3 YEARS (TO BE VERIFIED WITH THE LATEST PROFIT & LOSS STATEMENT).		:
4.0	VALUE OF FIXED ASSETS		:
5.0	NAME & ADDRESS OF THE BANKERS		:
6.0	BANK GUARANTEE LIMIT		:
7.0	CREDIT LIMIT		:
8.0	TECHNICAL		
	8.1	NO. OF DESIGN ENGINEERS (INDICATE NO. OF YEARS EXPERIENCE IN RELATED FIELDS)	:
	8.2	NO. OF DRAUGHTS MEN	:
	8.3	COLLABORATION DETAILS (IF ANY)	:
		8.3.1 DATE OF COLLABORATION	:
		8.3.2 NAME OF COLLABORATOR	:
		8.3.3 RBI APPROVAL DETAILS	:
		8.3.4 EXPERIENCE LIST OF COLLABORATOR	:
		8.3.5 DURATION OF AGREEMENT	:
	8.4	AVAILABILITY OF STANDARDS / DESIGN PROCEDURES / COLLABORATOR'S /	:

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		DOCUMENTS (CHECK WHETHER THESE ARE LATEST/CURRENT)	
	8.5	TECHNICAL SUPPORT, BACK-UP GUARANTEE, SUPERVISION, QUALITY CONTROL BY COLLABORATOR (WHEREVER ESSENTIAL). (THIS CLAUSE IS RELEVANT WHEN VENDOR'S EXPERIENCE IS INADEQUATE)	:
	8.6	QUALITY OF DRAWINGS	:
9.0	MANUFACTURE		
	9.1	SHOP SPACE, LAYOUT LIGHTING, VENTILATION, ETC.	:
	9.2	POWER (KVA)	:
		MAINS INSTALLED	:
		UTILIZED	:
		STANDBY POWER SOURCE	:
	9.3	MANUFACTURING FACILITIES (ATTACH LIST OF EQUIPMENT AS APPLICABLE)	:
		9.3.1 MATERIAL HANDLING	:
		9.3.2 MACHINING	:
		9.3.3 FABRICATION	:
		9.3.4 HEAT TREATMENT	:
		9.3.5 BALANCING FACILITY	:
		9.3.6 SURFACE TREATMENT PRIOR TO PAINTING/ COATING, POLISHING, PICKLING, PASSIVATION, PAINTING, ETC.	:
	9.4	SUPERVISORY STAFF	:
	9.5	ADEQUACY OF SKILLED LABOURS (MACHINISTS, WELDERS, ETC.)	:
	9.6	NO. OF SHIFTS	:
	9.7	TYPE OF MATERIAL HANDLED (SUCH AS CS, SS, ETC.)	:
	9.8	WORKMANSHIP	:
	9.9	MATERIAL IN STOCK AND VALUE	:
	9.10	TRANSPORT FACILITIES	:
	9.11	CARE IN HANDLING	:
10.0	INSPECTION / QC / QA / TESTING		
	10.1	NUMBER OF PERSONNEL (INDICATE NO. OF YEARS OF EXPERIENCE)	:
	10.2	INDEPENDENCE FROM PRODUCTION	:

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	10.3	AVAILABILITY OF PROCEDURAL WRITE UP/QUALITY PLAN	:
	10.4	INCOMING MATERIAL CONTROL AND DOCUMENTATION	:
	10.5	RELIABILITY/REPUTATION OF SUPPLY SOURCES	:
	10.6	STAGE INSPECTION AND DOCUMENTATION	:
	10.7	SUB-ASSEMBLY & DOCUMENTATION	:
	10.8	FINAL INSPECTION AND DOCUMENTATION	:
	10.9	PREPARATION OF FINAL DOCUMENTATION PACKAGE	:
	10.10	TYPE TEST FACILITIES	:
	10.11	ACCEPTANCE TEST FACILITIES	:
	10.12	CALIBRATION OF INSTRUMENTS AND GAUGES (WITH TRACEABILITY TO NATIONAL STANDARDS) (ATTACH LIST)	:
	10.13	STATUTORY APPROVALS LIKE BIS, IBR, ETC.(AS APPLICABLE)	:
	10.14	SUB-VENDOR APPROVAL SYSTEM AND QUALITY CONTROL	:
	10.15	DETAILS OF TESTS CARRIED OUT AT INDEPENDENT RECOGNIZED LABORATORIES	:
		i) FURNISH LIST OF TESTS CARRIED OUT AND THE NAME OF THE LABORATORY WHERE THE TESTS WERE CONDUCTED	:
		ii) CHECK AVAILABILITY OF CERTIFICATES AND REVIEW THESE WHEREVER POSSIBLE	:
11.0		EXPERIENCE (INCLUDING CONSTRUCTION / ERECTION / COMMISSIONING) TO BE FURNISHED IN THE FORMAT INDICATED IN APPENDIX)	:
12.0		SALES, SERVICE AND SITE ORGANIZATIONAL DETAILS	:
13.0		CERTIFICATE FROM CUSTOMERS (ATTACH COPIES OF DOCUMENTS)	:
14.0		POWER SITUATION	:
15.0		LABOUR SITUATION	:
16.0 *		APPLICABILITY OF SC/ST RELAXATION (Y/N) IF YES, SUPPORTING DOCUMENTS TO BE ATTACHED	
17.0		ORGANIZATIONAL DETAILS 1. PF NO 2. ESI NO 3. INSURANCE FOR WORK MAN COMPENSATION ACT NO 4. ELECTRICAL CONTRACT LIC NO 5. ITCC / PAN NO 6. SALES TAX NO 7. WC TAX REG. NO	:
18.0		DOCUMENTS TO BE ENCLOSED:	

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	1. FACTORY LICENSE 2. ANNUAL REPORT FOR LAST THREE YEARS 3. TYPE TEST REPORT FOR THE ITEM 4. PAST EXPERIENCE REPORTS 5. ISO CERTIFICATE –QMS, EMS, OHAS, SA 6. REGISTRATION OF SALES TAX 7. COPY OF TIN NO. 8. COPY OF SERVICE TAX NO. 9. REGISTRATION OF CENTRAL EXCISE 10. COPY OF INCOME TAX CLEARANCE. 11. COPY OF PF REGISTRATION 12. COPY OF ESI REGISTRATION 13. COPY OF INSURANCE FOR WORK MAN COMPENSATION ACT NO 14. COPY OF ELECTRICAL CONTRACT LIC NO 15. COPY OF PAN NO 16. COPY OF WC TAX REGISTRATION 17. DOCUMENTS IN SUPPORT OF SC/ST RELAXATION AT S.NO.16.0 18. GSTN CERTIFICATE	
--	--	--

*** Classification of BA s under SC/ST shall be governed under following guidelines:**

- **Proprietorship/ Single Ownership Firm:** Proprietor of the firm should be from SC/ST community. Governing document shall be Proprietorship Deed.
- **Partnership Firm:** Only such firms shall qualify which have SC/ST partners holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Partnership Deed.
- **Private Limited Company:** Only such firms shall qualify which have SC/ST directors holding equal to or more than 50% of the total ownership pattern of the firm. Governing document shall be Memorandum of Understanding (MoU) and/or Article of Association (AoA).

NOTE: Certification from SC/ST Commission shall be required for deciding upon SC/ST status of a person.

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ANNEXURE-I
MANUFACTURER AUTHORIZATION FORM

(To be submitted on OEM's Letter Head)

Date:

Tender Enquiry No.:

To,
Chief (Procurement & Stores)
The TP Western Odisha Distribution Ltd,
Burla

Sir,

WHEREAS M/s. [name of OEM], who are official manufacturers of having factories at [address of OEM] do hereby authorize M/s [name of bidder] to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by us

.....and
to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with the Special Conditions of Contract or as mentioned elsewhere in the Tender Document, with respect to the Goods offered by the above firm in reply to this Invitation for Bids.

We hereby confirm that in case, the channel partner fails to provide the necessary services as per the Tender Document referred above, M/s [name of OEM] shall provide standard warranty on the materials supplied against the contract. The warranty period and inclusion / exclusion of parts in the warranty shall remain same as defined in the contract issued to their channel partner against this tender enquiry.

Yours Sincerely,

For

Authorized Signatory

Annexure VIII

Safety Policy and Safety Terms and Conditions

The Tata Power Company Ltd

Document No.
TPSMS/GSP/CSM/015 REV 05



Contractor's Safety Code of Conduct

Date of Issue:
30/07/2020

Contractor's Safety Code of Conduct

Reason for Change	Prepared By	Checked By	Approved by
Revision to accommodate Existing changes in org structure and to simplify the procedure	Rajesh Sharma (Head-Safety Generation)	Suresh Khetwani (Chief - Safety & Environment) Monish Kumar (Chief -Corporate Contract)	V. V. Namjoshi (Chief Generations)

The Tata Power Company Ltd		<i>Contractor's Safety Code of Conduct</i>
Document No. TPSMS/GSP/CSM/015 REV 05		Date of Issue: 30/07/2020

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1. Objective

The Tata Power engages contractor workforce to execute, run and maintain various operating sites and facilities across locations for various business verticals including Generation, Transmission, Distribution and Renewable. The activities range from project execution, operation, maintenance to facilities management.

The management of contractor safety represents a significant challenge for management. Tata Power has a responsibility to ensure that contractors are provided with enough information and support to enable them to conduct their roles safely and without endangering health and safety of their own workforce or that of our staff.

To ensure reduction in reportable injuries and achieve goal of zero accidents, first edition of contractor safety code of conduct was launched successfully in the year 2014. Since last four years after the launch of CSCC, Tata Power could achieve the objective of reduction in reportable injuries and fatalities.

Over the period, as the system was being matured, a need was felt to make second revision of the CSCC process. Objective of second revision is improve existing CSCC system and make it user friendly.

2. Scope: This procedure applies to all operating and project sites of The Tata Power Company Ltd and Group companies including new businesses like EV charging, Home Automation etc.

3. Definitions

- 3.1. Order Manager:** Order Manager is the Tata Power representative, who has the ownership of the given job.
- 3.2. Site Safety Management Plan:** It is the safety plan agreed between Contractor and Tata Power. It will contain the entire job specific safety requirement and will be signed by the contractor.
- 3.3. Contractor:** An individual or a company that provides services to Tata Power under a signed contract.
- 3.4. Emergency:** a serious, unexpected or dangerous situation requiring immediate action, which may result in loss of revenue/property, business discontinuity. In case of Emergency*, services may be procured by selecting the qualified vendor based on the vendor category without the safety bid evaluation. It must be approved by MB level and above.
- 3.5. Expert Service jobs:** Jobs which needs expert services of contractor which does not involve direct exposure to the potential risk or work which involves only

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supervisory work such as expert for turbine overhaul, expert for boiler overhaul, expert for pump and motor, expert for compressor overhaul.

- 3.6. Head of the Division:** Business in charge of the division who is overall custodian of the generating station or transmission division or distribution division.
- 3.7. Category A Vendor:** Vendor eligible to carry out Very High & High risk (as per Tata Power Hazard Identification and Risk Analysis Procedure) and /or Long-Term Contract related to operation and maintenance (O&M) of plant. Vendors must fulfil the requirement specified for Category A in Appendix 12-CSMF-5 of this document.
- 3.8. Category B Vendor:** Vendors eligible to carry out technical jobs, that are classified under Medium /low risk. Vendors must fulfil the requirement specified for Category B in Appendix 12-CSMF-5 of this document.
- 3.9. Category C Vendor:** Vendors eligible for to carry out low or very low risk administrative and office jobs. For this he must fulfil the requirement specified for Category C in Appendix 12-CSMF-5 of this document.
- 3.10. Category D Vendor:** All Consultants, Medical Practitioners or vendors taking job from Tata Power and working from their own premises (e.g. motor rewinding at vendor's shop floor, equipment sent for repair to vendor's works etc.) are classified as Category D Vendor
- 3.11. High Risk Jobs:** A Job or its activities are considered as Very High or High Risk when Order manager apply the "Tata Power Hazard Identification and Risk Analysis" procedure and found safety risk associated with are under Very High or High category. Indicative lists of jobs are given in appendix 15 of this document.
- 3.12. Medium Risk Jobs:** Jobs or its activities are considered as medium risk when Order manager apply "Tata Power Hazard Identification and Risk Analysis" procedure and found the same as Medium Risk.
- 3.13. Low Risk Jobs:** Any job or its activities are considered as Low or Very low risk while Order manager, calculate it by applying "Tata Power Hazard Identification and Risk Analysis" procedure and found it under Low or Very Low category.
- 3.14. Long Duration Jobs:** When the duration of job is 12 months or more, it is considered as Long duration job
- 3.15. High Value Jobs:** When the value of the job contract is Rs. One Crore or more it will be considered as High value job.

