TP Southern ODISHA DISTRIBUTION LIMITED
(A Tata Power & Odisha Govt. joint venture)
Kamapalli, Courtpeta, Berhampur, Ganjam, Odisha, India -760 004
NIT No.: TPSODL/OT/2021-22/008

Procedure for Participating in Tender

Revised Tender Document Dated 24.06.2021

Note- *Only this revised tender document to be read by all prospective bidders for participation*

Tender Enquiry No	Work Description	EMD (Rs.)	Tender Participation Fee (Inclusive of GST)	Last date and time for Payment of Tender Participation Fee
TPSODL/OT/2021-22/008	Civil, Electrical and other Non-IT Infra for Data Center readiness at Berhampur, TPSODL	3 Lakhs	Rs.5000	02.07.2021 15:00 hrs

Please note that corresponding details mentioned in this document will supersede any other details mentioned anywhere else in the Tender Document.

Procedure for Participating in Tender. Following steps to be done before “Last date and time for Payment of Tender Participation Fee” as mentioned above.

1. Eligible and Interested Bidders to submit duly signed and stamped letter on Bidder's letterhead indicating.
   A. Tender Enquiry number
   B. Name of authorized person
   C. Contact number
   D. e-mail id
   E. Details of submission of Tender Participation Fee
   F. GST Number
2. Non-Refundable Tender Participation Fee, as indicated in table above, to be submitted in the form of direct deposit in the following bank account and submit the receipt along with a covering letter clearly indicating the Tender Reference no:

   Beneficiary Name: TP Southern Odisha Distribution Limited.
   Account No: 625901010050070
   Name of the Bank: Union Bank of India, Kamapalli Branch, Berhampur
   IFSC Code: UBIN0562599

E-mail with necessary attachment of 1 and 2 above to be send to rajkishore.tripathy@tpsouthernodisha.com with copy to manoj.kharbanda@tpsouthernodisha.com before “Last date and time for Payment of Tender Participation Fee”.

3. Bids are to be submitted only through online e-procurement platform, ARIBA. Any other form of bid submission will not be accepted. Link for bidding through ARIBA e-procurement platform will be mailed to bidder once Letter received as mentioned in point no 1 & 2 above.

4. Refer Tender Document for other details.

NIT No.: TPSODL/OT/2021-22/008

OPEN TENDER NOTIFICATION

FOR

Civil, Electrical and other Non-IT Infra for Data Center readiness at Berhampur, TPSODL

Tender Enquiry No.: TPSODL/OT/2021-22/008

Due Date for Bid Submission: 15.07.2021

TP Southern Odisha Distribution Limited
Berhampur, Odisha

CONTENTS OF THE ENQUIRY

1. Event Information

1.1. Scope of work

Open Tenders are invited through E-Tender Bidding Process from interested Bidders for entering into a firm purchase order as defined below:

S. No.	Description	EMD Amount (Rs.)	Tender Fee (inclusive of GST) (Rs.)
1	Civil, Electrical and other Non-IT Infra for Data Center readiness at Berhampur, TPSODL	3 lakhs	5,000

1.2. Availability of Tender Documents

Non-transferable tender documents may be purchased by interested eligible bidders from address given below on submission of written application to the under mentioned and upon payment of non-refundable Tender Fee.

Chief (Procurement & Stores)
TP Southern Odisha Distribution Limited
Call Center /Training Center, Duduma Colony,
Ambagada, Berhampur, Odisha-7610001

1.3. Calendar of Events

(a)	Last date and time of Payment of Tender Fee	02.07.2021 15:00 Hrs.
(b)	Last Date of receipt of pre-bid queries if any.	04.07.2021, 15:00 Hrs
(c)	Date and Time of Pre-Bid Meeting	NA
(d)	Last Date of Posting Consolidated replies to all the pre-bid queries as received	08.07.2021 , 17:00 Hrs
(e)	Last date and time of receipt of Bids	15.07.2021, 17:00 Hrs
(f)	Date & Time of opening technical bids & EMD (Envelope-1 & 2)	15.07.2021 17:00 Hrs

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 TPSODL's office, the last date of submission of bids and date of opening of bids will be the day following working day at appointed times.

1.2 **Mandatory documents required along with the Bid.**

1.4.1 EMD of requisite value and validity
1.4.2 Tender Fee in case the tender is downloaded from Website.
1.4.3 Requisite Documents for compliance to Qualification Criteria mentioned in Clause 1.7.
1.4.4 Drawing, Type Test details along with a sample of each item as specified at Annexure I (as applicable)
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 Proper authorization letter/ Power of Attorney to sign the tender on the behalf of bidder.
1.4.8 Copy of PAN, GST, PF and ESI 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, the bid submitted by a bidder shall be liable for rejection.

1.5. Deviation from Tender

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.

1.6. Right of Acceptance/Rejection

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 at Clause 1.7 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. Receipt of Bid within the due date and time

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

1.7 Qualification Criteria

A. The bidder should either be an OEM for tendered equipment's or an authorized channel partner of OEM. Authorization Letter along with MAF from OEM to be submitted in this regard in line with the technical specification of this tender.

B. The bidder should have average annual turnover of minimum of Rs. 21 crore in last three financial years. Copy of audited Balance Sheet and P&L Account to be submitted in this regard.

C. The net worth of the bidder in the last three financial year ending on 31st March 2020, (as per the last published audited balance sheet/ CA certified provisional balance sheet) should be Positive.

D. The bidder must have successfully undertaken at least the following numbers of similar assignments of value specified herein:

   a. One project of similar nature in system integration, not less than the amount **Rs**. **1.50 Cr.**

      OR

   b. Two projects of similar nature in system integration, not less than the amount **Rs. 1 Cr. each**

      OR

   c. Three project of similar nature in system integration, not less than the amount of **Rs. 80 Lacs each**

E. Bidder should be a company registered in India with an office in Orissa. Bidder should submit the undertaking and details of address in this regard. In case of BA not having office in Odisha, they shall open new office in Odisha within 3 months of Release of Contract.

F. Bidder should have on its payroll at least one CDCP professional.

1.8. Marketing 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, TPSODL 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

1.9. 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 TPSODL. This includes all bidding information submitted to TPSODL. All tender documents remain the property of TPSODL and all suppliers are required to return these documents to TPSODL upon request. Suppliers who

do not honor these confidentiality provisions will be excluded from participating in future bidding events.

Evaluation Criteria

- The bids will be evaluated technically in compliance to tender terms and conditions.
- The bids will be evaluated commercially on the overall all-inclusive lowest cost for the complete tender BOQ 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, TPSODL may reject the bids.

NOTE: In case of a new bidder not registered, factory inspection and evaluation may be carried out to ascertain bidder's manufacturing capability and quality procedures. However, TPSODL 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 TPSODL shall be final and binding on the bidder in this regard.

2.1 Price Variation Clause: The prices shall remain firm during the entire contract period.

2.2 Quantity variation Clause: There will not be any guarantee on quantity of job. Job has to be carried out on as and when required basis order from TPSODL on the quantity specified in the order.

3. Submission of Bid Documents

3.1 Bid Submission

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

Please note all future correspondence regarding the tender, bid submission, bid submission date extension, etc. will happen only through TPSODL E-Tender system (Ariba).

All communication will be done strictly with the bidder who have done the above step to participate in the Tender.

Bids shall be submitted in 4 (four) parts:

FIRST PART: "EMD" as applicable shall be submitted. *The EMD of Rs. 3,00,000 (Rupees Three lakh Only) 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 Berhampur. The EMD has to be strictly in the format as mentioned in General Condition of Contract, failing which it shall not be accepted by TPSODL and the bid as submitted shall be liable for rejection.

A separate *non-refundable tender fee of Rs. 5000.00 (Rupees Five Thousand only)* of stipulated amount also needs to be transferred online through NEFT/ RTGS in case the tender document is downloaded from our website.
TPSODL Bank Details for transferring Tender Fee and EMD is as below:

Beneficiary Name: TP Southern Odisha Distribution Limited.
Account No: 625901010050070
Name of the Bank: Union Bank of India, Kamapalli Branch, Berhampur
IFSC Code: UBIN0562599

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 make and 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.
Please note that in such case, Tender Fee and EMD should be strictly 2 separate transactions.
Please note as return of EMD from Bank Account is non-standard practice 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

Chief (Procurement & Stores)
TP Southern Odisha Distribution Limited
Call Center /Training Center, Duduma Colony,
Ambagada, BERHAMPUR, Odisha-7610001

SECOND PART: "TECHNICAL BID" shall contain the following documents:

a) Documentary evidence in support of qualifying criteria
b) Technical literature/GTP/Type test report etc. (if applicable)
c) Qualified manpower (if available)
d) Testing facilities (if applicable)
e) No Deviation Certificate as per the Annexure III – Schedule of Deviations
f) Acceptance to Commercial Terms and Conditions viz. Delivery schedule/period, payment terms etc. as per the Annexure IV – Schedule of Commercial Specifications.
g) Quality Assurance Plan/Inspection Test Plan for supply items (if applicable)

The technical bid shall be properly indexed and is to be submitted through TPSODL E-tender System (Ariba) only. Hard Copy of Technical Bids not to be submitted.

THIRD PART (Safety Bid): Bidder shall mention the details as required in the safety bid form (As mentioned in annexure- IX). Bidder also has to submit the relevant documents for the same as required by TPSODL.

FOURTH PART: "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, Taxes & duties, Freight 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.

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

The EMD in the form of Bank Draft / BG / Bankers Pay Order shall be submitted in original hard copy and then placed in sealed envelope which shall be clearly marked as below:

EMD

"SITC of Civil, IT & Other Non-IT Infra for Data Center Readiness at Berhampur, TPSODL**"**

The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and the TPSODL, 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.

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.

3.2 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 TPSODL website by the stipulated timelines as detailed in calendar of events.

Communication Details:

Communication Details:
Name: Mr. Rajkishore Tripathy
Contact No: 9437967673
E-Mail ID: rajkishore.tripathy@tpsouthernodisha.com

HoD – Procurements
Name: Mr. Manoj Kharbanda
Contact No.: 9971395197
E-Mail ID: manoj.kharbanda@tpsouthernodisha.com

Chief – Procurements and Stores
Name: Mr. Subrata Dey
E-Mail ID: subrata.dey@tpsouthernodisha.com

3.3 Bid Prices

Bidders shall quote for the entire Scope of Supply/ work with a break up of prices for individual items and Taxes & duties. 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 sites of TPSODL. The all-inclusive prices offered shall be inclusive of all costs as well as Duties, Taxes and Levies paid or payable during the execution of the supply work, breakup of price constituents.

Applicable GST to be specified clearly.

The quantity break-up shown else-where other than Price Schedule is 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.

3.4 Bid Currencies

Prices shall be quoted in Indian Rupees Only.

3.5 Period of Validity of Bids

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

Notwithstanding clause above, the TPSODL 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.

3.6 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.

3.7 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.

3.8 Earnest Money Deposit (EMD), if applicable, The bidder shall furnish, as part of its bid, an EMD amounting as specified in the tender. The EMD is required to protect TPSODL against the risk of bidder's conduct which would warrant forfeiture.

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

- Banker's Cheque/ Demand Draft/ Pay order drawn in favor of TP Central Odisha Distribution Limited payable at Berhampur.
- Online transfer of requisite amount through NEFT/ RTGS.
- Bank Guarantee valid for 120 days after due date of submission.

The EMD shall be forfeited in case:

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/Rate Contract, or
   b) furnish the required Performance Security Bank Guarantee

3.9 Type Tests (if applicable)

The type tests specified in TPSODL specifications should have been carried out within five years 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 TPSODL.

4 Bid Opening & Evaluation process

4.1. Process to be confidential.

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 the TPSODL's processing of Bids or award decisions may result in rejection of the Bidder's Bid.

4.2. Technical Bid Opening

Bids will be opened at TPSODL Office, Berhampur. All tender bids shall be opened internally by TPSODL. Presence of any bidder will not be allowed during bid opening process. Technical bid must not contain any cost information whatsoever.

First, EMD will be checked. 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.

4.3. Preliminary Examination of Bids/Responsiveness

TPSODL 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 generally in order. TPSODL 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, TPSODL 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.

Bid determined as not substantially responsive will be rejected by the TPSODL and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

4.4. 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, TPSODL may, at its discretion, ask the Bidder for a clarification on its Bid for any deviations with respect to the TPSODL specifications and attempt will be made to bring all bids on a common footing. 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 by TPSODL.

4.5. Price Bid Opening

Price bids will be opened internally without the presence of any bidder representative. 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 TPSODL without any further correspondence in this regard.

4.6. Reverse Auctions

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 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.

5 Award Decision

TPSODL 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 2.0. 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 3.2 above. The decision to place purchase order/LOI solely depends on TPSODL on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that TPSODL may deem relevant.

TPSODL 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 TPSODL reserves right to award contract to other suppliers who are found fit.

6 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 (Annexure I)
2. Post Award Contract Administration (Clause 7.0)
3. Submission of Bid Documents (Clause 3.0)
4. Scope of Work and SLA (Annexure VII)
5. Technical Specifications (Annexure II)
6. Acceptance Form for Participation in Reverse Auction (Annexure VI)
7. General Conditions of Contract (Annexure VIII)

7 Post Award Contract Administration

7.1. Special Conditions of Contract

- TPSODL appreciates and welcomes the engagement/employment of persons from SC/ ST community or any other deprived section of society by their Bas.
- Performance Bank Guarantee amounting to 5% of the Annual contract value shall be submitted by the BA as per GCC for a period equivalent to contract period plus one month.
- Any change in statutory taxes, duties and levies during the contract period shall be borne by TPSODL. However, in case of delay in work execution owing to reasons not attributable to TPSODL, 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 TPSODL.
- All the terms and conditions of TPSODL GCC shall be applicable.
- The successful bidder has to follow the Contract safety management (CSM) as per GCC. The penalty will be imposed to bidder for any safety violence as per CSM matrix.

7.2 Delivery Terms

SITC within 3 months from the date of Work Order.

7.3 Completion Period

SITC within 3 months from the date of Work Order

7.4 Warranty Period

1 Year OEM Warranty and onsite support

7.5 Payment Terms

Payments shall be made in parts-

a. 60% of invoice value against only supply items of BOQ, shall be released within 30 days from the date of submission of invoice. EIC shall verify the invoice.

b. Remaining amount shall be released within 30 days from the date of submission of verified invoices. Invoices against remaining amount shall be submitted by BA on mutual agreement between EIC and BA.

Note- Supply of materials shall be made as per work sequence in mutual discussion with TPSODL EIC

7.6 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-XI for more details.

7.7 Ethics

TPSODL is an ethical organization and as a policy TPSODL lays 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.
TPSODL work practices are governed by the Tata Code of Conduct which emphasizes on the following:

- 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 at Annexure X for more information.
Any ethical concerns with respect to this tender can be reported to the following e-mail ID: mpkulkarni@tpsouthernodisha.com with cc to manoj.kharbanda@tpsouthernodisha.com

8 Specification and standards

As per Annexure II

9 General Condition of Contract

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

10 Safety

All jobs are this tender have to be executed strictly in compliance to the Safety terms and Conditions of TP Central Odisha Distribution Limited. Please refer attached Safety terms and conditions, Annexure-IX, for details. Violation of Safety norms will result in Penalty as mentioned in the above document.

ANNEXURE I

Schedule for Items

Lot No.	Item Description	Unit	QTY (A)	Unit Rate (Exclusive of Taxes) – (Rs.) (B)	GST (Rs.) (C)	Total Amount (Inclusive of Taxes) – (Rs.) (D=B+C)	Grand Total (Inclusive of Taxes) – Rs (E=D*A)
1.	Civil & Interior work as per the detailed BoM(2.1)	Lot	1				
2	Electrical Works as per the detailed BoM(2.2)	Lot	1				
3	VESDA SYSTEM as per detailed BoM(BMS2.3)	Lot	1				
4	CCTV SERVELLIANCE SYSTEM as per detailed (BMS2.3)	Lot	1				
5	ACCESS CONTROL SYSTEM as per detailed (BMS2.3)	Lot	1				
6	ANALOGUE ADDRESSABLE FIRE ALARM SYSTEM as per detailed BoM(BMS 2.3)	Lot	1				
7	NOVAC-FIRE SUPPRESSION SYSTEM as per detailed BoM(BMS 2.3)	Lot	1				
8	WATER LEAK DETECTION SYSTEM (WLDS) as per detailed BoM(BMS 2.3)	Lot	1				
9	RODENT REPELLENT SYSTEM as per detailed BoM(BMS 2.3)	Lot	1				

10	Integrated Building Management System (IBMS) as per the detailed BOM(BMS2.3)	Lot	1				
11	120KVA UPS with 30 Min battery backup as per the detailed BoM (2.4)	2	Sets				
12	10KVA UPS with 30 Min battery backup as per the detailed BoM (2.4)	2	Sets				
13	Precision Air Conditioning System (PAC) as per the detailed BoM(2.5)	3	Sets				
14	Comfort Air Conditioning System (CAC) as per the detailed BoM (2.6)	1	Lot				
15	Server and Network Rack with 2* 32 AMP 12 Socket normal vertical PDU with MCB as per the detailed BoM (2.7)	20	Nos				
16	Passive Cabling System as per the detailed Bom (2.80	1	Lot				
17	Installation and Commissioning	1	Lot				
Total Order Value (INR)							

* Unit Rate shall include cost of materials as mentioned in Scope of Work (Annexure-VII). HSN/SAC codes must be mandatorily provided wherever necessary.

Signature & Seal of the Bidder

NOTE:

- Selected Party shall supply / install the items mentioned in the Schedule of Items as per the requirement which may exceed further up to 35%.
- Bidders are advised to quote most competitive rates considering all factors like geographical layout, site conditions, all local conditions and factors, which may have any effect on the execution of the contract safety requirements.
- The prices shall be FOR TPSODL Locations.
- In case of increase in quantity for any item, the unit rate mentioned above shall be considered for the same.
- HSN/SAC codes for respective line item must be mandatorily provided wherever applicable.

Detailed BoM

2.1. Civil & Interior

Sl. No.	Description	Qty	Unit	Make
1	Providing and fixing of Access flooring system (False floor) laminated HPL panel with edge support rigid grid under structure system. Access floor system to be installed shall provide a maximum finished floor height of 450mm from the existing floor.	690	Sqft	Unitile
2	Tile Lifter	1	No.	Standard
3	Providing and fixing of Standard Air Flow Grills.	20	Nos.	Standard
4	Providing and applying acrylic plastic emulsion paint of approved shade to give an even shade over a primer coat as per manufacturer's recommendations after applying painting putty to level and plumb and finishing with 3 coats of plastic emulsion.	4350	Sqft	Asian/Berger
5	FD1 - Size = 900 x 2100mm Fire rated steel door (Two hours) with fire rated vision panel of 300mm x 300mm, SS ball bearing butt hinges, mortise sash lock, SS lever with internal thumb turn and external key operation with heavy duty door closer (with Panic bar).	1	Nos	
6	FD2 - Size = 1500 x 2100mm (equal size) Fire rated steel door (Two hours) with ire rated vision panel of 300mm x 300mm, SS ball bearing butt hinges, mortise sash lock, SS lever with internal thumb turn and external key operation with heavy duty door closer and lever handle.	1	Nos	Skaktimet
7	Providing and fixing powder coated aluminium doors size = 1000mm X 2100mm with 8 mm Full size Glass	3	Nos	Standard
8	Providing and fixing powder coated aluminium doors size = 1500mm X 2100mm (Equal Size) with 8 mm Full size Glass	1	Nos	Standard
9	Providing and fixing 19 mm thick Armaflex floor insulation below the false flooring and server room roof and joints should be finished properly with adhesive tape as per manufacturer's specification. The rate shall be inclusive of jointing tap, cleaning	1350	Sqft	Armaflex
10	Providing and fixing steps and ramp with Antistatic laminate with 25 mm Bison board for steps and ramp based on vertical surfaces of raised floors with complete all respect. The rate shall be inclusive of 1.5mm thick Antistatic laminate and hardware etc.	1	L.S.	Standard
11	Supply and fixing of fire rated Gyp-board, full height partitions, 100 mm thick mounted on MS Studs of required thickness with suitable view panes, and other finishing.	1025	Sqft	India Gypsum / Saint Govin
12	Dismantling of existing false ceiling, Electrical Fittings, aluminium windows etc. at Server Farm Area	1	LS	NA
13	Preparation of brick wall with cement plaster	155	Sqft	NA
14	Supply and fixing of normal 12mm glass partitions for entrance with a door size of 1000mm X 2100mm with all Dorma fittings and accessories	115	Sqft	Standard

Sl. No.	Description	Qty	Unit	Make
15	Preparation of ramp with brick, cement and outdoor floor tile at Emergency exit	1	No.	NA
16	Supply of workstation table size = 1200mm x 600mm x 750mm (H)with white board and glass partition between two workstations.	28	Nos.	Customized
17	Supply of BMS Table size = 1200mm x 600mm x 750mm (H)	1	No.	Customized
18	Supply of L Shape Manager Table	1	No.	Customized
19	Supply of Working Chair	30	Nos.	Standard
20	Supply of High Back-office Executive chair	1	No.	Standard

2.2. Electrical:

Sl. No.	Description	Qty	Unit	Make
1.	**PANELS & DISTRIBUTION BOARDS**			
a.	**Lighting & Raw Power DB (4 way TPN DB)**	1	Set	Schneider / Legrand
	Incomer - 40 Amps TPN - 1nos			
	Outgoing - 12 nos 6/20A,SP MCB,			
b.	**UPS DB for Workstation (4 way TPN DB)**	3	Set	Schneider / Legrand
	Incomer - 40 Amps TPN - 1nos			
	Outgoing - 12 nos 6/20A,SP MCB,			
c.	**SDB 1 & 2**	2	Set	Schneider / Legrand
	Incomer:			
	250A FP MCCB - 1No			
	Outgoings:			
	32A MCB SP – 20 Nos			
2.0	**CABLES AND TERMINATION.**			
A.	Supply and Laying Copper / Aluminium Cables of 1100 volt grade, PVC insulated and armoured, copper or aluminium conductor cables			
a.	4C 95 SQ MM CU PVC Flex CABLE - for 120 kw UPS	50	MTR.	Policab / KEI / Equivalent
b.	4C 25 SQ MM CU PVC CABLE - for PAC	116	MTR.	
c.	3C X 6 SQ MM Cu FLEX CABLE	450	MTR.	
d.	1C X 6 SQ MM CU FLEX. CABLE for Each PAC	100	MTR.	
e.	3C x 4 Sq.mm CU PVC Flex Cable	100	MTR	
f.	1C x 1.5 Sq.mm CU PVC insulated wire (Red+Blue+Green)	540	MTR.	
B.	Jointing the ends of the following sizes of PVC insulated and armoured cables including supply of brass cable glands, cable sockets and all jointing materials:			

Sl. No.	Description	Qty	Unit	Make
a.	4C 95 SQ MM CU	16	NO.	NA
b.	4C 25 SQ MM CU PVC CABLE - for PAC	24	NO.	NA
c.	3C X 6 SQ MM Cu PVC CABLE	240	NO.	NA
d.	1C X 6 SQ MM CU FLEX. CABLE	6	NO.	NA
e.	3C x 4 Sq.mm CU Flex Cable	16	NO.	NA
3.0	**Cable Trays**			
A.	Supplying and installing on the floor or ceiling, the following sizes of rung type ladder or perforated cable trays with epoxy finish as per the Architect's drawing and rate to include for all necessary supporting brackets, clamps, saddles, fixing hardware etc.			
a.	450 X 50 Perforated cable tray	36	Mtrs.	Standard
b.	450 X 50 Ladder cable tray	48	Mtrs.	Standard
c.	300 X 50 MM Ladder Cable tray	24	Mtrs.	Standard
d.	Supply & Installation of MS Fabrication for Cable tray	1	LS	Standard
4.0	**EARTHING**			
a.	Supply & Installation of 600 x 600 x 3mm Cu Plate make earth pipe set with Salt & Charcoal	4	Nos	Standard
b.	25 mm x 3 mm Cu. tape	70	Mtrs.	Standard
c.	1C X 6 Sq.mm CU Flex Cable	100	Mtrs	Standard
e.	35 sq.mm. 1-core, green PVC insulated, flexible Cu. Cable as main earthing cable	35	Mtrs.	Standard
5.0	**Lighting & Power Wiring**			
A.	Supply & Installation of point wiring using 600V grade 1.5 sqmm copper conductor, PVC insulated wires (with proper R, Y, B color code) pulled through **PVC conduits** and conduit fittings laid concealed over false ceiling or in wall chases including circuit wires from the DB & also including insulated green color copper earth wire. Points to be controlled in groups or individually by means of 6 Amp ,single pole ,flush type modular switches housed in flush mounted MS base boxes. Rate will include for 1.5 sq.mm green PVC insulated, single core, copper earth wire drawn in the conduit pipe for earthing the lighting fittings. **Each Light fixture will be measured as one Point.**			
a.	Points to be controlled in groups of 3-4 from the Lighting switch box	4	Points	Havels / Anchor
c.	Points to be controlled individually from the Lighting switch box	4	Points	Havels / Anchor

Sl. No.	Description	Qty	Unit	Make
B.	Convenience Socket-Outlets			
a.	Providing wiring as described under item mentioned above , but to 6 amps socket-outlets and each point to be complete with a 6 amps, 2-pole and earth switch socket-outlet housed in a flush mounted MS box recessed in walls/partitions	50	Points	Havels / Anchor
C.	Supplying and installing 2-pole + earth, single phase 250 volts,industrial type socket-outlet with plug housed in a surface mounting metal enclosure			
a.	32A Plug & Socket Female	40	Nos.	Schneider
6.0	**Lighting Fixtures & Accessories**			
1.0	36 W LED RECESS MOUNTED 2 x 2 Panel	15	Nos.	Standard
7.0	**Installation Charges**	1	LS	NA

2.3. Building Management System (BMS):

Sl	Description	Qty.	Unit	Make
VESDA SYSTEM				
1	Single Channel Air Sampling system For Server Room	1	No	Airsence / Xtralis
2	PVC Pipe	1	Lot	ISI
3	Fittings and Supports	1	Lot	ISI
4	24 VDC Power Supply Unit	1	No.	Standard
CCTV SERVELLIANCE SYSTEM				
1	4MP S+265 Starlight 30M IR Turret Camera	19	Nos.	Alconlink / Honeywell/ Equivalant
2	4MP S+265 Starlight 50M IR Bullet Camera	1	Nos.	
3	20CH 2SATA SMART NVR	1	No.	
4	24-Port Gigabit PoE Switch	1	No.	
5	10tb Surveillance Hard Disk	2	Nos.	Seagate / WD
3	32" LED Smart TV	1	Nos.	LG / Samsung
4	6 U wall mount Network Rack	1	Nos.	Net rack / VALRACK
ACCESS CONTROL SYSTEM				
1	License Software for Access Control	1	Nos.	Honeywell / HID / Equivalent
3	Door Controller	3	Nos.	
4	Proximity Card Reader with Pin Pad	4	Nos.	
5	Proximity Card Reader with Fingerprint Reader	1	Nos.	
5	Electromagnetic Lock (Single Leaf Door)	4	Nos.	BELL
6	Electromagnetic Lock (Double Leaf Door)	1	Nos.	BELL
7	Magnetic Contact	6	Nos.	BELL