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4. Responsibilities

4.1 Order Manager: Order Manager is the Tata Power representative, who is responsible for:

- 4.1.1 Finalizing the Site Safety Management Plan along with Contractor, Safety Concurrences Group, Divisional Safety Head and Expert (External or Internal) if required.
- 4.1.2 Supervise and ensure work is carried out as per the Site Safety Management Plan including agreed Risk Assessment (HIRA/JSA) and Method Statement.
- 4.1.3 Conduct audit and evaluate Safety Performance of contractor.
- 4.1.4 Ensure contractors adhere to all statutory provisions.
- 4.1.5 In case any deviation is needed in agreed safety management plan or in CSCC process for execution of job, Management of Change procedure will be applicable, and approval may be obtained from divisional head /Cluster head.

4.2 Contractor: The person, entity or organisation who is executing the job for Tata Power under a contractual agreement and will be responsible for the following

- 4.2.1 To follow all Tata Power Critical Safety Procedure, Rules and guidelines given in Safety Terms and Conditions
- 4.2.2 Undertake job as per Site Safety Management Plan CSM-F10 and method statements agreed with Tata Power.
- 4.2.3 Raise any concerns with regard to their work and its safety with the Tata Power Order Manager.
- 4.2.4 Report all injuries, near misses, unsafe acts/conditions, and occurrences to the Tata Power Order Manager immediately.
- 4.2.5 Ensure that all sub-contractors follow the Tata Power Safety Procedure and agreed Site Safety Management Plan CSM-F10.
- 4.2.6 To follow all statutory requirements as per the laws of the land.
- 4.2.7 All vendors applying for A category jobs or submitting quote for high risk jobs shall obtain certificates of ISO 9001, ISO14001 and ISO45001 before submitting quote for high risk Jobs.

4.3 Safety Concurrence Group: It is Cross Functional Team constituted by Corporate Safety Team, which will have representatives from Execution department, Divisional safety and Corporate / Divisional contracts. SCG will be responsible for the following

- 4.3.1 Assessment of Safety Potential of new vendor before registration as per CSM-F1-Safety Category Qualification Form.
- 4.3.2 Safety Evaluation of the bids as per evaluation format CSM-F-9 Safety Bid Evaluation Criteria
- 4.3.3 Finalization of the Site Safety Management Plan CSM-F-10 submitted by the contractor.

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4.3.4 Corporate Safety Team / Cluster Safety Head will be part of SCG during Safety Bid Evaluation for following types of jobs

4.3.4.1 High-Risk jobs to be carried out in Annual Overhaul / Major Shutdowns and Outages.

4.3.4.2 Capex jobs of High-Risk Category

5.1 Vendor Registration

For Vendor Registration, Corporate Contract will issue following documents for evaluation of contractor's safety capability

- 1) CSM-F1 –Safety Category Qualification Form
- 2) Safety Terms and Conditions

The document Safety Terms and Conditions provides the information about Tata Power safety System to the contractor. Contractor will submit the CSM-F1- Safety Category Qualification Form with all relevant details and documents to Vendor Registration Initiator, which will in turn forward it to Safety Concurrence Group (SCG) for evaluation. The SCG will evaluate the details submitted by the contractor based on a predetermined criteria CSM-F-5 Safety Potential Evaluation Criteria for Vendor Registration and will determine the category (Category A/B/C/D) for which the contractor will be registered. As mentioned in the above criteria, a site visit may also be organized by SCG prior to registration under Category A and B. In case, the contractor does not qualify the safety criteria, the contractor will not be registered. However, he may apply afresh for registration after 6 months. Please refer Appendix 1: Process Flow Chart for Vendor Registration.

5.2 Bid evaluation

At the time of placing the Purchase Requisition (PR), Order Manager is required to declare the risk involved in the of the job (i.e. High Risk / Medium Risk / Low Risk jobs, based on the RPN in HIRA. If the Job is "High Risk" or "Long Duration", then RFQ will be attached with following documents:

- 1) CSM-F7- Blank Safety Competency Form
- 2) CSM-F8 PPE requirements
- 3) Safety Terms and Conditions
- 4) Job Specific Safety Requirement (Educational and Professional Qualification, Skill & Experience Manpower, Tools and Tackles (e.g. man lifter, use of drone, use & availability of rescue kit), Work Methodology etc.)

Otherwise the RFQ will be attached only with Safety Terms and Conditions. Long term and low value jobs (see definition) are exempted from the CSCC process.

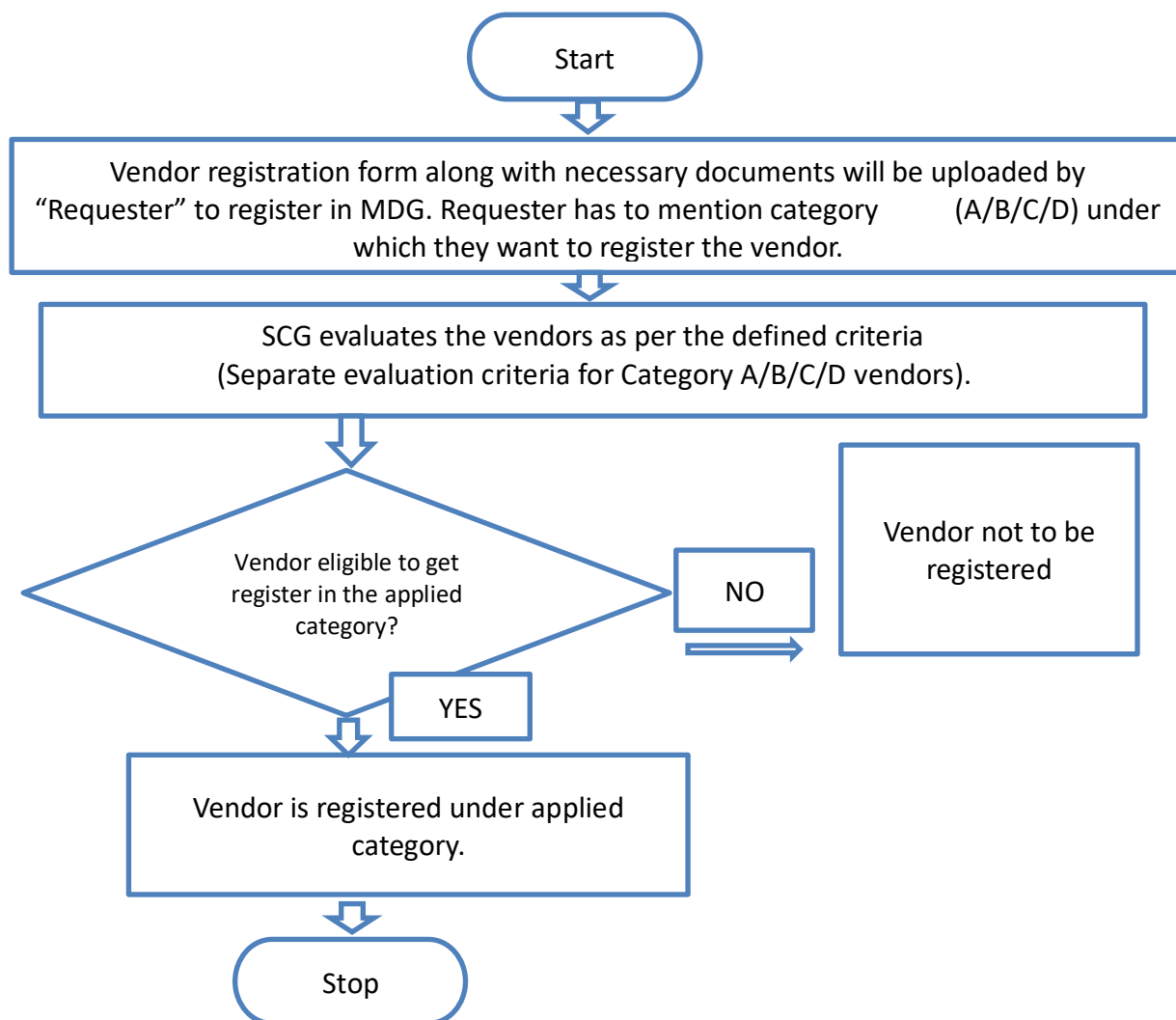
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Corporate Contracts will collect duly filled CSM-F7 Safety Competency Form along with the bid. All other stakeholders will also put their efforts to get all relevant safety data during meeting / discussions with the vendor. SCG will evaluate the document as per the CSM-F9 Safety bid evaluation criteria. If any specific condition related to Contract is required to convey to contractor, Site safety team will attach the same as Annexure for specific conditions of job and submit it to contract team along with safety bid evaluation form. Commercial bid of contractor will be considered for evaluation by contract team only if contractor is qualified in safety bid. Site Safety Management Plan, defining the complete procedure of executing the job at site will be signed by the contractor and SCG after mutual agreement. CC will attach a copy of site safety Management Plan and any specific condition of contract along with PO to the successful bidder. Please refer Appendix 6: Process Flow Chart for issuing RFQ and PO significant health and safety risk associated with it.

5.3 Safety Performance Evaluation

During the time of job execution, regular site inspection will be carried out by the Tata Power officials and violations will be dealt as per CSM-F4 Safety Violation Penalty Criteria. Apart from this, monthly safety performance of the contractor will be evaluated based on the predetermined criteria as per CSM-F11 safety Performance Score and monthly score will be maintained by the Order Manager. Certain percentage of each running bill will be retained as Safety Retention amount and will be released on the basis of Safety Performance Score at certain intervals as defined in CSM- F-3- Safety Performance Evaluation Criteria. Please refer Appendix 10: Process Flow Chart for Safety Performance Evaluation. Percentage of retention amount is mentioned in safety terms and conditions.

Appendix 1: Process Flow Chart for Vendor Registration



Appendix 2: CSM-F-1 Safety Category Qualification form

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1. **"Safety Category Qualification Form"** is part of vendor registration form. It needs to be filled by the contractor at the time of Registration and should be submitted to Requester / order manager with all relevant documents.
2. The same will be evaluated by Safety Concurrence Group of the Division (SCG) as per the criteria given in CSM-F-5.
3. Information provided by contractor will be verified during site visit.

Safety Category Qualification Form

Please Consider my application for

Category A Vendor: Vendor eligible to carry out Very High- and High-risk O&M jobs

Category B Vendor: Vendors eligible to carry out technical jobs, classified as Medium / low risk

Category C Vendor: Vendors eligible for to carry out low or very low risk administrative and office jobs

Category D vendor: All Consultants, Medical Practitioners or vendors taking job from Tata Power and working from their own premises.