Sl	Description	Qty.	Unit	Make
8	Proximity / Smart Card - Blank Face	100	Nos.	HID
9	Emergency Exit Switch	5	Nos.	Standard
10	6 Core 1 sq mm armoured unscreened non FRLS	100	Mtrs.	Standard
11	4Core 1 sq mm armoured unscreened non FRLS	100	Mtrs.	Standard
12	2 Core 1.5 sq mm unscreened armoured FRLS cable	250	Mtrs.	Standard
	2 Core 1.0 sq mm screened armoured Non FRLS cable	240	Mtrs.	Standard
ANALOGUE ADDRESSABLE FIRE ALARM SYSTEM				
1	Addressable Fire Detection Panel 1-loop panel, each loop can handle 98 detectors & 98 Modules, with power supply.	1	Nos.	Honeywell / GST
2	Addressable multi-electric Smoke Detector	30	Nos.	Honeywell / GST
3	Manual Call Point	3	Nos.	Honeywell / GST
4	Strobe cum hooter	2	Nos.	Honeywell / GST
5	Control module	4	Nos.	Honeywell / GST
6	Monitor module	4	Nos.	Honeywell / GST
7	FIM	2	Nos.	
8	RI	20	Nos.	
9	Emergency Glow Sign	1	Nos.	
10	2-core, 1.5 sq. mm. Shielded armoured cable	1	Lot	Standard
11	NAF P4 extinguisher	6	Nos.	Standard
NOVAC-FIRE SUPPRESSION SYSTEM				
1	NOVAC 1230 for Server Room (Piping, 1 set of cylinder and nozzles)	1	Lot	Kidde
WATER LEAK DETECTION SYSTEM (WLDS)				
1	Water Leak Sensor Cable (10 mts each)	3	Nos	
2	Electronic Sounder	1	Nos	
3	4 Zone Water Leak Conventional Panel with Battery Charger & Battery with BMS integration	1	LOT	System Sensor
RODENT REPELLENT SYSTEM				
1	Rodent Repellent Console Units with Transducers suitable to cater all DC area.	2	Nos	Maser
Integrated Building Management System (IBMS)				
1	Supplying, Installing, Testing & Commissioning of the Central Control Stations consisting of the following:			
i.	Server for BMS software: BMS Computer System: Supply, installation, testing and commissioning of I7 Processor or Equivalent Server PC, 4MB Cache with 8 GB RAM, & 1 TB HDD, 10/100 Mbps Ethernet card, USB connection & internal modem, Microsoft(R) Windows(R) 8 or better or latest OS Professional Enterprise, Web server software, DVD-ROM Drive (with RAM), 100/1000	1	Set	HP/DELL

Sl	Description	Qty.	Unit	Make
	Mbps NIC for Network connection and antivirus software with 21" colour graphics monitor as per Tender Specifications. Accessories included Optical Mouse, Key Pad, with the above BMS System configuration.			
ii.	Alarm Printer	1	Each	HP / Canon
2	Supply, installation, testing & commissioning of the following Software for BMS:			
i.	**BUILDING MANAGEMENT SYSTEM WEB-BASED SERVER SOFTWARE** BMS System Software : Supply, installation, testing and commissioning of the simultaneous minimum 5 user Web Based Graphical Software meeting the requirements in the Given I/O Summary and technical specifications including configuration and facility to create / provide the graphic mapping for all I/O Summary points , animate the Graphics, Navigation between pages, display of logs, changing the time zones, popup alarms, configurable password protection for Building Management System as per Technical Specifications. Software shall be able to communicate with open protocols like BACNet/OPC devices simultaneously.	1	Lot	Delta-Loytec / Honeywell / Equivalent
ii.	Software shall have Energy analysis/trending, Customized reporting, Alarming, scheduling features.	1	Lot	
iii.	During operation & maintenance if any controller is required to be replaced than software shall have feature to download logics in new controller as of old one, from control station, once the old controllers IP is mapped in new one.	1	Lot	
iv.	New Software patches/versions for 2 years after handing over of system shall be included in offer nothing extra shall be paid for new software patches developed by company for said time period. It shall be vendor responsibility to update / upgrade new software patches once it is developed.	1	Lot	
v.	Graphic building and commissioning tool if separate from BMS software than the same is to be handed over to client	1	Lot	
vi.	SMS / Email features (Modem & internet/Sim connection shall be in client's scope)	1	Lot	

Sl	Description	Qty.	Unit	Make
3	**Supply, installation, testing & commissioning of Integrators for 3RD Party System Software Integration - UL& BTL Certified** For open Protocols Integration units, to connect individual 3rd party microprocessor system controllers, the unit shall be capable of integrating all mentioned devices on BACnet, Modbus etc.as per distribution given below. **System integration unit shall be of same make as of DDC Controller.** Controllers with built-in integration ports are also acceptable, controller integration port can be used for 3rd party integration.	1	Lot	Delta-Loytec / Honeywell / Equivalent
i.	PAC Integration			
ii.	VFD Integration			
iii.	CCTV Integration			
iv.	Fire Alarm Systems integration			
v.	UPS Integration			
vi.	Energy Meters Integration			
vii.	WLD Integration			
viii.	Vesda Integration			
4	Supply, Installation Testing & Commissioning of following equipment for BMS:			
i.	**PROGRAMMABLE & APPLICATION SPECIFIC CONTROLLER (DDC) - UL & BTL certified** SITC of Bacnet IP Direct Digital Controllers, The networkable controllers shall be ,UL & BTL certified with 32 bit microprocessor, real time clock & programmable memory. The Controller shall have built-in two Ethernet ports to form RSTP loop to have savings on Cables and address communication failure issue. The networkable DDC's shall be capable of peer to peer communication.	1	Lot	Delta-Loytec / Honeywell / Equivalent
ii.	Each DDC & IO Module shall have built in Display to monitor & control Connected points from Controller itself.			
iii.	Each IO Module, if being used along with controller, shall be capable to Communicate on BACnet IP.			
iv.	Controller Prices shall be with lockable MS mounting cabinets duly powder coated connector strip, internal wiring and space to house controller & relays, connector etc. as per IO Summary. IP 54 for internal area IP67 panels shall be used for external area.			
v.	The Controller shall have built in memory, minimum 3 GB, to save, Alarms, Trends, Schedules & graphics for the connected points.			
vi.	UPS power as required for BMS system shall be provided by client.			

Sl	Description	Qty.	Unit	Make
vii.	UL listed Power supply for controllers			Delta-Loytec / Honeywell / Equivalent
A	Controller for Temperature and humidity Sensor	1	Set	
B	Controller for Access control Readers & Locks	1	Set	
5	Supply, Installation, Testing & Commissioning of following equipment for BMS including all accessories complying with the technical specification and system requirement.			Delta-Loytec / Honeywell / Equivalent
i.	Temperature and humidity Sensor	2	Nos	
6	Supplying, laying, termination, testing and commissioning for Cable / Conduit etc. complete with all accessories as required including both ends termination with copper lugs and thimbles as required with tagging on each cable, etc. complying with the BMS/ Electrical technical specifications.			
i.	Supplying, laying, termination, testing and commissioning of signal shielded cables (2 core x 1 sq. mm), PVC insulated, tinned copper conductor cable Armoured cable.	200	Mtr.	
ii.	Supplying and fixing of 20mm dia corrugated GI flexible conduit along with the all accessories, GI coupler etc. in surface/ recess etc. complete as required for termination in the DDC Panels	100	Mtr.	
iii.	Supplying and fixing of 20mm dia PVC conduit along with the all accessories, coupler etc. in surface/ recess etc. complete as required for Cat-6 cables	100	Mtr.	
iv.	Supplying, laying, terminating & connecting of CAT-6 Cable for DDC to DDC and DDC to Network Switch in terminations	100	Mtr.	
v.	Network switch-8 ports & all required accessories like Patch cord etc	1	Nos	
Installation & Commissioning				
1	Installation and Commissioning and Integration Charges of all the Safety and Fire Security Systems	1	LS	

2.4. Uninterruptible Power Supply (UPS):

Sl. No.	Description	Qty	Unit	Make
1	120 KVA Modular frame & Scalable UPS having 6 nos hot swappable Power Module of 20KW rating module in UPS (120KW Load)	2	Sets	Delta / Vertiv
2	12v 200AH SMF VRLA Batteries 30 Min Backup at 110KVA Load at 0.9 P.F. for UPS with rack & Interlink.	2	Sets	Amron Quanta / Exide
3	10 Kva/KW with 12V 42AH SMF VRLA Batteries 30 Min Backup at Actual Load at 0.9 PF for UPS with Rack and interlink	2	Sets	Delta / Vertiv

2.5. Precision Air Conditioning System (PAC):

Sl. No.	Description	Qty	Unit	Make
1	Supply of 18 TR Floor mounted, bottom discharge, air cooled DX type CRAC units for Server Room application, equipped with most advanced industry technology to operate at higher rerun air temperatures (scalable up to 41 Deg C in case of additional load), guaranteeing precise control of Data Centres and Server Room. The units shall be selected on the basis of following parameters: i) 62.5 KW of Gross Sensible Cooling Capacity @16300 CMH Air Flow ii) 24 Deg C/50% RH of return air iii) Supply air in between 12 - 16 Deg C iv) 42 Deg C of Design Ambient temperature v) Specific Power consumption shall be low as per site design conditions including compressor, evaporator fans and condensers	3	Sets	Vertiv / Uniflair
	The Indoor unit shall comprise of Digital Scroll Compressor, Fibreglass corrosion resistant in floor EC fans, evaporator DX cooling coil with hydrophilic coating, microprocessor controllers, TXV, Driers, G4 Filter, Suction and Discharge piping, internal power and control wiring, crankcase heaters, infrared humidifier, HP/LP cut-outs, power and control contactors, water leak detectors and other electrical accessories.			
	The Outdoor condenser unit shall comprise of condenser fans & motor, condenser cooling coil (copper coil with aluminium fins), Fan speed controller, isolator switch. The condensing temperature of matching air cooled condenser not to exceed 54 Deg C at design conditions.			
	The unit shall be suitable for operation of 415 Volts, 50 Hz, 3 Phase, 4 wire AC supply. Each unit should be having individual display panel, which shall display date, time actual & det values, operating conditions, signal faults, collective faults, limiting values and PAC wellness alarm / service alarm to reduce the down time and unit memory shall hold the 400 most recent events with ID number, time and date stamp for each event.			
	The dimensions of the unit shall not be more than 844mm x 890mm x 1970mm (L x D x H)			
2	Low side accessories and Installation & Commissioning	3	Sets	

Sl. No.	Description	Qty	Unit	Make
a.	Installation and commissioning of Precession AC units comprising of - Indoor & Outdoor unit installation - Initial charge of R-410a refrigerant gas and oil			
b.	Interconnecting Copper piping between indoor & outdoor unit. Copper piping will be duly insulated with in the AC space (@10RMT/Ckt)			
	- Hot gas Line	60	Mtr.	
	- Liquid line	60	Mtr.	
c.	Interconnecting copper cabling between indoor & outdoor unit	65	Mtr.	
d.	Condensate drain piping with GI-B class pipes (@5RMT/Unit)	15	Mtr.	
e.	Humidifier water piping with GI-B class pipes (@5RMT/Unit)	15	Mtr.	
f.	Supply of R410A refrigerant	105	Kgs	
g.	GI Cable Tray (50 mm)	100	mtr.	

2.6. Comfort Air Conditioning System (CAC):

Sl. No.	Description	Qty	Unit	Make
1	2 Ton 3 Star Split AC with Copper Condenser	6	Nos.	Voltas / Hitachi
2	1.5 Ton 4 Star Split AC with Copper Condenser	5	Nos.	Voltas / Hitachi
3	1 Ton 4 Star Split AC with Copper Condenser	1	No.	Voltas / Hitachi
4	Electronic AC Timer Switch	4	Nos.	Standard
5	Installation of Comfort Air Conditioner with Accessories	12	Nos.	NA

2.7. Server and Network Rack:

Sl. No.	Description	Qty	Unit	Make
1	42 U 600mm X 1200mm Server Rack with both side perforated door, castor wheel, and Fan Tray with two nos. Fan and Hardware Mounting	18	Set	VALRACK / Schneider / Rittal
2	42 U 600mm X 1000mm Network Rack with both side perforated door, castor wheel, and Fan Tray with two nos. Fan and Hardware Mounting	2	Set	VALRACK / Schneider / Rittal
3	32 AMP 12 Socket normal vertical PDU with MCB	40	Nos.	VALRACK / Schneider / Rittal

2.8. Passive Cabling System:

Sl. No.	Description	Qty	Unit	Make
1	4-pair, Cat6A UTP Cable, roll of 305m	Box	5	Honeywell / Molex / CommScope
2	Cat 6A UTP Jack with Strain relief and bend limiting boot	Nos	200	
3	24-port unloaded Modular Jack Panel for SL series, 1U	Nos	4	
4	Cat6 patch Cord- 7ft	Nos	50	
5	Cat6 patch Cord – 3ft	Nos	50	
6	Single Face Plate	Nos.	30	
7	Double Face Plate	Nos.	6	
8	3" Back Box	Nos.	36	Standard
9	Laying and Installation Charges	LS	1	NA

ANNEXURE-II

Technical Specifications and Compliance

General Requirements:

a. The offered products in the solution against the supply order shall be latest version and should not be end of life for next 7 years, however if any product which is declared end of life product by OEM during the supply period of material, in this case the tenderer should supply replaced model or next higher model/version of the Product.

b. The proposed OEM or Authorized distributor/Partner of OEM should have a registered office in India to provide sales and 24x7 support in India. The certificate to this effect should be submitted. The bidder should be either OEM or his authorized dealer/distributor.

c. The proposed OEM should have presence in INDIA for last 8 years.

d. The proposed OEMs should not be blacklisted anywhere in India.

e. The proposed OEMs /Bidder shall have done 5 similar projects in India, installation report/ Customer certificate should be submitted.

f. The proposed OEMs should have presence in IDC/Gartner.

g. The bidder / proposed OEM should provide at least one similar successful project completion report endorsed by the client.

h. The proposed OEMs shall be ISO 9001 certified Company.

i. Offered product must have EAL2/NDPP certified or higher criteria for switching.

j. The proposed Solution should support existing 15 numbers of Aruba 303 APs.

Technical Specifications

1.1. Technical Specifications – Civil & Interior works

i. **Demolition Work:** Demolition work has to be done by the vendor. The debris have to be moved from site within 36 working hours of dismantling and dumped at a site as directed by Tata Power. The debris accumulation at site beyond 36 working hours is not permitted.

ii. **Brick Work:** All brick work has to be done as per the direction of the Tata Power and as per the layout agreed between Tata Power South Div. and the vendor. The bricks have to be of fine quality

iii. **Plastering of the Brick wall:** All plaster work and other wall finished shall be executed by skilled workmen and shall be of the best workmanship. The primary requirement of plaster work shall be to provide absolutely water tight enclosure, dense, smooth and hard and devoid of any cracks on the interior or exterior. Masonry and concrete

surfaces, which call for applications of plaster, shall be clean, free from efflorescence, damp and sufficiently rough and keyed to ensure proper bond.

iv. **Paint:** Providing and applying acrylic plastic emulsion paint of reputed make and shade to give an even shade over a primer coat as per manufacturers' recommendations after applying painting putty to level and plumb and finishing with 2 coats of fire-retardant paint. Base coating shall be as per manufacturer's recommendation for coverage of paint.

Providing and laying POP punning over cement plaster in perfect line and level with proper thickness including making good chases, grooves, edge banding, scaffolding pockets etc.

v. **False Flooring:** False flooring has 600mm x 600mm Grid. The False flooring shall be finished at a height of 450mm above the finished floor level. The flooring shall be laid using Electro-galvanized adjustable jack made out of 75mm dia bright bar welded on to 100mm x 10mm x 8mm thick M.S. plate with hexagonal nut and check nut and aluminum die cast jack head, electro-galvanized 40 mm x 40mm x 3.16 mm thick cold rolled channel for main and cross members. The top of the tile shall be finished with 1.5 mm thick anti-static laminate flooring of reputed brand and color. Necessary cutouts for running wire manager, switch, A/C grills and equipment supports shall be given.

vi. **Partitions:** Providing and fixing in position full height partition wall of 100 mm thick gyp-board partition using 12.5 mm thick gyp-board on both sides with GI steel metal vertical stud frame of size 75 mm fixed in the floor and ceiling channels of 75 mm wide to provide a strong partition. Fixing is by self-tapping screw with vertical studs being at 610 mm intervals. The same should be inclusive of making cut-outs for switch board, sockets, grill etc. It shall also include preparing the surface smoothly and all as per manufacture's specification etc.

Providing and fixing in position full height Glass Partition wall of normal 12mm glass partitions for entrance with a door size of 1000mm X 2100mm with all Dorma fittings and accessories. The partition will be fixed in place of existing glass partition between Reception area and Data Center area.

The existing glass partition will be remove and fixing at reception area.

vii. **Furniture and Fixture:** Workstation size of 2' depth made with 1.5mm thick laminate of standard make over 19 mm thick commercial board complete with wooden beading including cutting holes & fixing of cable manager etc. complete with polish. The desk top will be finished with 1.5 mm thick laminate as per Tata Power's choice. The desk shall have the necessary drawers, keyboard trays, cabinets etc. along with sliding / opening as per design, complete with good quality drawer slides, hinges, locks etc.

Cabin table of depth 2' made with 1.5mm thick laminate of standard make over 19mm thick commercial board complete with wooden beading including cutting holes & fixing of cable manager etc. complete with French polish.

1.2. Technical Specification – Electrical

1.2.1. Technical Specification: UPS & Batteries Accessories

Purpose

The purpose of this specification is to define the design, manufacture and testing characteristics required in view of supplying, putting into operation and maintaining an Uninterruptible Power Supply system (referred to as a UPS in the rest of this document). The UPS system shall be designed to supply dependable electric power. UPS system will work on N+1 configuration in the DC. For other area, parallel redundant UPS is envisaged.

The following are the required specification for UPS

A. General

1. Scope

The scope covers supply, installation, testing and commissioning of online Modular UPS systems. Supply of Battery banks with battery mounting racks/cabinets, Supply of cables and inter connection between battery banks and UPS system.
This specification describes the electrical, mechanical characteristics and requirements of three phases, on-line, double conversion, Modular Hot Swappable Uninterruptible Power Supply (UPS). The UPS should be having VFI (Voltage Frequency Independent) technology, fully DSP controlled power factor corrected rectifier and IGBT inverter capable of providing high quality AC power for sensitive electronic equipment loads. It should also supply clean power without any break in the supply. Under no conditions will the protected system get direct supply from the raw mains unless there is fault in the protected system. The description of the specification includes aspects related to design, manufacturing, fabrication and putting UPS Systems together with all necessary accessories and auxiliaries to make an operational UPS system in a condition acceptable to the end user.

2. Standards

The UPS shall be designed in accordance with the applicable sections of the current revision of the following standards. Where a conflict arises between these documents and statements made herein, the statements in this specification shall govern.

Subject	Standard Reference	Standard Title
Safety	IEC/EN 62040-1	Uninterruptible power systems (UPS) – Part 1: General and safety requirements for UPS
Electromagnetic	IEC/EN 62040-2	Uninterruptible power systems (UPS) – Part 2: Electromagnetic compatibility (EMC) requirements

Compatibility (EMC)		
Performance	IEC/EN 62040-3	UPS – part 3: Method of specifying the performance and test requirements

3. System Description

General characteristics

1. Online Double Conversion – Transformer less Design with 3 Level Inverter Technology

2. Modular & Scalable UPS with hot swappable Power Module rating of 20kW with unity P.F & with Hot swappable STS Module, controller & Aux Power Board

3. Redundant System with optional redundant controller, Dual Aux Power Supply.

4. Dual CAN Bus within frame & redundant CAN Bus between parallel systems to enable UPS to be removed or inserted UPS in parallel configuration without need of transferring it to bypass mode.

5. Integrated Parallel capability

   a. Up to Six no. of Power Modules for Vertical redundancy

   b. Up to Eight UPS units for capacity

6. DSP (Digital Signal Processor) / Microprocessor based control, using IGBT devices and high switching frequency PWM

7. Green mode of operation to improve operational efficiency (>96%) on varying & dynamic loading conditions without compromising the redundancy required in the application.

8. Top & Bottom cable Entry options

9. Capability of independent or common battery bank operation of the UPS when operated in Parallel Redundant System

10. High Charging Current Capability of up to 8A per Power Module.

11. UPS Compatibility & Integration with VRLA & Lithium-ion Batteries

Design requirements:

1. The UPS shall be sized for [120] kVA load.

2. The UPS system shall be sized for [120] kVA load with 120 KVA Frame Size.

3. The UPS battery system shall be sized for [110] kVA at [0.9] power factor for [30] minutes.

System Characteristics

A. Input Specifications:

a. Input voltage & variation limits : 380/220, 400/230,415/240, Range 305-477VAC Full Load,

b. Input frequency & variation limits : 40-70Hz
c. Input Power factor at Rated Load : >0.99
d. Input power factor at 50% load : >0.99
e. THD (current) at input for 100% load : <3% at Input Vthd<1%

B. Output Specifications:

a. Output Voltage : 220/380, 230/400, 240/415 V
b. Output voltage variation limits. : +/- 1%
c. Transient voltage variation for 100% block loading. : ±5% (10%-90%)
d. Voltage recovery time : < 20ms
e. Output frequency variation limit : Synchronized to mains :50Hz/60Hz ± 3Hz
50Hz/60Hz ± 0.05%
f. Input to output efficiency at 100% load : >95.8 %
g. Input to output efficiency at 75% load : >96 %
h. Input to output efficiency at 50% load : >96 %

C. Environmental conditions:

a. Temperature:
1. Operating ambient temperature : 0 °C to 40 °C full load
2. Storage ambient temperature with batteries : -15 °C to 40 °C.
3. Storage ambient temperature without batteries : -25 °C to 70 °C.

b. Relative humidity (operating and storage) : 0 % to 95 % noncondensing.
c. Elevation:
Operating Altitude : 1000m without derating.
1% derating every 100m above 1000m till 3000m
d. Audible noise : <65 dBA at 100% load and 1 m from surface.

4. Modes of operations

The UPS system shall be designed to operate as a double conversion, on-line system in the following modes

a. Normal: The UPS system shall continuously supply power to the critical load.

b. Battery: Upon failure of the utility AC power source, the critical load shall be supplied by the inverter, which, without any interruption, shall obtain its power from the battery.

c. Recharge: Upon restoration of the utility AC power source (prior to complete

battery discharge), the PFC rectifier shall power the inverter and simultaneously recharge the battery.

d. Static bypass: The static bypass switch shall be used to transfer the load to the bypass without interruption to the critical power load. This shall be accomplished by turning the inverter off. Automatic re-transfer or forward transfer of the load shall be accomplished by turning the inverter on.

e. Maintenance bypass: In maintenance bypass the load is supplied with unconditioned power from the bypass input included in the UPS.

f. ECO mode: The UPS system is configured to use static bypass operation as the preferred mode under predefined. Transfers to battery operation upon utility failure. Efficiency up to 99%.

g. Green Mode: UPS is configured for Green Mode to enable automatically transferring some modules to sleep mode in case of applied load is less than certain load percentage. Modules would be switched periodically & in rotational manner under this condition. Once load ramps up to full load or above some load percentage, Modules those were in sleep mode shift to active mode automatically without any command. The Green mode could be activated from front display to improve operational efficiency (>96%) on varying & dynamic loading conditions without compromising the redundancy required in the application

h. Energy Recycle Mode : UPS should be configurable for Energy Recycle Mode that enables testing of the unit for load testing without external load to test & verify the UPS under site conditions & to help in Load simulation & decreasing the CAPEX, saving in energy cost for test to be done during maintenance.

i. Parallel Mode: Two or more UPS units (up to 8) of same capacity should be capable of working in parallel mode N+1, N+X & N+N of operation providing same voltage & frequency. The output of parallel UPS system should be shorted to provide common output. The UPS units working in parallel mode of operation should share the load equally. In case of failure of redundant UPS, rest of the UPS units should be able to support the critical load without any interruption.

5. System Control & Indicators

Front Panel 10” Color Touch Graphical Display: The UPS control panel shall provide a touch color graphic display for indication of UPS status, metering, battery status, alarm/event log, and advanced operational features.

a. Access: The display shall provide access to:
   1. Mimic diagram indicating UPS power flow.
   2. Measurements, status indications, and events.
   3. Personalization menu protected by a password, used to make

specific settings.

4. Event log with time stamping.
5. Access to measurements.

b. System parameters monitored: The visual display shall include, but shall not be limited to, the following system parameters based on true RMS metering:

Measurements:

1) Input voltage (Ph-Ph and PH-N).
2) Input current per phase.
3) Bypass voltage.
4) Bypass input frequency.
5) UPS output voltage (Ph-Ph and Ph-N).
6) UPS output current per phase.
7) UPS output frequency.
8) UPS output percent load.
9) UPS output kVA/kW.
10) UPS output power factor.
11) Battery voltage.
12) Battery current.
13) Battery backup time

c. Status indications and events:

1) Load on battery.
2) Load on UPS.
3) Load on bypass.
4) Low battery warning.
5) General alarm.
6) Remaining back-up time during operation on battery power.
7) Bypass source outside tolerances.
8) Main input switch status
9) Reserve input switch status
10) Manual bypass switch status
11) Temperature Inverter & PFC-Warning & shutdown
12) DC Bus Abnormal
13) INV Output Voltage Abnormal
14) INV Overload Warning
15) INV Overload Shutdown
16) INV Short Circuit
17) INV Static Switch Abnormal
18) Emergency Power Off
19) Inner Communication Fault
20) Outer Communication Fault
21) Power Module Fan Fail

d. Time-stamped historical events: This function shall time stamp and store important status changes and anomalies.

6. Battery

The UPS shall use a SMF VRLA battery, designed for auxiliary power service in an UPS application. Battery Rack shall be placed next to the UPS.

The bidder has to supply battery breaker, battery to UPS cable and battery stand base frame for the DC.

1.3. Technical Specifications – Electrical Works (Low Side)

General Specification

i. SCOPE:

In general, the prime vendor/ contractor shall supply, store, erect, test and commission all the equipment required for Electrical Installation. The contractor shall furnish all the materials, labour, tools and equipment for the electrical work, as shown in the accompanying drawings and in the bill of quantities and specifications herein after described.

Technical Specification - Supply and Installation of Low Voltage Cables

I. **Type:**

Low voltage cables shall be copper conductor (unless otherwise specifically mentioned for Aluminum), PVC insulated. The conductors of cable from 16sqmm size shall be stranded. Sector shaped stranded conductors shall be used for cables of 50sqmm size and above. The cable shall conform to IS: 1554 part - I in all respects.

The XLPE cables shall be ST HR inner sheathed ST2 - FRLS outer sheathed as per IS – 7098 (Part-1) wire stripped.

II. RATING:

The cable shall be rated for a voltage of 1100 volts.

III. CORE IDENTIFICATION:

Cores shall be provided with the following colour scheme of PVC insulation.

- 1 Core: Red/ Black/ Yellow/ Blue.
- 2 Cores: Red and Black
- 3 Cores: Red, Yellow and Blue
- 3 1 / 2 / 4 Core: Red, Yellow, Blue & Black.

IV. CABLES AND OTHER ITEMS:

- Specifications for XLPE Cables: IS 7098 - Part – I - 1988
- Specification for PVC insulated: IS 1554 - 1964 (Heavy duty) electric cables Part - I For voltage up to 1100 Volts.
- Specifications for PVC insulated: IS 694 - 1988 Cables for voltage up to 1100V Part - II With aluminum conductors.
- Glossary of terms for electrical cables: IS 1885 – 1971 and conductors.
- Code of practice for safety of buildings: IS 1646 – 1961
- (General) Electrical installation.

V. Storing:

All the cables shall be supplied in drums. On receipt of cables at site, the cables shall be inspected and stored in drums with flanges of the cable drum in vertical position.

VI. Cables in indoor trenches:

Cables shall be laid in indoor trenches wherever, specified. Suitable cables in position. Trenches shall be filled with steel checkered trench covers.

VII. Cable on Trays / racks:

Cables shall be laid on cable trays/ racks wherever specified. The cables laid shall be securely fixed to the Cable trays by means of lockable nylon ties.

VIII. CABLE TERMINATIONS:

Cable jointing shall be done as per the recommendations of the cable manufacturer. Jointing shall be done by qualified cable jointers. Each termination shall be carried out using brass compressions glands and cable sockets. Hydraulic crimping tool shall be used for making the end terminations. Cable gland shall be bonded to the earth by using suitable size G.I wire / tape.

IX. CABLE TRAYS:

The cable trays shall be of ladder type / perforated steel section slotted angles as mentioned. The trays shall be complete with plates, Ts, elbows, risers, and all necessary hardware. The trays shall be galvanized as per IS 2629. The cable trays shall have suitable strength and rigidity to provide adequate support for all cables. It shall not present sharp edges, burs of projections, injurious to the insulation of the wiring and cables. The trays shall be adequately protected against corrosion and shall be made of corrosion resistant material. It shall have side rails or equivalent structural members. There shall be a continuous earth strip running on either side of the tray for earthing.