Name of the Vendor:																
Sr. No	Safety Information	Remarks	Attachment													
1	Certified for i. OHSAS 18001/ ISO 45001, ii. ISO: 14001 iii. ISO: 9001 (ISO certificates to be issued from reputed accreditation agencies specified by Tata Power)	i. Y/ N ii. Y/ N iii. Y/ N	Attach copy of the certification													
2	Safety Statistics for Last Three (3) Years - LTIFR - LTISR	Yes/No	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;"></th> <th style="width: 20%;">Year 1 (Last FY)</th> <th style="width: 20%;">Year 2</th> <th style="width: 20%;">Year 3</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">LTIFR</td> <td></td> <td></td> <td></td> </tr> <tr> <td style="text-align: center;">LTISR</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Year 1 (Last FY)	Year 2	Year 3	LTIFR				LTISR			
	Year 1 (Last FY)	Year 2	Year 3													
LTIFR																
LTISR																
3	Do you have Safety Policy?	Yes/No	Attach copy of the safety policy.													
4	Do you have Safety training process?	Yes/No	Attach safety training process.													
5	Do you have Safety organization structure e.g. Safety Officers and Safety Committees?	Yes/No	Attach copy of the safety organization structure.													
6	Name and address of sites where work is in progress or worked earlier	Yes/No	Site details to be attached for inspection by Officials.													

Signature _____ :

Name and Designation _____ :

Stamp of Organization _____ :

Appendix 3: Safety Terms and Conditions

Please refer the attached document Safety Terms and Conditions.

Appendix 4: CSM- F-3- Safety Performance Evaluation Criteria

1. A certain percentage of the bill value will be retained against every running bill as safety performance retention. The amount will be released with the last invoice or every six-month based on Safety Performance Score of contractors. The retention amount will be calculated based on contract value as below.

Contract Value	Retention Amount (%)
Up to 10 Lakhs	2.5
10 – 50 lakhs	2
0.5 to 10 Cr	1.5
>10 Cr	1

2. The evaluation criteria include Lead Indicators such as CFSA (Contractor Field safety Audit) score, percentage of workers trained in TPSDI, inspection of critical equipment. Lag indicators such as Fatalities, LWDC and man days lost.

3. The retention amount saved will go to a separate Safety Improvement Fund.

4. For the contract value of more than Rs 1 Cr or contract duration more than 12 months, the retention amount shall be released half yearly based on safety performance. For all remaining contracts, the retention amount will be released with the final bill.

5. Long term jobs with low value (Less than Rs. 1 Cr.) are exempted from the safety retention. Invoice of these type of jobs can be cleared without safety retention.

6. In case of job stoppage due to safety violations / unsafe observations at the site, no time extension shall be given to the contractor, if such delays are attributable to contractor.

7. In case of fatality, limb loss or loss of property, vendor must pay for liability, legal, statutory and additional mutually agreed settlement charges imposed by the appointed committee. This charge is over and above the retention amount.

8. The committee will finalize an amount between 5 -50 lakhs based on factors such as advise by statutory authorities, contract value and impact of accident etc.

9. Safety performance bonus 1% (limiting to 50 lakhs) of the invoice value will be considered at the end of the job if the contractual safety performance score 100%.

10. During the progress of the work, concerned Supervisor/Engineer will visit and inspect the work site regularly and evaluate the safety performance of the contractor based on matrix attached herewith and apply the Consequence management policy as applicable.

11. Order Manager, divisional chief and SBU head have the authority to terminate the contract in case of three consecutive serious violations.

Safety Performance Evaluation report- CSM-F-3

	<u>Lead Indicators</u>	Unit Of measurement	Target	weight age
1	% of Employee certified in TPSDI/Authorized agency	%	50%	10
2	CFSA score (Annexure 6.1)	Average Severity of Violations	1.49	20
3	Monthly inspection completed by contractor for Critical Equipment, lifting Tools & Tackles and hand tools used at site as per Tata Power Checklist	%	80	5
4	Revalidation of Condition of tools, tackles and equipment by Order Manger.	%	100	15
	<u>Lag Indicators</u>			
1	Number of Fatalities	No.	0	30
2	Number of Lost workday case (LWDC)	No.	0	10
3	Man-days Lost	No.	0	10

Appendix 5: CSM- F-4 Safety Violation Penalty Criteria

Penalty shall be imposed on the contractors under the following circumstances for breaching the contractual agreements:

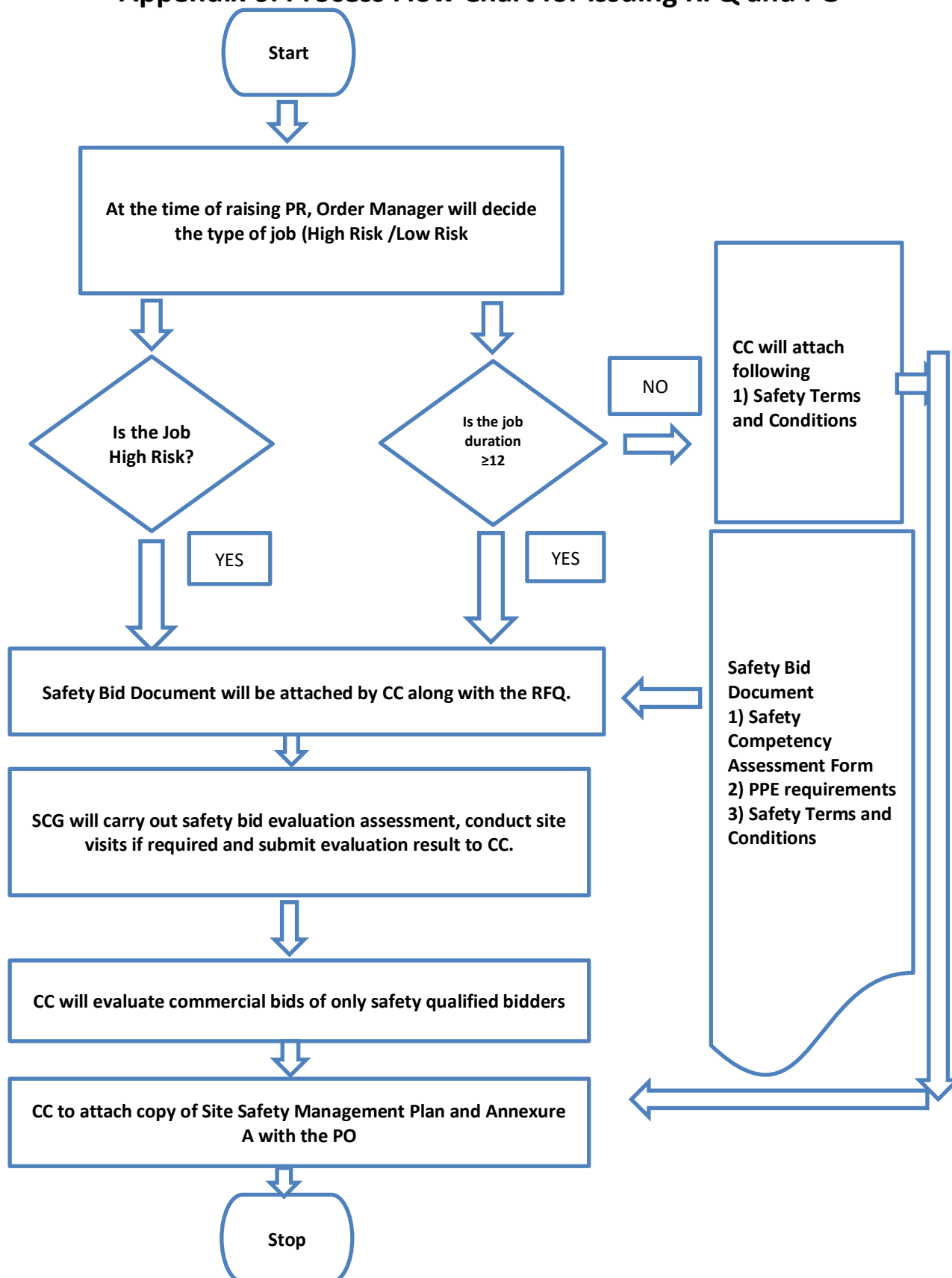
Sr No	Description of violation	Severity	Penalty
1.	Working without Permit	5	5000/-
2.	Untrained (TPSDI) worker on high-risk jobs.	5	5000/-
3.	Unhygienic/Bad condition of PPE	2	250/-
4.	Not following Tata Power Procedure & Standard	4	2000/-
5.	Unsafe Act/Condition of Severity 4	4	2000/-
6.	Unsafe Act/Condition of Severity 5	5	5000/-
7.	No Earthing of Electrical equipment	5	5000/-
8.	Damaged welding cable	5	5000/-
9.	Violation of Positive Isolation Procedure (LOTO Not followed)	5	5000/-
10.	ELCB of more than 30 mA/ELCB not working	5	5000/-
11.	On/Off switch of welding m/c not working	5	5000/-
12.	Electric cable tied with metal wire	5	5000/-
13.	Leakage found DA hose / cylinder	5	5000/-
14.	Use of LPG	5	5000/-
15.	Use of IC engine based Three-wheeler at the work site.	5	5000/-
16.	Starting the job without Toolbox Talk	5	5000/-
17.	Splatter falling on DA hose / Gas-line/ pathways / Equipment	5	5000/-
18.	No safety latch in crane hook	5	5000/-
19.	Load raised or swung over people or occupied areas of buildings	5	5000/-
20.	Persons standing in swing area of construction equipment.	5	5000/-
21.	Using damaged slings.	5	5000/-
22.	Unstable scaffolding/nonstandard Scaffolding in use	5	5000/-
23.	Handrails and mid-rails are missing	5	5000/-
24.	Safety Harness not anchored with lifeline/fixed structure	5	5000/-
25.	Fall arrestor not provided/ Not being used.	5	5000/-
26.	Double lifeline not used for working at height	5	5000/-
27.	No rubber mat in Electrical Distribution (DB) room	4	2000/-
28.	Water found accumulated in Electrical Distribution room/near welding machine.	4	2000/-
29.	Inserting electric cables into socket, without using plug.	4	2000/-
30.	Use of damaged electrical cable/two core cables.	4	2000/-
31.	Inflammable material found in Distribution Room / welding areas.	4	2000/-
32.	Loose material falling into excavated pit	4	2000/-
33.	Water logging into excavated pit /trenches	4	2000/-

34.	No / inadequate Barricade	4	2000/
35.	Undercut / cave-in found on sides of excavated pits	4	2000/
36.	Grinding wheel/ Coupling/ Piling winch/other rotating parts without guard	4	2000/
37.	The HMV/Mobile Crane operator does not have a valid HMV driving license.	4	2000/
38.	The loading area is not leveled properly.	4	2000/
39.	Ladder not anchored at top	4	2000/
40.	Opening found in working platform of scaffolding/floor	4	2000/
41.	Inadequate illumination at the working area	4	2000/
42.	Loose material lying on Gantry, platform	4	2000/
43.	Cleaning with Compressed Air.	3	500/-
44.	Gas Cylinders using without cap.	3	500/
45.	Gas Cylinders stored without securing	3	500/
46.	Bringing inside any other chemicals, apart from approved by Safety dept.	3	500/
47.	Using drum for sitting or accessing height.	3	500/
48.	Misusing emergency facilities like fire hydrant line/ hose box/ spray system/ eye wash etc.	3	500/
49.	No provision of Safety net where falling materials or tools may occurs	3	500/
50.	Taking electrical supply from non-designated outlet (other than socket).	3	500/
51.	Restricted gangways due to unwanted materials.	3	500/
52.	Not reporting incident.	3	500/
53.	Entering into restricted area like switch yard/ hazardous storage	3	500/
54.	Work without supervision	3	500/
55.	Parking of vehicle without applying wheel choke at right front-front and left rear-rear wheels other than passenger cars.	3	500/
56.	Heavy Vehicle without helper or co-driver.	3	500/
57.	Not wearing florescent safety jacket at site.	3	500/
58.	People travelling in load body of vehicle.	3	500/
59.	Parking of vehicles at non designated area.	3	500/
60.	Shifting heavy materials without guide ropes.	3	500/
61.	Using other than 24V lamp inside the confined space/Use of other than 24V lamps.	3	500/
62.	Angular loading/ lifting with Crane or hoist.	3	500/
63.	By passing the limit switch/ Safety Interlock.	3	500/
64.	Housekeeping activities on road without proper barricade.	3	500/
65.	Trying to board or alit from running vehicle.	3	500/
66.	Cylinder Valves of Gas cylinders not closed when not in use.	3	500/
67.	Flash-back arrester not used.	3	500/