The distance between power cable tray/ conduit and data cable tray / conduit should be between 1 to 1.5 feet.

X. CABLE SUPPORT SYSTEM:

The cable tray support system shall have the appropriate factory fabricated components. It shall be with ceiling support plates anchored with the ceiling with grip bolts. The perforated trays shall be supported with threaded studs with adjustable clamps and shall have nuts and washer accessories for leveling.

Installation of Cables Trays:

a. Cables trays shall be installed as a complete system. Trays shall be supported properly from the building structure. The entire cable tray system shall be rigid and leveled.
b. Each run of the cable tray shall be completed before the installation of cables.
c. In portions where additional protection is required, non-combustible covers / enclosure shall be used.
d. Cable trays shall be exposed and accessible.

e. Where cables of different system are installed on the same cable tray, non-combustible, solid barriers shall be used for segregating the cables.
f. Cable trays shall be grounded by two numbers earth continuity wires. Cables trays shall not be used as equipment grounding conductors.
g. Cable trays shall be properly leveled and aligned as per the site conditions and a proper shop drawing shall be produced before starting the work and got approved by the consultant / project manager.

The installation of cable tray support system shall be using the required accessories as mentioned above and using grip bolts for proper strength in fixing.

Technical Specification - Low Voltage Distribution System

I. DISTRIBUTION BOARDS FOR POWER AND LIGHTING DISTRIBUTION:

i. Distribution boards shall be suitable for 415 volts, 3 phases A.C. supply of 230 volts single phase A.C. supply as required. Distribution board shall generally conform IS: 2675 or BS: 214.

ii. Type & Construction:
Distribution boards shall be of totally enclosed dead front safety type. The enclosures shall be made of the best quality sheet steel of not less than 2 mm. The sheet steel shall be treated with a rigorous rust inhibition process before fabrication. The distribution boards shall comprise of switch fuse unit or miniature circuit breakers as incoming and required number of circuit breakers or HRC fuses as out goings. The main and out goings shall have rating as specified in the drawings and schedule. The distribution board shall be provided with suitable earthing lug.

iii. Bus Bars:
Suitable bus bars made of high conductivity, High Electrolytic grade, Solid copper and mounted on non-hydro scope insulating supports shall be provided. Separate earth line will be provided.

iv. Circuit Breakers:
Miniature circuit breakers shall be of reputed design and make. Circuit breakers shall be equipped with individually insulated, braced and protected connectors. The front fact of all the breakers shall be flush with each other.

v. H.R.C. Fuses:
Rating of the fuses and carriers shall be as per drawings and schedule of quantities. Fuse carriers and bases shall be best grade phenolic moldings conforming to IS: 1300. They shall be non-inflammable and non-deteriorating type characteristics. It shall be link type and shall conform to IS: 1108.

vi. Safety & Interlocks:
All the live parts shall be shrouded such that accidental contacts with live parts are totally avoided. Distribution boards shall be provided with a front hinged door. Distribution boards interior assembly shall be dead

front with the front cover removed. Main lugs shall be shrouded. Suitable insulating barrier made of arc resistant material shall be provided for phase separation. Ends of the bus structures shall also be shrouded.

vii. Cabinet Design:
The distribution board cabinet shall be totally enclosed type with dust and vermin proof construction. The cabinet shall be stove enameled. The interior surface shall finish to an off-white shade. The interior components shall be mounted and locked on to the study provided inside the cabinet. Over this, a cover made of hilum sheet or stove enameled sheet shall be provided with slots for operating handle of breakers. The cabinet shall be equipped with a front door having a spring latch and vault lock. Cabinets shall have detachable gland plates at both top and bottom.

viii. Terminals:
Distribution boards shall be provided with a terminal block of adequate size to receive mains and outgoing circuits. The location of the terminal block shall be so located that crowding of wires in the proximity of live parts is avoided. A neutral link having rating equal to that phase bus shall be provided.

ix. Directory:
Distribution boards shall be provided with a directory indicating the area or loads served by each circuit breaker, the rating of breakers, size of conductors, etc. The directory shall be mounted in metal holder with a clear plastic sheet on inside surface of the front door.

x. Installation:
Distribution boards shall be surface mounted recessed mounted as required by the Architects and at the locations shown on the drawings. The boards shall be fixed with suitable angle iron clamps and bolts. All the cables / conduits shall be properly terminated using gland / grips / check nuts etc., Wiring shall be terminated properly using crimping lugs/ sockets & PVC identification per rules.

xi. Testing:
Distribution boards shall be tested at factory as per IS:2675 or BS: 214. The tests shall include insulation test, high voltage test, etc. Distribution boards shall be tested for insulation resistance after the erection.

PVC CONDUITS & ACCESSORIES:

i. CONDUITS

General conduits shall be of PVC extruded with original mix. The wall thickness of conduits shall be as follows: -

a. 19, 25 & 32mm – 1.5mm or 2mm thick.

b. 38, 50mm and above - 2.5mm thick.

The PVC conduits shall conform to the requirements of IS: (latest edition) in all respects. The conduits shall have uniform wall thickness and uniform cross section throughout. The conduit shall be free from burrs. Conduits shall bear the name or trade mark of the manufacturer on each length. The conduits shall be delivered to the site in original bundles. Conduits of less than 19mm dia. Shall not be used. Conduit accessories such as bends, inspection bends, inspection tees, elbows, reducers, draw boxes, junction boxes, etc. shall be of ISI MARK. The conduit accessories shall conform in all respects to IS:3837. Boxes shall have internally tapped spouts. Junction boxes / inspection boxes shall be provided with suitable covers.

ii. INSTALLATION OF CONDUITS:

- OPEN / SURFACE CONDUIT SYSTEM:
  Wherever, specifically called for, surface conduit system shall be adopted conduits shall be run in square and symmetrical lines. Before the conduits are installed, the exact route shall be at site and approval of the user shall be obtained. Conduits shall be fixed by heavy gauge GI saddles, secured to suitable plugs, at an interval of not more than 1 meter. Wherever couplers, bends couplers, bends or similar fittings are used, the saddles shall be provided on either side at a distance of 30 cm from the centre of such fittings. Conduits shall be joined by means of screwed couplers and screwed accessories only. In long distance straight runs of conduits, inspection type couplers or running type couplers with jam nut shall be provided. Threading shall be long enough to accommodate pipes to the full threaded portion of the couplers, and accessories. Cut end of conduits shall have no sharp edges nor any burrs left to avoid damage to the insulation of the conductors. Bends in conduit runs shall be done by bending conduits by pipe bending machine or any other suitable device as far as possible. Bends which cannot be negotiated by pipe bends, shall be accompanied by introducing solid bends, inspection bends or cast-iron inspection box. The radius of solid bends shall not be less than 7.5cm. Not more than three equivalent 90o bends shall be used in a conduit running from outlet to outlet. Bends shall be properly drained and ventilated to prevent sweating or condensation inside the pipes. The entire conduit opening shall be properly plugged with PVC stoppers/ bushes. The conduits shall be adequately protected against rust by applying two coats of reputed synthetic enamel paint after the installation is completed.
- Wherever conduits terminate into point control box, outlet box, distribution board etc., conduits shall be rigidly connected to the box / board with check nuts on either side of the entry to ensure proper electrical and mechanical continuity. The entire conduit system after installation shall be bounded to the earth as per the specifications given in IS 732 and IS 3043.
- RECESSED CONDUIT SYSTEM:
  All the conduits including, bends, unions, junction boxes, etc., shall be cleaned and painted with two coats of bituminous paint before they are fixed in position. Conduits which are to be taken in the ceiling slab shall be laid on the prepared shuddering work of the ceiling slab before concrete is poured. The conduits shall be properly threaded and screwed into sockets, bends, junction boxes and outlet boxes and shall be made watertight by using bituminous hemp yarn at the screwed ends. The conduits in ceiling slab shall be straight as far as possible to facilitate easy drawing of wires through

them. Before conduits are laid in the ceiling the positions of outlet points, point controls, junction boxes shall be set out clearly so as to minimize offsets and bends.

Conduits recessed in walls shall be secured rigidly by means of steel hooks /staples at 0.8-meter intervals. Before conduit is concealed in the walls, all chases, grooves shall be neatly made to proper dimensions to accommodate the required number of conduits. The outlet boxes, point control boxes, inspection and draw boxes shall be fixed as and when conduit is being laid. The recessing of conduits in walls shall be so arranged as to allow at least 12 mm plaster cover on the same. All grooves, chases etc. shall be refilled with cement mortar and finished up to the wall surface before plastering of walls is taken up by the general contractor. Where conduits pass through expansion joints in the building, adequate expansion fittings or other devices shall be used to take care of any relative movement. Wherever conduits terminate into point control boxes, distribution boards etc., conduits shall be rigidly connected to the boxes; boards etc. with check nuts on either side of the entry to ensure electrical continuity. Running joints in conduits wherever necessary shall be rigidly held in aligned position by check nut tightened on running side. After conduits, junction boxes, outlet boxes, are fixed in position their outlets shall be properly plugged with PVC stoppers or with any other suitable material so that water, mortar, vermin or any other foreign material do not enter into the conduit system. All conduits end terminating into an outlet, draw box, junction box, point control boxes etc., shall be provided with bushes of PVC or rubber, after the conduit ends are properly filled to remove burrs and sharp edges. Concealed conduit laying, above false ceilings shall be executed in similar manner described above. Necessary GI pull wires shall be inserted into the conduit for drawing wires and proper size earth continuity wire shall be run throughout the length of the conduit with the earth wire being efficiently fastened to the conduit by means of special clamps.

xii. ENCLOSURE FOR ELECTRICAL ACCESSORIES:

a. Enclosure for electrical accessories such as switches, sockets, fan regulators, etc. shall be of factory molded GI boxes conforming to IS: 5133 - Part I. The dimensions of the enclosures shall be as per clauses 3.1 to 6.31 of IS: 5133. The wall thickness of GI enclosure shall not be less than 1.6 mm. The enclosure boxes shall be provided with a minimum of four fixing lugs located at the corners for fixing the covers. all fixing lugs shall have tapped holes to take machined brass screws.

b. 3.2 Sufficient number of knock-outs of 38mm/ 32mm/ 25mm dia. shall be provided for conduit entries. Enclosures shall be sufficiently strong to resist mechanical damage under normal service conditions, provision shall be made for bonding the enclosures to the earth. The enclosures shall be adequately protected against rust and corrosion both inside and outside.

xiii. SWITCHES, SOCKETS AND ACCESSORIES:

1. General Requirements: Light control switches shall be of a 5A rating. Light control switches shall be of piano-key type design suitable for flush mounting for general lighting. Wherever specifically called for tumbler type switches shall be used for surface mounting. Light control shall have either integral mounting plates or white PVC/ Perspex cover plates as approved.

2. All sockets, 5A & 15A ratings, shall be of flush mounting type with control switches of piano- key type design of the same rating as that of the sockets. All sockets outlet shall be of 3 pin / 5 pin type. The socket shall be of high-quality polycarbonate with pins made of brass alloy and plated with a noble metal. Sockets shall be provided with PVC surface outlet plates with round corners and beveled edges. All the sockets shall be provided with plug tops of approved quality and design.

3. Industrial type sockets: Industrial type sockets shall be provided wherever required. Industrial sockets shall be totally metal clad with porcelain base incorporating the pins. Sockets shall have 3 pins for single phase applications and 4 pins and scraping earth of 3 phase applications. The sockets shall be provided with suitable metal clad plug top with suitable cable entry. Sockets shall have metal covers with chain. It shall have a suitable interlocked switch. Industrial type sockets shall be provided with a suitable sheet steel housing made of 16 gauge with the socket mounted in flush with cover of the housing.

4. Lamp holders, ceiling roses etc. Accessories for light outlets such as lamp holders, ceiling roses etc. shall be in conformity with requirements of relevant IS specification. Installation of switches, sockets & accessories: All the switches shall be wired on phases. Connections shall be made only after testing the wires for continuity, cross phase etc., with the help of a megger.

   Switches, sockets fan regulators etc., shall be housed in proper GI factory boxes. The arrangement of switches and sockets shall be neat and systematic. Covers for enclosure shall be molded accommodating switches, sockets etc., Outlets shall be terminated into a ceiling rose for fan points. For wall plug sockets, the conductor may be terminated directly into the switches and sockets.
   The outlets, point control boxes etc. shall be set out as shown on the drawings. Before fixing these, the contractor shall obtain clearance from the SIA/ project manager with regard to their proper locations. The enclosure of sockets and 3rd pin of the sockets shall be connected to the ground through a proper size earth continuity wire.

xiv. POINT WIRING:
   Point wiring shall commence from the first point control box/local control box for the points connected to the same circuit. Point wiring for lights, fans 5 A sockets, call bells etc. shall be carried out with PVC insulated wires. Only 2.5mm2 wires shall be used. The point wiring shall be inclusive of 25mm / 32mm rigid PVC conduits of standard and with approved quality conduit accessories such as bends inspections bends, reducers, junction boxes etc. together with wiring accessories such as ceiling roses, lamp holders, connectors, point control boxes (enclosure for electrical accessories) etc., Point wiring shall be provided with 14

SWG Copper earth continuity wire for earthing 3rd pin of sockets, luminaries and fan fixtures. Light control shall be either single, twin or multiple points controlled by a switch as specified.

Technical Specifications - Light Fixtures

All fixture of Server room should be 36W - 2 ft x 2 ft LED Flat Panel

Basic Detail	
Bulb Technology	LED
Mounting Type	Surface
Bulb Included	Yes
Base (CAP)	Built in LED
Fixture Design	
Body Colour	White
Body Finish	Glossy
Performance Features	
Rated luminous flux light output	Min 2850 lm
Colour rendering index (CRI	>70
Lamp life (hours)	50000 hrs.
Wattage	Min 36W

Technical Specification - Earthing System

I. GENERAL

All non-current carrying metal parts of the electrical installation shall be earthed as per IS:3043 and with subsequent amendments. All metal conduits, trunking, cable sheathes, switchgear, distribution boards, meters, light fixtures, fans and all other metal parts forming part of the work shall be bonded together and connected by two separate and distinct conductors to earth electrodes. Earthing shall also be unconformity with the provisions of rules 32, 61, 67 and 68 of IER-1956.

II. **EARTHING CONDUCTORS**

All earthing conductors shall be of high conductivity copper or GI as required / specified and shall be protected against mechanical damage and corrosion. The connection of earth continuity conductors to earth bus and earth electrode shall be strong and sound and shall be easily accessible. The earth conductors shall be rigidly fixed to the walls, cable trenches, cable trays or conduits and cables by using suitable clamps.

i. Main earth bus shall be taken from the main medium voltage panel to the earth electrodes. The number of electrodes required shall be arrived at taking in to consideration the anticipated fault on the medium voltage network.
ii. All the sub-mains and sub-circuits shall be provided with earth continuity conductors as specified and connected to the main earth bus. Earthing conductors for equipment shall be run from the exposed metal surface of the

equipment and connected to a suitable point on the sub-main or main earthing bus. All switch boards, distribution boards and isolators, disconnect switches shall be connected to the earth bus. Earthing conductors shall be terminated at the equipment using suitable lugs, bolts, washers and nuts. All conduits, cable armoring, raceways, rising mains, metal boxes, panel boards etc., shall be connected to the earth all along their run by earthing conductors of suitable cross-sectional area. Sprinkler pipes, water pipes, steel structural elements, lighting conductors shall not be used as a means of earthing an installation. The electrical resistance of earthing conductors shall be low enough to permit the passage of fault current necessary to operate a fuse / protective device / a circuit breaker and shall not exceed 1Ohm.

III. EARTHING ELECTRODES

i. PLATE ELECTRODE

Plate electrodes shall be made of copper plate of 3.15 mm thick and 60 x 60 cm size. The plate shall be buried vertically in ground at a depth of not less than 2 meters to the top of the plate, the plate being encased in salt and charcoal to a thickness of 15 cm all round. It is preferable to bury the electrode to a depth where subsoil water is present. Earth leads to the electrode shall be laid in a GI pipe and connected to the plate electrode with brass, bolts, nuts and washers. A GI pipe of not less than 25mm dia. Shall be placed vertically over the plate and terminated in a funnel at 5 cms above the ground. The funnel shall be provided with a wire mesh. The funnel shall be enclosed in a masonry chamber of 45 cm x 45 cm x 30 mm dimensions. The earth station shall also be provided with a suitable permanent identification using painting.

ii. PIPE ELECTRODE

Pipe electrode shall comprise of a 2.5 mtr long 38mm dia class ‘B’ GI pipe buried vertically in a pit of 35cm x 35 cm size and filled with alternate layers of charcoal, salt and connected at the top to a Class ‘B’ GI pipe of 25mm, 1 meter long with a funnel at the other end, 5 cms above the ground. The earth lead shall be properly bolted to the pipe electrode with brass bolts, nuts and washers. The funnel and earth lead connections shall be enclosed in a masonry chamber of 45m cms x 45 cms. 300 dimensions. The chamber shall be provided with heavy duty C.I. cover and C.I. frame. Proper permanent identification tag / label shall be provided for each electrode using painting.

IV. PRECAUTIONS

Earthing system shall be mechanically robust and the joints shall be capable of retaining low resistance, even after passage of fault currents. Joints shall be welded, bolted or double-riveted. All welded joints are painted with cold Zinc galvanizing paint. All the joints shall be mechanically and electrically, continuous and effective. Joints shall be protected against corrosion.

1.5 Technical Specifications – Airconditioning

1.5.1 Precision Airconditioning

I. Precision Air conditioner units

The 18 Tr (min capacity per unit) Precision Air conditioner shall be High sensible cooling capacity and high SHR >0.9 (i.e. the sensible to total cooling capacity ratio). Low running costs, achieved by means of sophisticated design and co-design methods, combined with an accurate selection of the components. The whole range of units shall be "environment friendly" because it uses materials that can be recycled, particularly for the plastics and the thermal insulation. The precision AC should be with environment friendly regenerant like R410A. Units should be able to work for fixed supply air logic instead of return air control logic.

II. Cabinet Construction

All versions shall be enables to access all the main components of the machine from the front for installation purposes and routine servicing. With this feature, the machines can be installed side by side. Outside panels shall be coated with epoxy-polyester paint, which guarantees the long-term durability of their original features. The standard panels are lined on the inside with heat- and sound-proofing insulation and shall be fire rated.

III. Fans

Backward curved centrifugal plug type direct driven electronically commutated (EC fans) are required in each unit. Belt driven fans will not be accepted. EC motor fans should be able to vary the speed of the fan based on the variation in the cooling load. Fan blades shall be of corrosion resistant composite material allowing to keep the current high strength of aluminium alloy adding the benefits of light weight and full flexibility on blade design of the new material. Between the fans shall be installed an "S" shape separator design to eliminate turbulence effects of one fan to the others; it shall be also designed to increase efficiency compared to simple plate separator.

IV. Evaporator Coil

Heat exchanger (evaporator coil) shall be designed with an ample front surface area in order to ensure a low air flow velocity through the exchanger so as to prevent the entrainment of droplets of condensation, reduce the air's load losses and ensure a more efficient heat exchange during both the cooling and the dehumidifying processes.

The exchanger is composed of copper tubes mechanically expanded on aluminum fins, complete with a hydrophilic treatment to reduce the surface tension between the water and the metal surface, thus favoring film-wise condensation.

The exchanger is situated upstream from the fans to ensure unhindered air distribution and is complete with a stainless-steel condensate tray with a flexible conduit for its drainage and an incorporated trap.

The cooling coil shall be designed for higher delta across coil allowing units to operate at higher return air temperatures hence delivering better efficiencies. This also ensures lower airflow requirement to deliver required cooling thus providing additional fan power saving.

V. Filtration

Air filters of box type, made of self-extinguishing, artificial-fiber cellular material. The frame containing the filter material is made of GI/Aluminium. Low airflow and clogged filter alarm sensors for controlling the operating conditions of the fans and the build-up of dirt on the air filters inside the unit

VI. Compressor

Latest-generation step less variable capacity digital scroll compressors with crankcase heater (air- and water-cooled DX versions), characterized by a high COP (coefficient of performance) and consequently also a high energy efficiency even at part loads. Systems done with inverter scroll compressors to be provided with necessary arrangements to ensure proper oil return management during part loads and ensure Electromagnetic interferences are within acceptable limits as per EMC regulations. Fixed capacity compressor technology like multiple scrolls or Fixed capacity Tandem scrolls are strictly not allowed.

VII. Refrigerating circuits (air-cooled DX versions)

Each circuit is composed of as standard, moisture indicating sight glass, safety valve, pre-set high pressure switch and low-pressure transducer for protection against high condensing and low evaporating temperatures, filter drier and liquid line solenoid valve. The moisture indicating sight glass enables a rapid check on whether it contains any humidity. The low-pressure transducer is managed by microprocessor controller, whilst to avoid compressor cycling at high discharge pressures, the high pressure switch is equipped with a manual reset, while the filter drier enables the refrigerating circuit to be kept free of humidity (thus increasing the life of all the circuit's components).

Electronic Expansion Valve (EEV / Thermostatic Expansion Valve (TXV) adjusting the flow of refrigerant fluid through the evaporator, controlling the real evaporator superheating in relation to variations in the ambient conditions in the room being air-conditioned. Improving in this way precision of cooling and the energy efficiency of the cooling cycle.
Liquid receiver (if required) with safety plug installed inside the unit (in the air-cooled DX versions)

VIII. Remote air-cooled condenser (for air-cooled DX version).

Each circuit will be provided with separate condenser comprising of condenser coil with aluminium finned copper tubes, complete with low-speed axial-flow fans to reduce the sound pressure level. The frame is made of GI with excellent weather-resistant characteristics. The remote condenser is complete with an electric power and control board, fully wired and tested at the factory. Condensers shall be suitable for 24 hours operation and be capable of providing vertical or horizontal discharge. Fan motor shall have stepless fan speed variation to enable constant pressure during winter low ambient conditions.

IX. Electrical Heating

Electric heating with stainless steel-finned heating elements, complete with safety thermostat for manual resetting to cut off the power supply and trigger

the alarm in the event of overheating. Thanks to the low surface temperature of the heating elements, the air ionization effects are also limited. This heating system serves a dual purpose:
heating the air in order to reach and maintain the set point; reheating in the dehumidifying phase, so as to restore the air temperature to the set point. As a result, the installed heating capacity is sufficient to maintain the dry bulb temperature in the room during operation in dehumidifier mode.

X. Humidifier

Infrared humidifier suitable for use with water of varying degrees of hardness with negligible impact of water quality on performance. The humidifier is complete with a water inlet valve, and a maximum water level sensor; the humidifier includes 3 high-intensity quartz lamps shine on water creating instantaneous moisture using almost any water quality. The cleanable stainless steel humidifier pan is removable from front of the unit. Inbuilt Auto flush cycle reducing maintenance frequency and increasing durability of the system.

XI. Switch Board

Switchboard shall be situated in a compartment separated from the air flow and made in compliance with the directive 73/23/EEC and related standards. The main characteristics are 24Vac low-voltage secondary circuit with isolation transformer, metallic cover panel for protection from live components, general isolator with mechanical interlock, thermo magnetic circuit-breakers for protection, terminal board for no-voltage signal and control contacts. All the units must undergo a safety test cycle to check the continuity of the protection circuit and the insulation resistance, and Hi-pot test.

XII. Microprocessor control system

The microprocessor controller manages the unit operations autonomously. In direct expansion unit P/PI/PID based logic allows unit to operate compressors at full capacity and reducing the airflow achieving faster and effective de-humidification and optimizing the heater operation. Units have been designed and developed to interact with all the most widely used Building Management Systems, exchanging data via the most common communication protocols through serial connections.
Sequencing should be inbuilt feature allowing sequencing up to 32 units. Multiple units can be configured to operate in Team mode, where the units continuously share data with each other and the resultant function shall be performed based on either of Max/Min/average readings of all the units feedback, as per the defined settings.
The user terminal is fitted with a backlit display and keys to move between and change parameters. It can be situated on board the machine or, on request, with a kit for wall mounting for the remote control of the unit. By means of the user terminal, you can set the air-conditioner's operating parameters, monitor the trend of the main working parameters and read any alarm messages.
The microprocessor control system should be provided with a Network Interface Card capable of communicating through any of MODBUS, SNMP, HTTP, SMTP, Bacnet over IP communication protocols

WATER LEAK DETECTOR comprising a control module installed on the electric switchboard and a single point underfloor sensor.
Unit memory shall hold the 200 most recent alarms with time and date stamp for each alarm
Unit memory shall hold the 400 most recent events with id number, time and date stamp for each event

1.5.2 Comfort AC

Supply/ Installation/ testing and commissioning of Cassette Type / Multi Split Type individual AC of (1.5 & 2 Tr, 1Tr) suitable nominal cooling capacity fitted with hermetically sealed compressors operating on R-410A / Non-CFC suitable for Ceiling Mounting, comprising of ½ room units and one no condensing units suitable for operation on 230 V, 50 Hz, single phase, AC, supply complete with remote control, capable of performing

- Cooling
- Air Circulating
- Filtering

Installation of split AC include: -
Mounting / Fitting indoor & outdoor unit at their respective location.
Laying Refrigerant pipelines as required at site and connecting both the unit after drilling hole/holes in the wall. The thickness of Cu tubing shall not be less than 0.80 mm.
Insulating the suction pipe with expanded polythene foam tubing.
Supply & Installation of drain pipe, to drain out the condensate water being formed in the indoor unit.

Charging of Refrigerant gas in the unit.

Provision for PVC/ Plastic channel for concealing the channel and painting matching with interiors.
Drain pipe.4 / 6 sq mm 3 / 4 core PVC insulated copper wire as per requirement to electrically connect both the units with each other.
Required plumbing for drain pipe.

1.6 Technical Specifications – Fire, Safety, Security, Surveillance and BMS

1.6.1 Addressable Fire Alarm System (AFAS)

i. Entire facility will have fire detection and alarm system. Different types of detectors such as fire, smoke and heat detectors or combination of all installed and wired to a control panel in a Zonal fashion.
ii. This system must be integrated with the central monitoring system. The fire panel should be addressable and must have battery powered.
iii. The proposed site already has fire hydrant system and pipes are running across the floor. The bidder must disconnect and dismantle the pipes in server farm area only. This area will be replaced by NOVEC clean agent in place of water as a fire suppressant.
iv. The fire hydrant on the people support area side will remain as it is and it will remain connected to the main system.

v. The AFAS system will have manual call point, hooters and all other accessories for complete fire detection system.
vi. There must be a provision to connect the system to the Building Management System.
vii. Illuminated exit signs must be installed on Fire exit door.
viii. Emergency evacuation laminated chart of A3 size must be displayed at all important location.
ix. Detectors must be placed on all voids.
x. A detail table of items must be submitted with quantity and type of items.
xi. The design will be as per NFPA and local fire codes whichever is applicable.
xii. Hooter with strobes is to be installed at least 2 points in the Data Center area.

1.6.2 Aspiration Smoke Detection System or Very Early Smoke Detection System (VESDA)

i. VESDA system are required in the server farm area for early detection of smoke with a facility of alarm.
ii. The system must be digital and the panel has to be installed inside the Server room.
iii. The sampling pipe has to run over the true ceiling and below the floor.

1.6.3 Gas Based Fire Suppression System

i. The technical area such as Server Farm Area must have fire suppression system with an alarm such that in case of fire the gas agent gets released through the nozzles and suppress the fire fully without damaging the electronic devices.
ii. The suppression nozzles must be placed on all voids and including the inside of containment.
iii. The cylinder has to be seamless type.
iv. In case there is a flooding of gas during execution and before the site handover bidder need to replace the gas at its own cost.
v. Placement of cylinder bank is shown on the layout.
vi. The gas-based suppression system must be integrated to Fire Alarm System.