68.	Hand Trolley wheel found damaged.	3	500/-
69.	Guy ropes of required length on both sides of object are not used during movement with load.	3	5/ 00/-
70.	Scotch block/wedge not provided, when the vehicle is parked.	3	500/-
71.	Suitable Trolley not provided to hold the cylinders.	3	500/-
72.	Locked First Aid box	3	500/-
73.	Caution boards, danger signs (luminescent /red) along with emergency contact number are not found displayed.	3	500/-
74.	Person found jumping barricading tape	3	500/-
75.	Stacking of pipes, pile casing, drums without chock blocks/wedges	3	500/-
76.	The terrain on which Heavy Equipment/Machinery moves is not reasonably hard.	3	500/-
77.	Without Safety Helmet at working sites	4	250/-
78.	Without Crash Helmet (on bikes)	4	500/-
79.	Without Full body double lanyard Safety Harness (for work at height)	5	5000/-
80.	Without Hand gloves - Material Handling, Welding, Cutting,	4	100/-
81.	Without Safety goggles/ face shield - Welding/Cutting /Grinding	5	5000/-
82.	Handling Chemical without PVC Apron	5	5000/-
83.	Smoking in prohibited area (Closed Go-downs, Storage of flammable material, Storage of Gas cylinders)	5	1000/-
84.	Sleeping at Workplace	3	100/-
85.	Driving beyond speed limit	3	1000/-
86.	Seat Belt While Driving (for front seat passengers and driver)	3	500/-
87.	Driving without license	4	1000/-
88.	Heavy Commercial vehicles without reverse horn	3	500/-
89.	Nonfunctional Head light/ taillight and side indicators	3	100/-
90.	Using Mobile Phone During Driving	5	5000/-
91.	Poor visibility of registration number/ without registration number	3	100/-
92.	Broken/ without Side view mirror	3	100/-
93.	Over speeding above specified limit	3	500/-
94.	Broken/ Without Pressure gauge on Oxygen/ LPG / Acetylene cylinder.	3	500/-
95.	Without Flash back arrestor on Industrial Acetylene & Oxygen cylinders.	5	5000/-
96.	Spillage of hazardous material/chemicals during transportation	4	2000/-
97.	Electrical equipment without Earthing/ ELCB/ Double Insulation Cable.	5	5000/-

98.	Lifting Tools & Tackles used without/ expired Test Certificates.	5	5000/-
99.	Housekeeping repeatedly not maintained		
100.	• First Time	3	Warning
101.	• Second Time	4	1000/-
102.	• Third Time	5	5000/-
103.	Serious Violation of House Keeping (after 1st or 2nd warning to be decided by Project Manager depending on the severity)	5	Rs.10000/- and above
104.	Repeat Violation of same nature	5	5 X Penalty for Violation
105.	Appointment of subcontractor without his Safety Bid Evaluation and/or without the permission of engineer in charge or Order manager.	5	5% of Contract Value

Appendix 6: Process Flow Chart for issuing RFQ and PO



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Appendix 7: CSM-F-7 Safety Competency Form (Template)

Name of the Vendor/Bidder : -

Name of the Sub Vendor (If job is given to Sub Vendor) : -

Description of the Job : -

Request for Quotation (RFQ) No. :-

Vendor/Bidder to mandatorily provide the below safety competency related information.

1. Proposed Manpower Deployment Schedule : -

Category of Manpower Deployed	Minimum Qualification & Experience	Proposed Numbers against each category month-wise			
		Month 1	Month 2	...	Month n
Project Manager					
Site-In-Charge (Site Manager)					
Shift-in-Charge					
Safety Officers					
Supervisors					
Technicians					
a.....					
b.....					
Highly Skilled Workmen					
a.....					
b.....					
Skilled Workmen					
Semi-Skilled Workmen					
Unskilled Workmen					
Total Manpower					

Instructions to Bidder to fill:

- Bidder to provide the overall site manpower deployment schedule as above.
- Bidder to indicate (through colour code mentioned below) their direct and sub-contracted employees

Direct bidder employee

Partly Direct / Partly sub-contracted

Sub-Contracted

- Against each of the category, bidder to indicate the minimum qualification and experience of the proposed manpower.
- Rows can be added to also identify other specialised manpower e.g. specific details to be included for high risk activities operators
- Columns can be extended to the actual duration of Site activities.
- Bidder to note that if operations is in shifts, then Shift-in-charge / safety officers are required for each shift of operation.

2. List of Tools, Tackles, Machines and Equipment: -

Bidder/ Vendor to provide the list of tools, tackles, equipment **to be used during the job / project execution**. Bidder/Vendor to ensure that all the lifting tools and tackles, pressure vessels are duly certified by the competent person authorised by the Chief Inspector of Factories of the respective state prior to start of the job

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Sr. No.	Description of Tools / Tackles	Capacity / Rating	Quantity	Make	Remarks
1					
2					
3					
4					
5					
6					
7					
...					

3. Safety Records:

Bidder to provide the details of fatalities and lost workday cases (LWDC), occurred in last three years (data to be provided for the last completed FY and preceding 2 years).

Description	Safety Data for Last 3 Years		
	Year 1 (Last FY)	Year 2	Year 3
	20__ - __	20__ - __	20__ - __
Fatalities (Nos.)			
Lost Workday Cases (Nos.)			

In case of no fatalities, LWDC during any year, the form may be filled stating NIL against the respective year. Bidders are encouraged to also submit the RCA / incident investigation reports and the learning's implemented out of the above reported incidents

4. Job Safety Plan/ Method Statement:

Bidder to provide / enclose a detailed Site/Job Safety Plan along with a Method statement detailing the execution philosophy (how the bidder intends to execute the Job/Project), identifying all key activities which are required to be performed by the contractor at Site. Bidder to also list down all high-risk activities and provide the Hazard Identification and Risk Assessment (HIRA) for all such high-risk activities involved in the site work.

(Use Method Statement template attached as annexure A and sample as attachment B)

5. Management System Certification: -

Sr.	Certification	Yes / No	If Yes, Year of Certification	If No, Target date for Certification
	ISO 9001			
	ISO 14001			
	OSHAS 18001 / ISO 45001			
	Any other (please specify.....)			

Note: Please attach certificates to support above. In case not accredited for above but applied for, application letters may be attached.

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Appendix 8: CSM-F-8 PPE requirements

The Contractor shall ensure that the following PPE of Approved standards shall be available at all time and shall be used by his employees with no exception whatsoever.

1	All contractor's employees at site	Safety Florescent Jacket (orange color), Safety helmet & safety shoes with Composite or steel toe cap
2	Workers mixing asphalt, cement, lime / concrete	Safety goggle & protective Hand gloves and footwear, Nose mask.
3	Welders / Grinders	Welding screen/goggles, safety shoes, leather hand gloves, aprons, leg guard
4	Stone breaker	Protective goggle, hearing protection, anti-vibration hand gloves and Protective clothing.
5	Electricians	Rubber hand gloves & Electrical resistant shoes.
6	Workers engaged in insulation using glass wool etc.	Respiratory mask & leather Hand gloves, goggles.
	Workers engaged in coal handling plant, ash handling plant and working in high dust area.	Dust mask, Hand gloves, protective goggles.
7	Workers working at a height of 1.8 Meter or above.	Double lanyard full body harness, fall arrestor and safety net made of reinforced nylon fiber ropes firmly supported with steel structures

- PPE shall be conforming to BIS/DGMS/DIN specifications, in good condition and shall be comfortable to his employees, when used.

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Appendix 9: CSM- F-10 Site Safety Management Plan / Method Statement

Site Safety Plan / Method Statement (Template)

This Method Statement describes the specific safe working methods which will be used to carry out the described work. It gives details of work procedure with control measures to counter health and safety issues related to this work. The listed content of this Method Statement can be changed/modified subjected to job scope / specifications, but task specific method statement once finalized & approved, that should not be modified during work execution without permission from the approving authority.

Project/Job Name			
Scope of work: -			
Drawing References: -			
Detail of Sub contractors involved: -			
Method Statement Prepared By: - Designation: - (e.g. Site Manager)	<u>Signature</u>	<u>Date</u>	

1.0 Introduction (*Describe purpose of the work, give details of type and scope of work being carried out*);

--

2.0 Location of Work (*Give site address and precise location on site where work is to be carried out.*)

--

3.0 Safety Document /Specific Approval Required (*Details of any safety documents or specific approval i.e. Client specific approval required to undertake the work*)

--

5.0 Role & Responsibilities of Personnel/Parties Involved in activities: -Clearly define role and responsibilities of all personnel involved in activity i.e. Site management staff including subcontractors' parties- Main contractor Project/Site Manager, Sub Contractor Site Manager, Project Engineer, Safety officer, Competent Supervisory Staff)

6.0 Working/Activity Description: - It is important that all operatives should have clear idea of those operational sequences and responsible supervisor must verify their competency prior to their engagement in operation.

6.1 Pre-Working Checks

6.2 Resources (Equipment, tools including manpower) Details i.e. Equipment and Tools, specific operational equipment, test kits, lifting resources, Details of materials to be used in operation, including any reference to COSHH assessments in case of use of any chemicals, Details of the manpower allocated to the task, e.g. titles, qualifications, competences, direct manpower, contractors. Details of plant, tools and equipment to be used for the work, including the availability of relevant statutory documents, checks or inspections etc. Details of fencing, barriers, cones, chains, dangers notices, warning signs etc.

Tools required for work:

Sr.No	Tools /Equipment /Machine	UOM	Required Qty.	Remark
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

6.4 Operational Sequence of work: - Full description of the work, setting out the methodology in a sequential manner, including any reference to any identified operational restraints. Also refer here sec. 5.0 responsibilities part for every step of work sequence).

Sr.No	Activity	Details of job sequence	Risk Involved	Control Checks
1.		1.		
2.				
3				
4				
5.				

6.7 Final Checks & restoration of work area after completion of work :- Those checks to be carried out by responsible supervisor in witness of his line hierarchy by use of specific checklist of certain operational checks and once those completed satisfactory, PTW (if applicable) to be closed and isolation arrangements to be restored by removing barricades/cautionary tags.

7.0 Task Specific Hazards: - Refer to Task Specific Risk Assessment and attach in appendix
Attachment: - Specific Risk Assessment

In addition, please provide below control measures in risk assessment (as applicable).

Fall Protection Measures: (Where Work at height cannot be avoided)							
Control Measures for Electrical Hazards							
Others Hazard if any (please provide details)							
Hazardous Substances to be used in job : (Attach MSDS if required)							
	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No

7.0 Emergency Provisions: -Relevant operational possibility of a programme in the case of emergency situation i.e. electrical supply restoration. In addition emergency response provisions i.e. first aiders, fire fighting, and first aid arrangements, nearest onsite/offsite emergency response also to be considered during emergency planning.

--

8.0 "5S issues" / Waste Disposal/ Housekeeping and Environmental issues: -Details waste disposal processes and or housekeeping activities, Details of environmental impacts and control measures.

--

9.0 Personal Protective Equipment (PPE):- (Tick on PPE requirements for the task/Job

Required Personnel Protective Equipment:							Other:
	Safety Boots	Hard Hats	Safety Gloves	Hearing Protection	Eye Protection	Respiratory Protection	1. Hi-Viz 2. Coveralls 3.

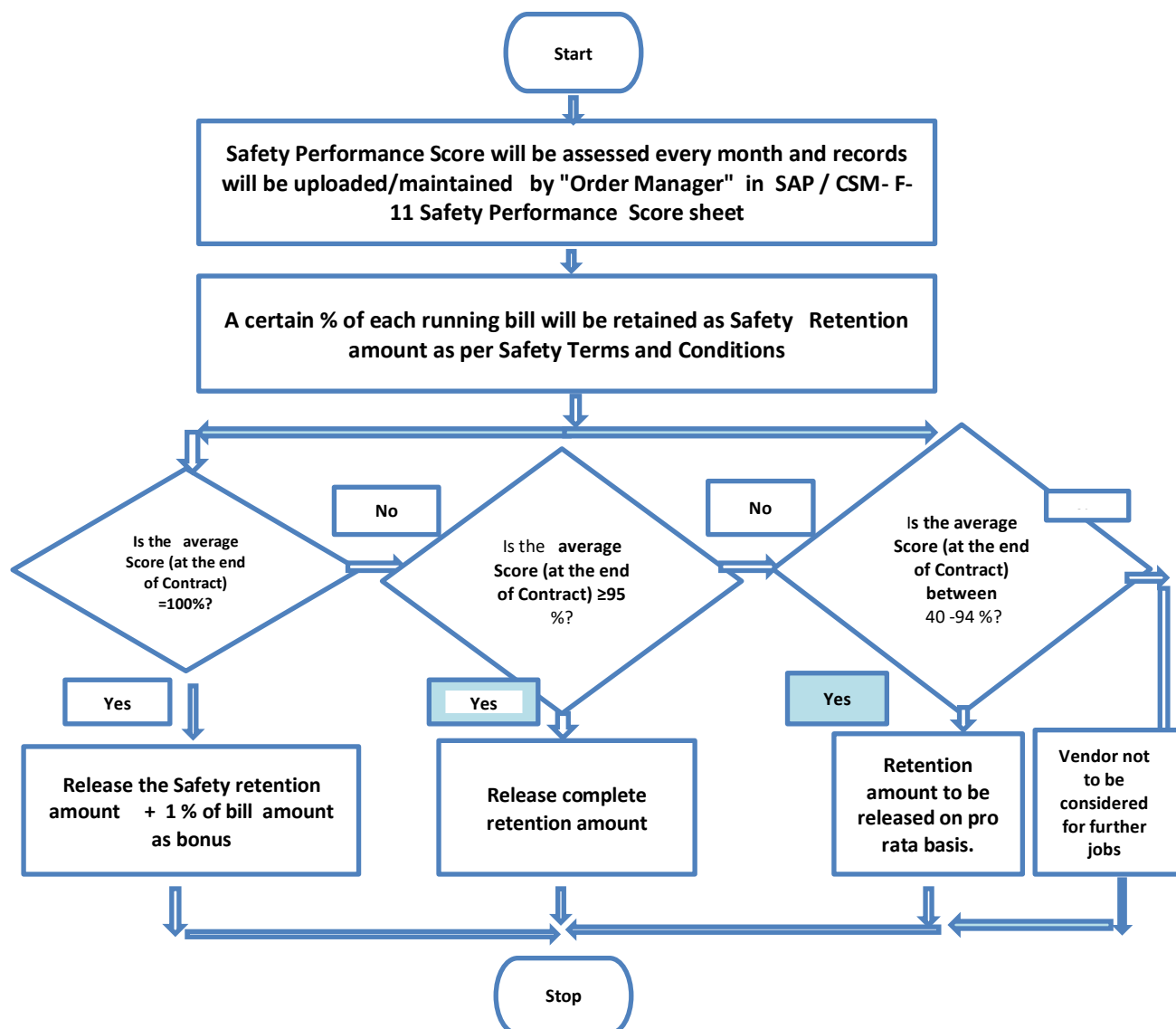
10.0 First Aid facilities and Nearby Hospitals Details

	Name of On-Site First Aider:	
	First Aid Box Location:	
	Location of Nearest Hospital:	

11.0 Occupational Health, Fitness and COVID-19 related Preparedness:

- Please give a brief writeup / methodology of your organization planned to avoid impact of the COVID-19 pandemic at Tata Power working site.
- Please give brief details of occupational health and hygiene related interventions planned by your organisation to ensure good health and fitness of workforce at Tata Power site.

Appendix 10: Process Flow Chart for Safety Performance Evaluation



Appendix 11: CSM- F-11 Safety Performance Score

Sr. No	Parameter	Unit of Measurement	Target	Weight age	Actual Performance	Actual Score
Lead Indicator						
1	% of Employee certified in TPSDI/Authorized agency	Number	50%	10		
2	CFSA score (Annexure 6.1)	Average Severity of Violations	1.49	20		
3	Monthly inspection completed for Critical Equipment, lifting Tools & Tackles and hand tools used at site	Number	80%	10		
4	Condition of critical tools, tackles and equipment	Number	100%	10		
Lag Indicator						
1	Number of Fatalities	No	0	30		
2	Number of Lost workday case (LWDC) (reportable)	No	0	10		
3	Man-days Lost	Man-days	0	10		
					Final Score	
					Invoice Value	
					Amount to be released	

Safety Performance Evaluation Criteria

Lead Indicators

	Target				
% of Employee certified in TPSDI/Authorized agency	50%	100%	Less than 100%		
Score		10	5		
	Target				
CFSA score	<=1.49		1.5 to 2.5	2.51 to 3.5	>=3.51
Score	20		15	10	0
	Target				
Monthly inspection completed for Critical Equipment, lifting Tools & Tackles and hand tools used at site	>=80%		79 to 50%		<50%
Score	10		7		0
	Target				
Condition of critical tools, tackles and equipment	100%		<100%		
Score	10		0		

Lag Indicators

Number of Fatalities	0	>0	
Score	30	0	
Number of LWDC (reportable)	0	>0	
Score	10	0	
Number of man days lost	0	1 to 5	>5
Score	10	5	0

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Appendix 12: CSM-F-5 Safety Potential Evaluation Criteria for Vendor Registration

At the time of vendor registration, vendor will be registered under 3 categories

- 1) **Category A**- Vendors eligible to carry out High risk Jobs
- 2) **Category B**- Vendors eligible to carry out technical jobs that are low risk
- 3) **Category C**- Vendors eligible to carry out administrative and office jobs
- 4) **Category D**- Outsourced Jobs / Consultants /Medical Practitioners / Suppliers etc

For vendors to be registered under **Category A**, a safety potential evaluation will be carried out based on following parameters.

Sr. No	Description	Weight age (%)	Actual Score	Remarks
1	Does the contractor have a valid ISO 45001/ OHSAS 18001/ Certification?	30		
2	During site visit check for safety adequacy at site	30		Annexure - 12.1
3	Check the Safety statistics of Contractor	10		Annexure - 12.2
4	Check the Safety orientation & training process of Contractor	15		Annexure 12.3
5	Check the organizational structure for safety professionals & engineers / supervisors.	10		Annexure - 12.4
6	Certified/skilled workers as a percentage of overall workforce	5		
	Total	100		

Evaluation Criteria for Category B

Sr. No	Description	Weight age (%)	Actual Score	Remarks
1	Does the contractor have a valid ISO 9001 certification?	30		
2	During site visit check for safety adequacy at site	30		Annexure -12.1
3	Check the Safety statistics of Contractor	10		Annexure -12.2

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4	Check the Safety orientation & training process of Contractor	15		Annexure -12.3
5	Check the organizational structure for safety professionals & engineers / supervisors.	10		Annexure -12.4
6	Certified/skilled workers as a percentage of overall workforce	5		
	Total	100		

Evaluation Criteria for Category C

Sr. No	Description			Remarks
		Weight age (%)	Actual Score	
1	Does the contractor have a valid ISO 9001 certification?	40		
2	Check the Safety statistics of Contractor	40		Annexure - 12.2
3	Check the Safety orientation & training process of Contractor	20		Annexure - 12.3
	Total	100		

Annexure 12.1: Evaluation Criteria for Category D:

Category D does not require any evaluation as it is for outsourced job outside the Tata Power company premise.

Annexure 12.2

Check List – Adequacy of Safety Statistics of Service Provider				Actual Marks obtained	Remarks
1	Check the safety statistics for last 3 years (LTIFR and LTISR)		Marks		
		Statistics available	5		
		Statistics not available	0		
2	Check the trend LTIFR for last 3 years		LTIFR value	Marks	
			0 to 0.2	5	
			0.21 to 0.3	2.5	
			>0.3	0	
3	Check the trend of LTISR last 3 years		LTISR value	Marks	
			0 to 2	5	
			2 to 3	2.5	
			>3	0	
4	Has there been any Prosecution/Conviction for any contravention with regard to Safety & Health provisions under the Factories Act /Electricity Act/ BOCW Act and Rules framed there under?			Marks	
		No Prosecution		10	
		Prosecution		0	
		To be provided in written on letter head			
	Total		25		

Annexure 12.3

Check List – Adequacy of Safety orientation & training process of Service provider				Actual Marks obtained	
1	Records of safety trainings provided to safety officer/supervisor/workmen during last 1 year as percentage(%) of total employed by service provider	Safety Officer		Marks	
		≥80% of employees		5	
		50 to 79 % of employee		2.5	
		<50%		0	
		Safety Supervisor		Marks	
		≥80% of employees		10	
		50 to 79 % of employee		6	
		<50%		0	
		Workmen		Marks	
		≥80% of employees		10	
		50 to 79 % of employee		6	
		<50%		0	
	Total	25			

Annexure 12.4

Check List – Adequacy of organizational structure for safety professionals & engineers / supervisors.				Actual Marks obtained
1	Check availability of number of safety officers from government recognized institute as per workforce strength.		Marks	
		1 in 50 employees	10	
		1 in 100 employee	6	
		Any other	0	
3	Check availability of qualified workforce from government recognized institute/TPSDI.		Marks	
		100% of safety officers qualified	5	
		50 – 99% of safety officers qualified	3	
		<50	0	
	Total	15		

Appendix 13: CSM-F-9 Safety Bid Evaluation Criteria.

The User has to select whether the job is high risk/ long duration at time of raising the PR.

- 1) The decision whether job is “**high risk**” or not has to be made by order manager on the basis of Risk involved (Risk Priority Number in HIRA) of the Jobs. An indicative list of high-risk jobs is attached as annexure
- 2) If a technical job is of low risk with estimated duration of the contract is 1 year or more the job should be treated as “**long duration**”.
- 3) All Safety bids will be evaluated by Safety Concurrence Group. Structure of SCG will be declared by Corporate safety. Corporate safety team will audit bid evaluation process of a few selected jobs and Quality of evaluated safety Bids.
- 4) Records of jobs sent by for Safety Bid evaluation shall be maintained by Corporate Contract team in existing tracing sheet along with other jobs.
- 5) For Safety Bid Evaluation will be based on following parameters.

		Minimum Requirement	Weight age (%)	Score Obtained
Manpower	Safety Officer (1 per 500 workers)	Qualification- Officer shall possess Advance Diploma In Industrial Safety by state technical board. Experience- Minimum 1-year experience in relevant field as mentioned in the job in PR.	5	
	Safety Supervisor (1 per work site up to max. 50 workers)	Qualification- Supervisor shall possess ITI/ Diploma in relevant field. Experience- Minimum 2-year experience in relevant field as mentioned in the job in PR. Training – Trained and certified by TPDSI or equivalent institute in relevant safety procedures. Note: On request of the contractor/Users -TPDSI should vet & certify the skilled & experienced	5	

		Technician if Technical Qualification is not adequate.		
	Technician (Skilled workers as electrician, rigger, fitter, welder, cable jointer, line men etc)	Experience- Minimum 2 year experience in relevant field as mentioned in the job in PR. Training – Trained and certified by TPSDI or equivalent institute in relevant safety procedures.	5	
Tools & Tackles	Equipment / Machines/ Tools & Tackles(lifting and shifting tools)	The list of Equipment /Machines / Tools and tackles to be used for job to be submitted by the contractor. Evaluation of the list will be carried out based on 1) Suitability as per the relevant job 2) Make and age of the tools from authorized agencies defined by the user. 3) Certification by the competent authority of respective state.	30	
Safety Records	Safety Records	Safety Records for last 3 years (as per vendor or as per our knowledge) – Recommendation?	15	
Safety Plan	HIRA/Contract Job Safety Plan	Adequacy of HIRA and Job Safety Plan with respect to relevant job. More weight age will be given to vendor for using mechanized work and advanced tools and equipment	20	
Accredited Bodies certificate	ISO-9001	ISO-9001	2	
	ISO-14001	ISO-14001	3	
	OHSAS 18001 ISO 45000	OHSAS 18001/ISO 45000	15	
		Total Score		

6) Vendor entitled to carry out the job only when qualified for the safety evaluation as follows:

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Contractor is qualified in safety bid only if his total score is more than 70% in all category 1 jobs such as high risk/long duration.