1.6.4 Close Circuit Television System (CCTV)

i. Surveillance of inside and outside of the facility must be done with different type of IP cameras such as Dome / Bullet / PTZ high-definition cameras with facility of motion-based recording for one month in inbuilt HDD. The CCTV system should cover all the concerned are of Data Center.
ii. The cameras inside the server room to be for all the aisle including the coverage of PAC and entry exit door.

iii. All area of Data Center should have CCTV coverage except Manager Room & Wash rooms.
iv. All cameras have to powered by CAT6 for PoE Switch.
v. At least one month recording must available in NVR in inbuilt HDD
vi. All recording has to motion based inside the server room, NOC room, BMS room and helpdesk area. However, inside the electrical room has to be continuous.

1.6.5 Access Control System

i. Access to the facility has to be controlled. Dual electronic authentication on each entry to the critical area must be available. Physical access controlled also have to be configured which ever required. The scope will include all the access control system mechanisms including authentication, prioritization and monitoring.
ii. All the doors have to be controlled by access control hardware and software except the manager room.
iii. All doors must have entry and exit card reader.
iv. Server room entry must be with biometric access from people entry side.
v. The bidder has to supply and configure at least 100 number of proximity card.

1.6.6 Water Leak Detection System

i. Detection of water and other liquids at the server room floors where is the possibility of water or liquid leakage with detection and alarm system.
ii. Water leak detection cable must be run near all water pipelines inside the server room and the surrounding of PACs.
iii. Water leak detection system will be Analog / Digital type with hooter connected to the system.
iv. The complete system shall be including an electronic system control panel, multiple control modules, distance type sensing cable and all required auxiliary accessories.
v. The water leak detection system must have capability to integrate with monitoring tools.
vi. A detail design drawing must be submitted.

1.6.7 Rodent Repellent System (RRS)

i. Ultrasonic frequency based electronic system to repel rodents from the floors with help electronic wave emitters.
ii. The satellites of the RRS to be installed in all voids in all area.

1.6.8 Data Center Integrated Building Management System:

i. Product Specifications: -

This section defines the Basic Materials and Methods used in the installation of Digital Control products to provide the functions necessary for control of the systems on this project.

- Provide a Facility Management and Control System incorporating an open Protocol, Direct Digital Control, equipment monitoring, and control consisting of microprocessor based plant control processors interfacing directly with sensors, actuators, and environmental delivery systems (i.e. Electrical/HVAC units); electric controls and mechanical devices for all items indicated on drawings described herein including panels, sensing devices; a primary communications network to allow data exchange between microprocessor based devices.
- It is a requirement that all Controllers and Unitary Controllers utilize a protocol which can communicate within the site wide, and Enterprise integrated system.
- All Bidders shall propose control products ensuring that these products are able to integrate seamlessly with the future Project installations, utilizing one of the following preferred protocols:
    - Fully BACnet compliant (note, native BACnet unit shall be used)
    - OPC compliant.
- Hierarchal systems consisting of master or global controllers (Supervisory Controllers) that poll and/or control less intelligent unitary controllers on a secondary bus will not be considered.
- The system installed shall seamlessly connect devices throughout the building regardless of subsystem type, i.e. Electrical breakers, HVAC, Fire and auxiliary systems as detailed in the IO Summary should easily coexists on the same network channel without the need for Third Party gateways. These components shall share common Software for Network communications.
- GUI (Graphical User Interface) workstations shall provide complete access to any point in the system at any time.
- The control system shall be able to accommodate multiple user operation. Access to the control system data should be limited only by operator password. Multiple users shall have access to all valid system data.
- The control system shall be designed such that equipment will be able to operate under stand-alone control. In General, the Operation of any Controllers on the Network shall not rely on any other Controller for its Operation.
- Functionality such as scheduling and trending shall be resident in each and every controller including both programmable and configurable controllers regardless of where they reside on the network.
- System controllers that require a master computer, or a dedicated function module such a schedule, trend or data-logging module are not acceptable, although function specific modules may be used to supplement the functionality resident in each controller.
- In the event of a network communication failure, or the loss of any other controller on the Network, the control system shall continue to independently operate under control of the resident time clock in each controller and the resident program stored in nonvolatile memory as detailed herein. In such a case, each individual controller shall continue to trend data commensurate with

the data storage capabilities of each controller until a network connection can be restored.

- System configuration and monitoring shall be performed via a PC-type computer. Under no circumstances shall the PC be used as a control device for the network. It can be used for storage of data.

- All Controllers and Terminal Controllers supplied and installed by the Contractor shall connect and communicate directly via the BMS Ethernet network, not via a proprietary/dedicated system wise controls network. As a Minimum, all Controllers and Unitary Controllers shall comply with the following:
    - Shall be fully configurable in terms of IP address, subnet mask and default gateway settings.
    - Shall be fully TCP/IP compliant
    - Shall connect to an Ethernet LAN at 10Mbps / 100 Mbps.
    - There shall be no restrictions on the number of controllers supported and associated system/software licensing.
    - Confirm what redundancy options the controllers can provide (e.g. dual network connections etc.).
    - Confirm whether dual connections are offered and if so, how switch over is triggered
    - Controllers shall support RSTP Rapid Spanning tree Network Protocol.
    - Controllers shall be complete with power supplies, a real time clock, input and output modules, memory, processors and all other items necessary for proper and correct interfacing and operation of the control functions described in this document.
    - All controllers shall have peer to peer communications. All controllers shall have a standalone capability such that a failure of networked system shall still permit the plant and controls associated with the controllers, to continue to operate normally with the controllers continuing to communicate with one another.
- In the event of transmission failure in the system network the controllers shall continue to operate with all sequence interlocks and control strategies operating normally accepting those which require global information. Either user adjustable default values or the last sensed value (user selectable) shall then be assumed for these global parameters.
- Each controller or controller location shall be provided with spare hardware capacity for future additions of at least 10% of each type of point. Universal inputs may be counted as either a spare digital or analogue point, but not both. Note that this spare capacity may be accomplished by the addition of input/output modules. Memory shall also be sufficient to allow all programs associated with these points to be run in the controller.
- Multiplexing boards to convert analogue inputs to multiple digital inputs and analogue outputs to multiple digital outputs shall not be used.
- The controllers shall be provided with their own internal battery backup power supply, capable of maintaining all memory including the real time clock for not less than 72 hours.
- All microprocessor-based controllers and unitary controllers must be capable of withstanding transient disturbances from the input power supply.

ii. TECHNICAL SPECS OF GRAPHICS SOFTWARE:

The BMS software shall be simple, flexible and convenient to use such that an operator with minimal programming knowledge can use it to perform control / monitoring and generation of management information systems (MIS) reports. The operating system shall be the Windows 7, Windows 8, Windows 10, Windows Server 2008 and Windows Server 2012. The scalable building management system software shall have seamlessly integration that combines all functions from installation and configuration of automation stations for HVAC and room automation, input and output modules, gateways, DALI constant light controllers, touch panels and infrastructure products. Software for Integrated Building Management System with dynamic graphics. The building management system uses client-server architecture and thereby consists of a building management server application and one or more client applications as a user interface. As a central component, the server manages and stores system and operating parameters, historic data, access rights, and device configurations (backup) in an SQL data base. Via SSL-encrypted web services (OPC XML-DA), it exchanges real time data within the Ethernet/IP network distributed autonomous automation stations for HVAC and room automation, input and output modules, gateways, DALI constant light controllers, touch panels, and infrastructure products, independently of the underlying field bus technology (CEA-709 (LonMark), BACnet, KNX, DALI, M-Bus, Modbus etc.). The Web-Based Server software shall permit use of Standard Web-Browsers such as Microsoft Internet Explorer, Firefox, Chrome, etc. with **minimum 5 simultaneous users/client on LAN and 20 User/Client licenses for remote operation.**

The Software shall be compatible with PC, Mobile & tab i.e. system is to be compatible with Android / IOS etc. Software should be fully scalable to cater future expansion i.e. if required than the existing software could be upgraded up to unlimited IOS / user licenses.

Alarming:

Alarms from different sources can be visualized and managed in a uniform manner; these alarms are presented in a common way which enables the user to maintain an overview. The user can acknowledge or disable alarms. When an alarm occurs, one or multiple receivers can be notified via e-mail/SMS. If the alarm is not acknowledged within a configurable amount of time, an alternative action can be triggered.

Scheduling:

Schedules can either be executed in devices or Server. Software shall have the possibility of organizing schedules executed on different devices in a hierarchical way and configuring them efficiently. Schedulers are organized in a tree structure. Entries on the highest hierarchical level have an impact on all schedulers. Entries on a lower hierarchical level affect only the schedulers below that level. Local changes on the device are identified and can either be accepted or rejected.

Trending:

Software shall read the trend data from the devices periodically and storing everything in the database. A user can also create ad-hoc trend logs directly in Software. Software periodically polls the data point value from the device and stores the value in the database. Trend logs can be viewed either as tables or as charts or exporting the Trend Data as CSV Files.

Energy Management & Reporting:

Software should have built-in feature for energy management to create reports based on trend logs for energy & other data points. Reports can be generated in PDF, Excel, or Word format. They can be automatically distributed via e-mail. The generation of a report can be triggered in one of the following ways:

- Billing of Energy Consumption.
- Periodically: Reports can be generated daily, weekly, monthly, or yearly.
- Event: The change of a data point value can trigger a report.
- Manually: A report can be triggered manually by the user.

Event Log:

Events include alarms, alarm acknowledgements; log-in and log-out of users, change of operational parameter, change of device configuration, system messages, etc. shall be logged directly in Software Database. The event log view offers a large variety of filters to efficiently analyze all activities.

Parameter View:

The parameter view allows configuring operational parameters, which are distributed over multiple devices, efficiently. Each parameter view is a matrix where each cell represents a parameter. Parameters can be organized freely in the matrix depending on space layout and function.

Device Manager:

Software gives a clear overview of the status of all devices and provides detailed information for each device (e.g. device type, name, IP address, firmware version, configuration file, program file, etc.). A firmware update can be performed for individual devices or groups of devices. A backup feature ensures a regular backup of all relevant device configurations. If a defective device needs to be replaced, the configuration can be easily restored.

User Management:

Software provides a separate work environment for each user. A user has to log on to the system and is presented with a perspective tailored to his individual requirements. A perspective defines which windows are open and how they are arranged. In this way, a user can define separate perspectives which are optimized for different tasks and quickly switch between them.

DDC Integrator:

A. 32 bit microprocessor Programmable Modular DDC controller with expandable IO Modules. Capable of processing information from BACnet networks, KNXnet/IP networks, and Modbus devices. Optionally, KNX TP1 and M-Bus are supported. Wireless Enocean devices with battery less radio switches and sensors can be integrated. The WAN interface should extend the Modular DDC controller with a wireless LAN connection. An integrated OPC server shall have SSL-encrypted web services (OPC XML-DA) or UA Secure Conversation (OPC UA), information from integrated devices and from the Modular DDC controller to higher-level OPC client applications.

1.) The Modular DDC controller should have features of a keypad/jog dial and a inbuilt graphical display (with minimum 120x60) with backlight. This allows for both local configuration and monitoring of the correct function and also local override. Remote access is provided via VNC.

2.) DDC should have possibility of offline simulation and online testing of an application via network access.

3.) The Modular DDC controller manages user-specific graphical pages with dynamic content for the visualization of information. The visualization of dynamic graphical pages to be carried out PC Application or Web browser on one or more PCs or mobile devices.

4.) SSL-encrypted web services (OPC XML-DA) are used to access the data. Per Modular DDC controller (DDC), multiple graphical applications can exist in parallel. The Modular DDC controller (DDC) can be accessed over an IP connection by several users simultaneously.

5.) The Modular DDC controller features scheduling, alarming, and trending. These functions should also be accessible via the graphical user interfaces with Building Management System software. Additionally, the user can access schedules and alarm lists via the integrated web server.

6.) Modular DDC controller should be capable of sending an event-driven e-mail notification, as the result of a predefined action, informs about the operating status. The e-mail text can be freely designed. The placement of dynamic values in the text is possible. Also stored trend data (CSV file) is to be forwarded as attachment to the authorized persons.

7.) The Modular DDC controller should be UL listed and BTL certified BACnet Building Controller (B-BC) conform to the ANSI/ASHRAE–135-2012 and ISO 16484-5:2012 standard. It should be connected to BACnet/IP and BACnet MS/TP concurrently. Binary, analog and multi-state objects (inputs and outputs) can be created as BACnet server objects or can be accessed via BACnet client functions (Write Property, Read Property and COV Subscription).

8.) I/O Modules could be integrated to extend the Modular DDC controller s with physical I/O (inputs, outputs).

B. For the integration of Modbus devices, the Modular DDC controller implements a Modbus Master that communicates via Ethernet Modbus TCP or EIA-485 Modbus RTU. The Modular DDC controller can also be operated as a Modbus Slave.

1.) The Modular DDC controller should be redundantly powered by using two power supplies.

2.) The Modular DDC controller should equip with two Ethernet ports. It can either be configured to use the internal switch to interconnect the two ports or every port is configured to work in a separate IP network.

3.) When the Ethernet ports are configured for two separate IP networks, one port should be connected for instance to a WAN (Wide Area Network) with enabled network security (HTTPS) while the second port to be configured to be connected to an insecure network (LAN) where the standard building automation protocols like BACnet/, LON/, or Modbus TCP are present. These devices should also feature firewall functionality of course to isolate particular protocols or services between the ports.
4.) If required than using the internal switch, a daisy chained line topology for minimum of 15 devices could be built, to reduce costs for network installation. The IP switch should also allow the setup of a redundant Ethernet installation (ring topology), for higher reliability. The redundant Ethernet topology is enabled by the Rapid Spanning Tree Protocol (RSTP), which is supported by most managed switches.
5.) Integrated OPC server should allow to access freely definable OPC data points via SSL-encrypted web services (OPC XML-DA) or UA Secure Conversation (OPC UA).
6.) The gateway functionality should allow data communication between all communication technologies available on the device.
7.) All data points can be displayed and set via the web interface in a tree structure.
8.) The Modular DDC controller should support remote packet recording and troubleshooting with Wireshark. In addition, the recording of BACnet communication via BACnet MS/TP and BACnet /IP port is supported for network diagnosis.
9.) An integrated web server should provide access to configuration parameters and statistical information via a standard web browser. Additionally, data points, schedules, and calendars that have been created during device configuration can be accessed via the web server. Current operating conditions can be queried and parameters such as set points and switching times can be set by means of the web server. The configuration can also be done via the provided configuration software.
10.) The Modular DDC controller should have built-in SNMP server (Simple Network Management Protocol) to provide network management information to use the same as customary IT tools.
11.) The Modular DDC controller should have Built-in network diagnosis LEDs to provide a display of the status of OPC connection, BACnet MS/TP channel, TP/FT-10 channel, Ethernet connection, and Ethernet/IP (BACnet/IP, IP-852) channel. Additionally, network statistics information is to be mapped to OPC data points.