- 7) The Corporate Contract has to ensure that the vendor provides the filled "Safety Competency Form" along with the quotation.
- 8) Corporate Contract will forward the Safety Competency Form received from the contractor to the Safety Concurrence Group for evaluation.
- 9) In case SCG wants to visit the site, the Safety Competency will be based on evaluation at the time of site visit Annexure 13.1

Annexure -13.1:

Checklist to be used: During site visit to check the adequacy Safety systems.			
		Observation	Score* (1-5)
1	Check the adequacy of safety policy and Safety Management system of the contractor.		
2	Does the contractor have written down safety procedures?		
3	Check the records of Near miss, unsafe act, unsafe conditions and incidents.		
4	Check the organization setup to implement the safety systems at site (safety officer, safety supervisor)		
5	Check whether safety meeting and toolbox talk carried out regularly and records maintained or not.		
6	Is the process of incident investigation adequate or not?		
7	Verify incident reporting and recording system		
8	Check the usage of equipment/tools and tackles.		
9	Check for housekeeping at site		
10	Check the use of PPEs and general behavior of workforce towards safety		
	Total Score		
	Site Visit Score		

Score*- rating on the scale of 1-5 to be given based on the observations on site. Score of 1 is the lowest and core of 5 is the highest.

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Appendix 14: CSM-F-11.1 CFSA Format

CONTRACTOR FIELD SAFETY AUDIT													
Project Name :													
Date:													
Description of Severity rating:						Audit Team:							
	1 = Untidy area, minor issues, sets poor example												
	2 = Restricted access, unacceptable trash, disorderly												
	3 = Rule or procedure violation, potential injury												
	4 = Unsafe condition, serious injury potential												
	5 = Immediate serious injury potential, stop activity immediately and correct					Audit Time:				10:00hrs -11:30 hrs			
						Weather:				cloudy			
	Description	Responsible		Number Personnel Observed		Violations			Remarks	Leading Indicators			
		Engineer	Contractors	Good Citizens	Violators	Number of Violations	Severity	Violations x Severity		4 & 5	PPE	Unsafe Act	Unsafe Condition
Area													
1													
	Sub Totals			0	0	0	0	0			0	0	0
	% of Observed People Working Safely												
	Number of Violations												
	Average Severity of Violations												
	Number of Severity 4 & 5 Violations												
	% of 4 & 5 Violations												
	Approximate Number of Workers Observed												
	Number of People on Site												
	% of Workers Observed												

Appendix 15: Indicative List of High-Risk Jobs

To access the exhaustive list of High-risk jobs, please refer the following documents

- 1) High Risk Jobs- Generation
- 2) High Risk Jobs- T&D
- 3) High Risk Jobs- Renewable

Indicative List of High-Risk Jobs -Generation Cluster

Sl. No.	Jobs				
1	Demolition / Painting of Chimney				
2	Survey Sounding Jobs in Sea				
3	Dredging at Coal Birth Jetty				
4	Maintenance / Testing and Replacement of Extra High Voltage (132 KV etc.) Switchyard equipment				
5	Maintenance of EOT Cranes				
6	Deep excavation (5 feet or more) near existing buildings /Structure s				
7	Working inside confined spaces (entry through manhole)				
8	Operation Maintenance of elevators				
9	Working on Live control Circuits for identification of faults				
10	Cable laying and termination Jobs				

Indicative List of High-Risk Jobs - T&D Cluster

Sl. No.	Jobs				
1	Transmission Line Tower Erection on columns, near live lines, In congested areas, In creeks, In the Sea				
2	Conductor Stringing on Tower Using Tensioner & Puller in the area such as Line Crossing, Near Live lines, Congested Areas, Road Crossing, Bridge Crossing, Railway line Crossing, In creeks ,In the Sea				
3	Cable Pulling by Using winch Machine in City and Rural Areas				
4	Hot Washing of HT and Extra HT lines, Towers and switchyards equipment				
5	Installation of Lifts				
6	Installation of EOT Cranes				
7	Tower Dismantling				
8	Working on H Frame /Pole mounted Transformers				
9	Excavation in operational Area heaving power cables in receiving station				
10	Identification and spiking of cable / disconnection of cables from poles				

Indicative List of High-Risk Jobs - Renewable Cluster

Sl. No.	Jobs				
1	Working on Electrical Panels				
2	Hi Potting of Equipment				
3	Battery commissioning and maintenance				
4	Working on the nasal of Wind Turbine				
5	Working on live electrical switchyard, material Handling and Equipment installation				
6	Roof Top Solar Panels Installation and maintenance				
7	Working in live Electrical Switchyard, Material Handling, equipment installation				
8	All maintenance activities that requires climbing on Towers /Structures / Transformer/ GODs				
9	Loading and Unloading of Solar Panels on trucks				
10	Structural Repair /Dismantling work at height.				

Annexure IX

Tata Code of Conduct (TCoC)

TATA CODE OF CONDUCT

The Owner abides by the Tata Code of Conduct in all its dealing with stake holders and the same shall be binding on the Owner and the Contractor for dealings under this Order/ Contract. A copy of the Tata Code of Conduct is available a tour website:

<https://www.tatapower.com/pdf/aboutus/Tata-Code-of-Conduct.pdf>

The Contractor is requested to bring any concerns regarding this to the notice of our Chief Procurement & Stores e-mailID: pravin.jain@tpcentralodisha.com.

Annexure X

Environment & Sustainability Policy

ENVIRONMENT & SUSTAINABILITY POLICY



CORPORATE ENVIRONMENT POLICY

Tata Power is committed to a clean, safe and healthy environment, and we shall operate our facilities in an environmentally sensitive and responsible manner. Our commitment to environmental protection and stewardship will be achieved by:

- Complying with the requirements and spirit of applicable environmental laws and striving to exceed required levels of compliance wherever feasible
- Ensuring that our employees are trained to acquire the necessary skills to meet environmental standards
- Conserving natural resources by improving efficiency and reducing wastage
- Making business decisions that aim towards sustainable development
- Engaging with stakeholders to create awareness on sustainability

A handwritten signature in blue ink, appearing to read 'Praveer Sinha', with a horizontal line underneath.

(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018

TATA POWER
Lighting up Lives!





CORPORATE SUSTAINABILITY POLICY

At Tata Power, our Sustainability Policy integrates economic progress, social responsibility and environmental concerns with the objective of improving quality of life. We believe in integrating our business values and operations to meet the expectations of our customers, employees, partners, investors, communities and public at large

- We will uphold the values of honesty, partnership and fairness in our relationship with stakeholders
- We shall provide and maintain a clean, healthy and safe working environment for employees, customers, partners and the community
- We will strive to consistently enhance our value proposition to the customers and adhere to our promised standards of service delivery
- We will respect the universal declaration of human rights, International Labour Organization's fundamental conventions on core labour standards and operate as an equal opportunities employer
- We shall encourage and support our partners to adopt responsible business policies, Business Ethics and our Code of Conduct Standards
- We will continue to serve our communities:
 - By implementing sustainable Community Development Programmes including through public/private partnerships in and around our area of operations
 - By constantly protecting ecology, maintaining and renewing bio-diversity and wherever necessary conserving and protecting wild life, particularly endangered species
 - By encouraging our employees to serve communities by volunteering and by sharing their skills and expertise
 - By striving to deploy sustainable technologies and processes in all our operations and use scarce natural resources efficiently in our facilities
 - We will also help communities that are affected by natural calamities or untoward incidence, or that are physically challenged in line with the Tata Group's efforts

The management will commit all the necessary resources required to meet the goals of Corporate Sustainability.

(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018

TATA POWER
Lighting up Lives!





SUPPLIER MANUAL ANSWERING TO E-BIDDING & E-AUCTION

CELEBRATING 100 YEARS OF INVISIBLE GOODNESS

TATA POWER

	Version 1.1
Company Confidential	DEC - 2016

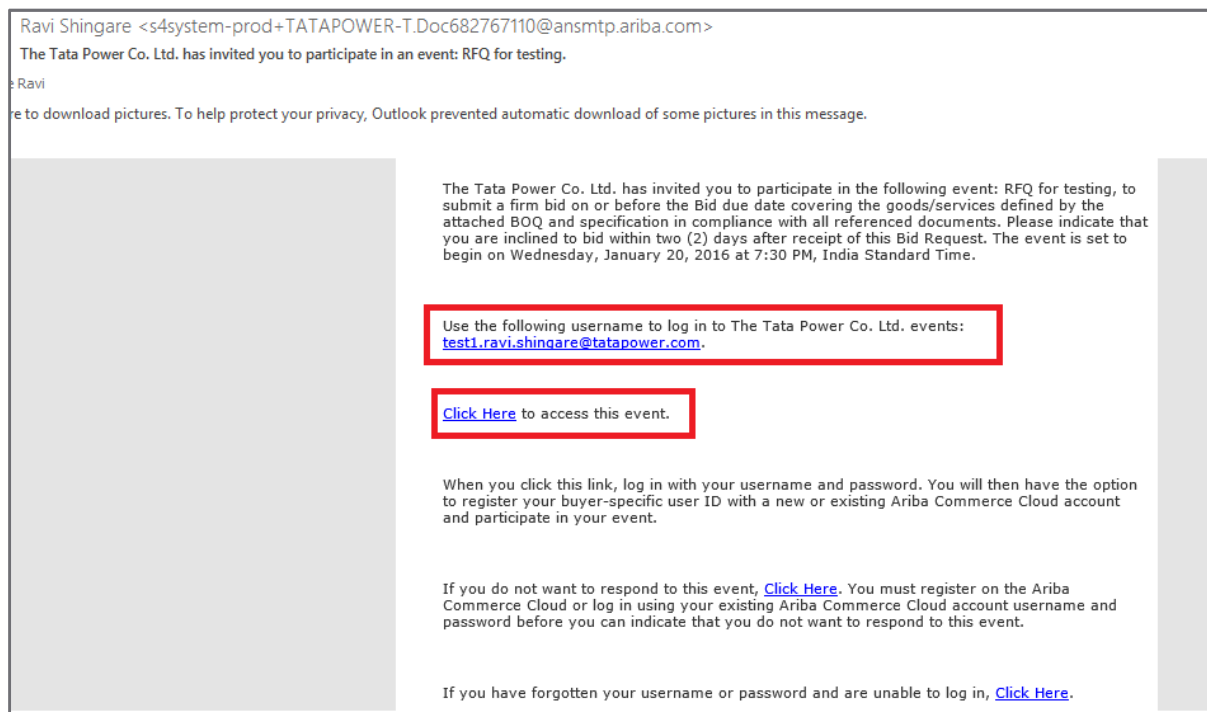
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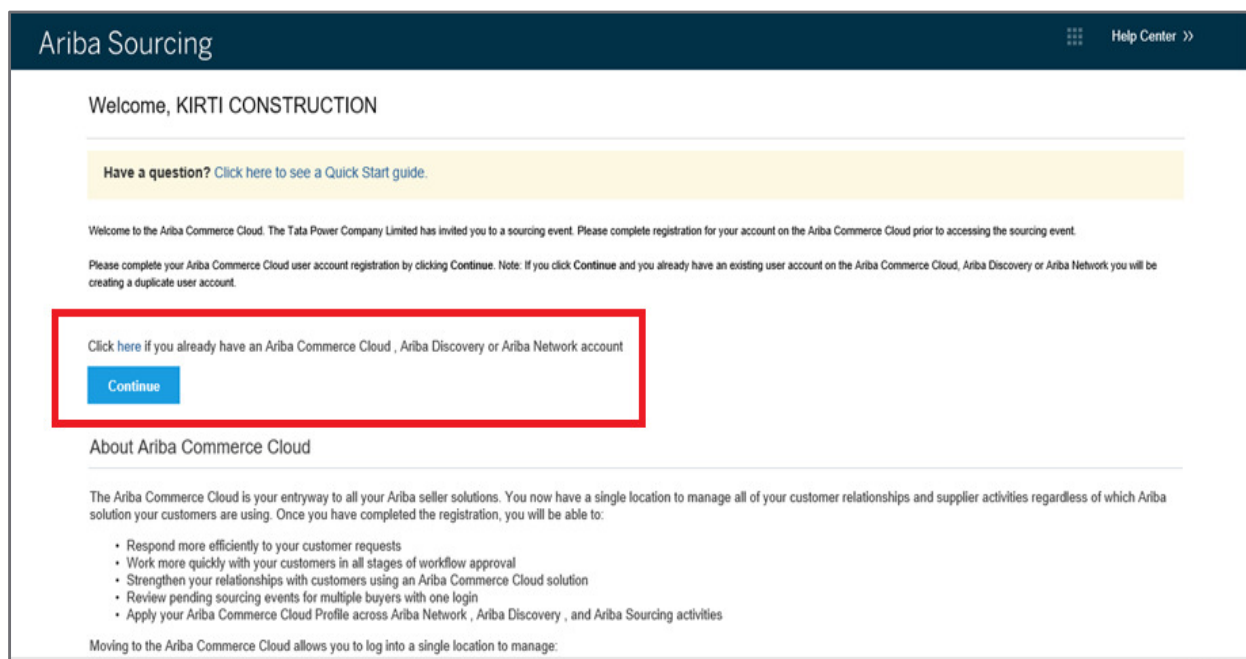
1- Accessing Ariba Sourcing

Step 1: You will get an invitation to your email from Ariba System. Keep this email, it contains your login Information and a direct link to Ariba.

Step 2: Click "Click Here" to access the Ariba Web Site.



Step 3: Supplier has to click on "Continue"



Step 4: The registration process only takes a few moments, with a simple one-page registration. Define your password and secret question. Click “OK”

* Indicates a required field

Company Name: * KIRTI CONSTRUCTION

Country: * India [IND]

Address: * Yashodeep E3- 08
Sector 22 Koperkhairne Navi Mumbai
400709

City: * mumbai

State: maharashtra

Postal Code: * 400709

Product and Service Categories: * Enter Product and Service Categories -or-

Ship-to or Service Locations: * Enter Ship-to or Service Location -or-

Tax ID: Optional Enter your Company Tax ID number.

DUNS Number: Optional Enter the nine-digit number issued by Dun & Bradstreet. ⓘ

Supplier has to fill the form

 A R I B A * SPEND MANAGEMENT Help | Logout

Welcome USER_TEST2 - UPM-Kymmene Corporation

Expired Password

Your password has expired. Follow these instructions to complete this step: Create a new password and confirm. Select a secret question and answer it so ...

Passwords are case-sensitive, and must be between 8 and 16 characters long. They can include any Latin characters and punctuation marks, and must include at least one numeral between the first and last character. They must also include at least one letter. For example, go2enba.

The current secret answer that you have entered is different from the one that has been recorded for this user.

New Password: *

New Password (confirm): *

Secret Question: * Who is your favorite sports team?

Secret Answer: *

(*) indicates a required field

You expressly agree and understand that your data entered into this system may be transferred outside of the European Union or other jurisdiction where you are located, as further described in the Ariba Data Policy [Data Policy](#)

Step 5: If it's the first time you are invited to use UPM Ariba, you'll need to accept the “Participant Terms”. Select “I accept the terms of this agreement”. Click “Submit”.

Secret Question: * In what city was your mother born?

The answer to your secret question must be atleast 5 characters.

Language: English

The language used when Ariba sends you configurable notifications. This is different than your web browser.

Ariba will make your company profile, which includes the basic company information, available for new business opportunities to other companies. If you want to hide your company profile, you can do so anytime by editing the profile visibility settings on the Company Profile page after you have finished your registration. By clicking the Submit button, you expressly acknowledge and give consent to Ariba for your data entered into this system to be transferred outside the European Union, Russian Federation or other jurisdiction where you are located to Ariba and the computer systems on which the Ariba services are hosted (located in various data centers globally), in accordance with the Ariba Privacy Statement, the Terms of Use, and applicable law.

You have the right to access and modify your personal data from within the application, by contacting the Ariba administrator within your organization or Ariba, Inc. This consent shall be in effect from the moment it has been granted and may be revoked by prior written notice to Ariba. If you are a Russian citizen residing within the Russian Federation, You also expressly confirm that any of your personal data entered or modified in the system has previously been captured by your organization in a separate data repository residing within the Russian federation.

☒ I have read and agree to the [Terms of Use](#) and the [Ariba Privacy Statement](#)

2 Vendor Screen

2.1.1 If vendor goes through mail invitation then directly Screen 3.1.1 will appear, but if If you have used Ariba before and have already accessed an event for the buyer-specific account with your current log in ID, click the **Login** button to continue. Log in with your Ariba username and password in order to participate in the event OR you have to follow the following steps.

Step 1 - Log on supplier.ariba.com

Step 2 - Put your USER ID and Password in following screen

Step 3 - Go to ARIBA APPS  and click on Proposals.

3 Submitting Your Answers / Proposal

3.1.1 Review and Approve "Prerequisites"

Step 1: Review and download all documents & then Click on "Review Prerequisites"

The screenshot shows the Ariba Spend Management interface. At the top, there's a header with the Ariba logo and 'SPEND MANAGEMENT'. Below that, a navigation bar includes 'Home', 'Discover Business Opportunities', 'Notifications', and 'Print'. The main content area is titled 'Event Details' for 'Doc14095224 - Hotel RFQ Finland'. A sidebar on the left contains a 'Checklist' with items: '1. Review Event Details', '2. Review and Accept Prerequisites', '3. Select Lots', and '4. Submit Response'. The 'Review and Accept Prerequisites' item is selected. The main area shows a 'Primary' tab with 'UPM Prerequisites'. A red box highlights the 'Review Prerequisites' button in the top right of the main area. Below it, a table lists prerequisites, with the first one being '1.1 Do You accept UPM General Purchasing Conditions for Products and Services?'. A timer in the top right corner indicates 'Time remaining: 4 days 23:00:00'.

Step 2: Review and accept "Bidder Agreement".

The screenshot shows the Ariba interface for 'Prerequisites' for event 'Doc681345837 - sourcing-project-001'. A sidebar on the left contains a 'Checklist' with items: '1. Review Event Details', '2. Review and Accept Prerequisites', '3. Select Lots', '4. Submit Bids', and '5. Enter Lot Details'. The 'Review and Accept Prerequisites' item is selected and highlighted with a red box. The main area displays the 'Prerequisites' section, which includes a warning message: 'Prerequisites must be completed prior to participation in the event.' Below this, there's a detailed 'Bidder Agreement' text. At the bottom right, there are two radio buttons: 'I accept the terms of this agreement.' and 'I do not accept the terms of this agreement.' The second option is selected and highlighted with a red box.

3.1.2 Select Items or Lots

Step 1: Select Items. - If you do not want to quote for any items/lots then you do not select that lot / items and then go ahead for select and submit lot.

Step 2: Click "Submit Select Lots".

The screenshot shows the Ariba interface for 'Select Lots' for event 'Doc29687402 - E-auction'. A sidebar on the left contains a 'Checklist' with items: '1. Review Event Details', '2. Review and Accept Prerequisites', '3. Select Lots', '4. Submit Bids', and '5. Enter Lot Details'. The 'Select Lots' item is selected. The main area displays the 'Select Lots' section, which includes a warning message: 'Choose the lots in which you will participate. You can cancel your intention to participate in a lot until you submit a response for that lot; once you submit a response you cannot withdraw it.' Below this, there's a table titled 'Lots Available for Bidding' with columns 'Name' and 'Status'. The table lists three items: '2.1 Item 1', '2.2 Item 2', and '2.3 Item 3', all with a status of 'Preview'. A red box highlights the 'Submit Selected Lots' button at the bottom of the table.

3.1.3 Entering your offer for RFQ

Step 1: as per following screen Vendor Dashboard will appear where RFQ from TATA Power will be visible.

THE TATA POWER COMPANY LIMITED-TEST

Welcome to the Ariba Spend Management site. This site assists in identifying world class suppliers who are market leaders in Ariba, Inc. administers this site in an effort to ensure market integrity.

Events

Title	ID	End Time ↓
▶ Status: Completed (104)		
▼ Status: Open (1)		
RFQ-Test 11th Aug 2016	Doc905524000	12/16/2016 6:36 PM
▶ Status: Pending Selection (80)		

Tasks

Name	Status	Due Date	Completion Date
No Items			

Step 2 - Follow all the steps of 3.1.1 to 3.1.3

Step 3 - Vendor has to submit their techno commercial offer in 2.1. In this field Do No attach any price content. For Price Bid put all the unit price and taxes and duties in provided field. Put "0" (ZERO) in not applicable field.

2. Review and Accept Prerequisites

3. Select Lots

4. Submit Response

▼ Event Contents

1.4.1 Contract Safety Manual	Annexure I (Contract Safety M
1.4.2 TATA Code of Conduct	Annexure III (TCOC).pdf
▼ 1.5 Technical Specification	
1.5.1 Technical Specification Details	Attach a file
▼ 2 Techno Commercial bid	
2.1 Please attach the Techno-Commercial Bid	Attach a file
▼ 3 Price Bid	

▼ 3 Price Bid

3.1 Bidder to specify the prices either in terms of percentage (%) or Value where the options are available for both. In case price is specified in percentage (%) , please Specify Zero (0) in the amount field and vice-versa.

3.2 Bearingfor motor 1.90991	More... +	* 15,000.00	INR	30 each
3.3 AMC 20,000 IS-U/CCS CONTRACTS	More... +	* 35,000.00	INR	35 month
3.4 ANALYSIS TAILRACE WTR SAMPLE	More... +	* 35,000.00	INR	45 each

Step 4 - After successfully putting Techno commercial offer and price part then click on "Submit Entire Response"

Requested Delivery Date: Sat, 24 Sep, 2016

(*) indicates a required field

Submit Entire Response | Update Totals | Save | Compose Message

3.1.4 Entering Your Prebid for e-auction

Before participation to the e-auction you must place a pre-bid. If you haven't placed a Prebid in the Prebid time you won't be able to participate to the auction itself.

Step 1: Populate Your Answers.

Step 2: Click "Submit Entire Response".

The screenshot shows the 'Doc681345837 - sourcing-project-001' dashboard. A yellow banner at the top right indicates 'Time remaining in preview 1 day 04:05:05'. A message states: 'The event owner has requested that you submit a prebid before the end of the preview period. You have not yet submitted a prebid.' The left sidebar contains a checklist with '4. Submit Bids' highlighted. The main content area shows a table with columns 'Name' and 'Extended Price'. The table includes sections for '1 Introduction', '2 Commercial Terms' (with a sub-item '2.1 lot-1' showing '4 core cable' and a price of '5000 INR'), and '3 Pricing' (with a sub-item '3.1 FOR SITE DELIVERY' showing 'P&F INCLUSIVE' and a file 'COMP-1.xlsx'). At the bottom, the 'Submit Entire Response' button is highlighted.

When the Prebid time is still open you can still modify your Prebid:

Click on "revise Prebid" and repeat in step 1 and step 2.

The screenshot shows the same dashboard after a prebid has been submitted. A green banner at the top right indicates 'Time remaining in preview 1 day 04:02:39'. A message states: 'Your prebid has been submitted. You will be notified when the event is open for bidding.' The left sidebar contains a checklist with '4. Submit Bids' highlighted. The main content area shows the same table as before, but with the 'Extended Price' for '2.1 lot-1' updated to '5,000.00 INR'. The 'Revise Prebid' button is highlighted.

3.1.5 Participate to the e-auction

If you have placed a bid in the Prebid time you will be able to participate to the e-auction. E-auctions are rather sort in time (usually less than 20 min per item). Once the time is closed you won't be able to bid anymore.

The screenshot shows the 'Doc681345837 - sourcing-project-001' page. A green banner at the top states 'Your response has been submitted.' and 'Time remaining for lot 2.1 00:08:39'. A red callout points to 'My Bid Rank : 1' with the text 'Your price rank in the auction'. Another red callout points to the 'Time remaining for lot 2.1' with the text 'Bidding time left for the item'. A third red callout points to the 'Extended Price' field (4,000.00 INR) with the text 'You start the auction with your Prebid price. You can modify the price directly here or use the decrement bid functionality'. The interface includes a checklist on the left, a table of items (2.1 lot-1, 2.1.1 cable-1), and a 'Submit Current Lot' button.

When you want to submit your price presses “submit current lot”

In case the new price you submit is lower by 10% of the starting price (Prebid Price) the following warning Message will be displayed.

To submit the new price, check the box and press submit. If you made a mistake press cancel so that you Mistake would not be submitted.

The screenshot shows the same interface as before, but with a warning message displayed. A red box highlights the 'My Bid Rank : 2' and the 'Submit Current Lot' button. The warning message states: 'Submit this response? Your bid has generated the following warnings: The value you entered for Item 2.1 (4,000.00 INR) improves your previous bid or the ceiling value (5,500.00 INR) by more than 10%. Check here to ignore the warnings and submit your bid anyway.' The 'Submit' button is highlighted in red.

3.1.5.2 What to do if you have a problem during the e-auction?

If you have any problem related the system: - **Call first Tata Power e- Bidding / Auction Cell**

➤ e- Bidding /Auction Cell details:-

Core team		
Contact Person	E-Mail Id	Contact Details
Ravi Shingare	ravi.shingare@tatapower.com	9029004168
Himanshu Ranjan	himanshur@tatapower.com	9820339961
Escalation Matrix		
Paresh Bhatt	pareshbhatt@tatapower.com	
C T Prakash	ctprakash@tatapower.com	9223545185

4 Communicating with Tata Power Buyer & Auction team during auction / e- bidding

Step 1: Click “Compose Message”.

The screenshot shows the 'Primary' tab of the e-auction interface. Under 'All Content', there are sections for 'UPM Prerequisites' and 'Request for Quotation'. The 'UPM Prerequisites' section lists five items, each with a green checkmark icon. The 'Request for Quotation' section lists '2.1 Fatty acid Kaipola'. At the bottom of the interface, the 'Compose Message' button is highlighted with a red rectangular box.

Step 2: Compose Your Message and click “Send”.

The screenshot shows the 'Compose New Message' form. The 'From' field is 'shingare.manufacturers (Ravi Shingare)'. The 'To' field is 'Project Team'. The 'Subject' field is 'Doc681345837 - sourcing project 001'. The 'Attachments' field is 'attach a file'. The form includes a rich text editor with bold, italic, underline, and list icons, as well as a font size dropdown and a font family dropdown set to 'Verdana'. The text in the editor reads: 'Dear Sir,
Can we submit the price ??
Regards
ABC'. At the top right of the form, the 'Send' and 'Cancel' buttons are highlighted with a red rectangular box.

SUPPLIER FREQUENTLY ASKED QUESTIONS

 **If I registered on my buyer's Ariba Sourcing site in the past, do I need to register again?**

Answer- Yes. Although you have registered on your buyer's Ariba Sourcing site in the past, registering on the Ariba Commerce Cloud is required. The registration process only takes a few moments, with a simple one-page registration. Registering on the Ariba Commerce Cloud gives you access to all your buyer relationships with one username and password.

 **What is the Ariba Commerce Cloud?**

Answer: - The Ariba Commerce Cloud is your entry point to all of your seller solutions. Rather than managing log in information for multiple buyers' sites, you will have one log in and one account. This means fewer passwords to remember, easier user maintenance for your company, and a unified profile for your organization.

 **Do I need to add Product and Service Categories during registration?**

Answer:-Yes; this is a required field. Product and Service Categories classify what your company sells, and the system uses this information to match potential business opportunities with your products and services.

Click **Add Product and Service Categories** to select one or more categories from the list of options. During registration, you only need to choose one category, preferably related to the event you are joining. You can add, refine, or remove categories any time after the registration process.

 **Do I need to add ship-to or service locations during registration?**

Answer: - Yes; this is a required field. Ship-to or Service locations inform buyers where your company sells its products or provides its services, and the system uses this information to match potential business opportunities with your products and services.

Click **Add Ship-to or Service Locations** to select one or more sales territories from a list. You can add, refine, or remove ship-to or service locations any time after the registration process.

 **Do I need to enter a D-U-N-S number when I register?**

Answer: - No; this is an optional field. You are only required to complete the fields marked with an asterisk (*). If you enter a D-U-N-S number, and you get a message that the value is already in use, leave the field blank, as D-U-N-S numbers must be unique within the Ariba Commerce Cloud. Your company can have multiple Ariba accounts, but only one account can use the D-U-N-S number.

Additional Information: - D-U-N-S is a registered trademark of Dun & Bradstreet or its subsidiaries in the United States and other countries.

 **Do I need to enter a Tax ID when I register?**

Answer: - No, the Tax ID is an optional field. You are only required to fill in the fields marked with an asterisk (*).

 **What is the difference between the Email and Username fields in my profile?**

Answer: - The Email field represents the email address where you wish to receive email notifications. The Username field is the identifier that you use to access your account. The Username field must be in email format, but you do not have to use a valid email address.

Note: Leave the **This is my username** box checked if you want your email address to be the same as your username.

How do I participate in my buyer's event using an email invitation?

Answer: - Use the **Click here** link in the email notification to access the sourcing event.

While buyers might customize the email content you receive, all email invitations contain a link to access the event.

Depending on your previous experience with Ariba solutions, do one of the following to access the event after you click the link:

- If you are new user, click **Continue** on the welcome page. You continue to register an Ariba account to link with your buyer and participate in the event.
- If you have used Ariba before and have already accessed an event for the buyer-specific account with your current log in ID, click the **Login** button to continue. Log in with your Ariba username and password in order to participate in the event.
- If you already have an existing Ariba Network, Ariba Discovery, or Ariba Sourcing supplier account, but you have not accessed any events for the inviting buyer's site, use the **Click here if you already have an Ariba Commerce Cloud, Ariba Discovery or Ariba Network account** link. After clicking the link, log in with your existing account to move your information to your buyer's site.

Additional Information :- Registering an Ariba account provides you with a consolidated view of all your customer relationships. With this one profile, you can view business opportunities, participate in sourcing events, participate in contract negotiations, and manage orders, catalogs, and invoices.

Why doesn't the link in the email invitation to participate in a sourcing event work?

Answer:-If you cannot click the link, or the link does not open the log in page, highlight and copy the Uniform Resource Locator (URL), and then paste the URL into your web browser.

Can my company have multiple accounts?

Answer:-Your Company can have multiple Ariba accounts, depending on your business needs. For example, if your company has several locations around the world, you might want a separate account for each region.

Most companies choose to have one account with multiple customer relationships, which provides a centralized location to maintain their company profile information and all of their customer relationships.

Additional Information

Consider the following items when deciding whether to have more than one account:

- **Administrators:** For each account, you can have only one account administrator, but the account administrator can provide access to multiple users. All users from your company have their own **Username** and **Password** to access the account.
- **DUNS** (data universal numbering system) **numbers:** You can add your company's DUNS number to only one account. If you plan to have multiple accounts, leave the DUNS number blank during registration.

How do I complete registration if my username already exists?

Answer: - This message means that you already have an Ariba Network, Ariba Discovery, or Ariba Sourcing supplier account registered under username you entered. You can either register a new account by creating a new username, or access one of the following sites to request a password reset for the registered username:

- [Ariba Network](#) (This login page is used for all Ariba Network, Ariba Sourcing, or Ariba Contracts suppliers).
- [Ariba Discovery login page](#)

To reset your password, click the **Having trouble logging in?** Link on the Login page.

Nothing happens when I click Forgot Username and enter my email address

Issue: - Nothing happens when I click the **Forgot Username** link and enter my email address.

Cause: - After you submit your request to retrieve your username, the Ariba Network sends an email notification with usernames that match the email address you submitted.

Some possible reasons why you may not receive this username retrieval email notification:

- The email address on your account does not match the email address you entered when submitting the request.
- Your buyer-specific account was deactivated before you could move it to the Ariba Commerce Cloud. Generally, that means you probably have not participated in an event with that buyer for a while.

Solution: -

- To ensure you receive this email notification:
- Make sure you type the email address configured within your account.

If your buyer-specific account has been deactivated, contact your buyer to determine how to proceed.

Where is my password reset email?

Answer: - After you submit your request for a password reset, Ariba sends instructions to the email address associated with your account. If you didn't receive a password reset email, check the following scenarios to troubleshoot.

The username you entered is in the wrong format, or it isn't associated with the email address you are checking.

- Keep in mind, your username is in the format of a full email address, but it can be associated with any email address you entered previously.
 - Your username is also case-sensitive.
 - To confirm that you are using the correct username and format, return to the Ariba login page, and click the **Having trouble logging in?** link (**Forgot Username** if you're working in Ariba Discovery).
 - Choose **I forgot my username**, and click **Continue**.
 - Enter the email address associated with your account, and click **Submit**.
 - You will receive an email that lists the exact format of the username associated with the email you entered.
-

You entered the correct username, but you still didn't receive the password reset email notification.

- This can occur if the configured email address is different from the account you are checking.
- You might have multiple accounts for your company, so make sure you are attempting to access the correct account.

Your email configuration or company's security settings might also prevent you from receiving the password reset email. To find out, check your junk mail folder or email filter settings to verify that automated emails from Ariba are not blocked from your email account.

 **Why do I get this message on the SAP Ariba Login page: "The username and password pair you entered was not found"?**

Answer: - You entered an incorrect **Username** or **Password**. You might receive this message if you entered a previous **Username** or **Password**. Remember that your **Username** has the format of an email address, and both the **Username** and **Password** are case sensitive.

Click the **Having trouble logging in?** Link on the Login page if you don't remember your log in information.

-: Steps for tender submission:-

Step 1: Vendor will get an **invitation email** from Ariba System. Keep this email, it contains your login Information and a direct link to Ariba.

URL for Supplier Users: <http://tatapower.supplier.ariba.com>

Step 2: Click **"Click Here" to access this event.**

Step 3: If you are first time vendor you will get the **"Sign UP" window**. Click on the same. If this screen is not appearing then close the window and follow the steps.

If the vendor has already created User id and password then after step 2 he will directly get the login screen. After credentials → click on ARIBA APPS and click on Proposals.

Step 4: After Continue simple one-page registration screen will open. Define your password and secret question. Click "OK"

Step 5: You will be able to see the RFQ

Step 6: After review and downloading of all documents click on **"Review Prerequisites"**

Step 7: Review and accept **"Bidder Agreement"**.

Step 8: Select Items or Lots → **Click "Submit Select Lots"**

Step 9: Vendor has to submit their **techno commercial offer in 2.1." Pls Attach Techno commercial Bid "**In this field Do No attach any price content.

For Price Bid put all the unit price and taxes and duties in provided field. Put "0" (ZERO) in not applicable field.

Step 10: After successfully putting Techno commercial offer and price part then click on **"Submit Entire Response"**