DDC Controller:

1.) 32 Bit microprocessor based Programmable standalone DDC with BACnet/IP, LON/IP interface. As BACnet Building Controller (B-BC) compliant to ANSI/ASHRAE–135-2012 and ISO 16484-5:2012 standard/An LON controller should comply with CEA-852 and ISO/IEC 14908 standard.
2.) Each DDC should have physical IOs and IP port for connecting one additional module. An integrated OPC server should provide web services (OPC XML-DA) information from connected devices and from the Modular DDC controller to higher-level OPC client applications.
3.) The DDC should have a keypad/jog dial and inbuilt graphical display (120x60) with backlight. Keypad/jog dial & Display should allow both local configuration and monitoring of the correct function and also local override.
4.) The DDC should have possibility of offline simulation and online testing of an application via network access.

5.) DDC should manage user-specific graphical pages with dynamic content for the visualization of information. Dynamic graphical pages could be carried out through PC Application or Web browser on one or more PCs or mobile devices, Per DDC controller multiple graphical applications can exist in parallel. DDC controller should be assessed over an IP connection by several users simultaneously.
6.) The DDC should have following features –
a.) Alarming,
b.) Trending
c.) Time synchronization
d.) DDC controller should be capable of sending an event-driven e-mail notification, as the result of a predefined action, informs about the operating status. The e-mail text can be freely designed. The placement of dynamic values in the text is possible. Also stored trend data (CSV file) is to be forwarded as attachment to the authorized persons.
7.) Binary, analog and multi-state objects (inputs and outputs) can be created as BACnet server objects or can be accessed via BACnet client functions (Write Property, Read Property and COV Subscription).
8.) Binary, analog, and multi-state objects (inputs and outputs) can be created as BACnet/LON server objects or can be accessed via client functions (Write Property, Read Property and COV Subscription). The BACnet client configuration is done via the provided Configuration Software (network scan or EDE import). The integrated OPC server allows to access freely definable OPC data points via web services (OPC XML-DA).
9.) An integrated web server should provide access to configuration parameters and statistical information via a standard web browser. Additionally, data points, schedules, and calendars that have been created during device configuration can be accessed via the web server. Current operating conditions can be queried and parameters such as set points and switching times can be set by means of the web server. The configuration can also be done via the provided configuration software.
10.) The DDCs should have two 100Base-T Ethernet ports with integrated Ethernet switch. Up to 20 DDCs with dual Ethernet can be operated in an Ethernet ring, if the Ethernet ring is connected with an Ethernet switch featuring RSTP function (Rapid Spanning Tree Protocol).
11.) The DDC should have three colored LED that shows the current device status. The LED should inform about pending errors and inputs or outputs in manual mode. Moreover, the network status is indicated.

The BMS system shall be a peer-to-peer networked, distributed control system with the capability to integrate both the ANSI/ASHRAE Standard 135-1995 BACnet, LonWorks and Modbus TCP technology communication protocols in an interoperable system.
Given the Criticality of the BMS controls and Monitoring, a Network for BMS shall be set up independently for the IBMS operations, from the Perspective of achieving Concurrent Maintainability of the Premise.
The BMS System shall have the Complete Monitoring and Control Functionality over the Utilities and functions as shall be defined in the Data Point Schedule (IO Summary)
The System shall present a Single Graphics Interface to the user for Control and monitoring of all the utilities in the Premises.
The system shall offer enhanced functionalities such as Alarms management, Maintenance management, Trending and logging of Data, along with Data Analysis.

Consumption Patterns of the Building shall be presented in a Dashboard format for easy monitoring.

The system design shall utilize the latest technology in "open" network architecture, of the following type:
BACnet over IP (BTL Approved) with distributive intelligence and processing, the system shall ensure that there is no single point of failure for the system.
The BMS system offered should be from the latest offering of the BMS Product Line and should be a freely programmable management and automation system for the full spectrum of today's building application services.
The BMS system shall meet the Tender Specification Document herewith, and shall fulfill and exceed the requirement of the complete Data Point Summary Schedule attached as annexure.
The facility shall also have an Email alarm notification device as a part of the Building Management System intended to be installed in the Premises.
The System shall mainly comprise of Direct Digital Controllers, Protocol Integrators and relevant field level instrumentation.
The BMS shall Control or monitor such as Electrical Breakers, Multifunction Meters, Fire Alarm, Fire Fighting Systems, Gas Suppression, Air Sampling Systems and Water Leak system.
The System shall present a Single Graphics Interface to the user for Control and monitoring of the above. The system shall offer enhanced functionalities such as Alarms management, Maintenance management, Trending and logging of Data, along with Data Analysis. Consumption Patterns of the Building shall be presented in a Dashboard format for easy monitoring, if required.

Detail of Compliance
********No Deviation will be considered. The Bid may outride rejected if found any deviation on Technical Compliance.*

SL	Category	Complied (Yes / No)	Remarks
	Specification of Architectural & Interior works (CIVIL)		
Sl	**Interiors**		
1	For the Server-room, walls in separating zones shall be of floor to ceiling height, perimeter walls/ partitions shall have minimum 1-hour fire-rating.		
2	The frame work of Gypsum (Main and Cross) partitions in Server Room areas shall be from base floor to RCC roof with Fire Rating of minimum 1 Hours.		
3	POP and painting jobs to be done in server room, NOC room, BMS Room and Manager Room		
4	All the Aluminium door should have full length glass		
5	The Entry door and exit door of Server Room shall be 2 hours fire rated with vision glass		
	Flooring		
1	The height of cavity floor is proposed to be 450mm in Server Room.		

SL	Category	Complied (Yes / No)	Remarks
2	The base floor in Server Room needs to be thermally insulated with Armaflex or equivalent insulation.		
3	Panels should be made up of 18-gauge steel of 600mmx600mm size treated for corrosion and coated with epoxy conductive paint (minimum thickness 50 Micron).		
4	The floor should be designed for standard load confirming to BIS 875-1987.		
5	False flooring covering shall be antistatic high pressure laminate 2 mm. thick in approved shade and color with PVC TRIM edge.		
6	Perforated floor panels are to be provided on the designated floor for air delivery.		
7	The false floor should withstand the load of the racks with 50% safety margin.		
8	No obstructions of pipes, conduits, detectors shall be permitted in space immediately under equipment lineups.		
9	The under-floor space under lineups is required for equipment frame securing, cable management and power access.		
10	Ramps and steps are to be provided for transitioning to elevated floor area at entrance of server room.		
11	Pedestal assembly shall be of snap lock type consisting of base assembly 100 x100x2 mm. with full bead weld to steel base plate with embossing and four numbers holes which shall be fixed to the floor with screws.		
12	Pedestal head flanges shall be provided with holes for screws for fastening the G.I. Stringers. No sharp edges or corners shall be exposed from pedestal head when floor panel is removed. G.I. rod, fully threaded shall be locked to pedestal head.		
13	Stringer system is hot dipped galvanized sheet, construction having channel, with pre-punched counter and holes at both ends of the top face for securing the stringers on to the pedestal head to be fixed with screw ensuring maximum lateral stability in all directions.		
14	The stringer system would be earthed properly by using copper wire.		
	Doors		
1	All doors in Server Room shall be of 2 hour fire-rating, with secure bolted hinge.		
2	Provision for remote door release is made for the electric door locks.		
3	The server rooms are to be provided with two doors with one door of size 1500 mm x 2100mm at least for equipment movement ingress and egress for installation in and maintenance out.		
4	This shall also serve as Emergency exit door way with panic bar to be provided for egress from Server Room area in case of fire exigency.		

SL	Category	Complied (Yes / No)	Remarks
5	Suitable incline ramp for movement of the Server hardware in Server Room shall be made by supplier.		
	Specification of Electrical works		
	General		
1	Supply, erection, testing and commissioning of Raw Power Distribution board, Lighting Distribution Boards, UPS Systems along with Battery Bank, UPS Distribution Boards.		
2	Supply, laying, terminations, testing and commissioning of cabling. This includes making of Raceways for power as well as networking cables.		
3	Supply, installation, testing and commissioning of LED based Illumination system in Server Room.		
4	Supply, erection, testing and commissioning of Earthing System for electrical installations, RF earthing for UPS.		
5	The earthing of servers racks / Network racks is also included in this package; along with grid for RF earthing shall be in the scope.		
6	Supply, installation, testing and commissioning of UPS and battery bank at the existing electrical room.		
7	The server DBs shall have MCCB as an incomer.		
8	All electrical installation shall conform to the relevant Indian Standard Specifications and Indian Electricity Rules.		
	Source of power		
1	Power will be made available by Tata Power at the incoming side of L.T. Panel at 415v, 3 Phase and N, 50Hz in the Electrical Room, in Ground Floor. Further distribution of power to different loads like A/C panels, UPS power supply to Servers through DBs, shall be designed, supplied, tested and commissioned by the supplier.		
2	Proper Incoming cable entries for all the DBs and equipment shall be planned with special attention to plugging of conduits.		
	Power distribution		
1	All Distribution Boards shall be aesthetically built, single front, non draw out.		
2	All components shall be chosen from List of Preferred makes.		
3	Power distribution network for Airconditioning and illumination shall be in the scope of the supplier which includes sub-distribution boards, concealed wiring, switch boards etc.		
4	Adequate redundancy shall be provided while designing the distribution system.		
5	Spare power distribution boards for at least 2 Nos. Racks at Server Room should be provided.		
6	There shall be two redundant circuits from the UPS to the server racks.		

SL	Category	Complied (Yes / No)	Remarks
	Illumination		
1	The level of illumination, type of fixtures and wiring shall be designed/selected, supplied and erected, tested and commissioned by the supplier.		
2	However, the basis and selection of equipments shall be approved by TPSODL before procurement.		
3	Illumination design shall include type of fixtures easily maintainable and available of approved makes.		
4	The level of illumination in server room shall be 400 Lux. The luminaries shall be glare free with optical mirror work.		
5	Normal lighting system shall be fed from Raw power DBs whereas minimum 10% of lights shall be fed from emergency power.		
6	The emergency lights shall be located at server room only.		
7	All switchboards shall be aesthetically built, concealed and of modular design.		
8	Lighting SDB & Raw power DB shall be aesthetically built with recessed mounting consisting of MCB as incomer and ELCB as outgoing.		
9	Service power outlets of 6/16 A with 16 A switch shall be provided at skirting level for maintenance purposes.		
	Electrical Cabling		
1	Both the raceways with power cables and data cables shall be separated by a distance of 400mm.		
2	All electrical cabling shall be done with 1100V grade **FRLS** / PVC cable with stranded Copper Conductor.		
3	The sizing shall be based on current requirements, voltage drop and short circuit withstand.		
4	Point wiring shall be done with 1100V grade CU. Cable FRLS/PVC of size 1X1.5 mm^2. All wiring shall be concealed.		
5	Cable installation shall be as per IS:1225.		
	Electrical Earthing		
1	Earthing of electrical installation shall be done in accordance with IS:3043.		
2	There shall be three separate buses for earthing system ie dedicated UPS Neutral Grounding, Technical earth (Low impedance) for Equipment and Raised floor grids & panel body earthing.		
3	All the earths shall be kept equi-potential and shorted at ground level only.		
4	Earthing station, with pipe electrode, necessary Civil/Electrical work, CI cover, alternate layers of salt and charcoal, etc. as per IS:3043 shall be provided in required numbers.		

SL	Category	Complied (Yes / No)	Remarks
5	Galvanized M.S. saddles shall be used for clamping earth conductor.		
6	All components, panels, cables, conduits shall be chosen from list of approved make.		
	Specification of UPS System		
	General		
1	**Capacity (in KVA):** 120 KVA/KW, 3-Phase Input / 3-Phase Output UPS with 120 KVA Frame Size.		
2	**Technology and Capability:**		
a.	True Online configuration double conversion UPS with 3-Level Inverter Technology		
b.	Modular & Scalable UPS with hot swappable Power Module of rating of 20kW.		
c.	Hot Swappable STS Module & control Module		
d.	Parallel capability up to four no. of Power Modules for Vertical redundancy & up to eight UPS units for capacity.		
e.	Redundant System with optional redundant controller, Dual Aux Power Supply.		
f.	Dual CAN Bus within frame & redundant CAN Bus between parallel systems to enable UPS to be removed or inserted UPS in parallel configuration without need of transferring it to bypass mode		
g.	Green mode of operation to improve operational efficiency (>96%) on varying & dynamic loading conditions without compromising the redundancy required in the application.		
h.	Top & Bottom cable Entry options.		
i.	DSP (Digital Signal Processor) / Microprocessor based control, using IGBT devices and high switching frequency PWM		
j.	Capability of independent or common battery bank operation of the UPS when operated in Parallel Redundant System.		
k.	Brushless DC Fans with speed control		
l.	Energy Recycle Mode that enables testing of the unit for load testing without external load & helps in Load simulation		
3	**Model Name & Number**		
4	**Input**		
a.	Input facility -Phases / Wires: 3-Phase / 4-Wire & Gnd (R, Y, B - Phases & Neutral + Ground)		
b.	Nominal Input Voltage: 380 / 400 / 415V AC		
c.	Input Voltage Range: 305 - 477 V AC		
d.	Nominal Input Frequency : 50 / 60 Hz **(Auto selectable)**		
e.	Input Frequency Range: 40-70 Hz		

SL	Category	Complied (Yes / No)	Remarks
f.	Input Power Factor: > 0.99 on Full resistive load Load		
g.	Input Current Harmonic Distortion (THDi): < 3% on Full Load (with Mains Vthd less than 1%)		
5	**Output**		
a.	Nominal Output Voltage: 380 / 400 / 415V AC **(Selectable)**		
b.	Output Voltage Regulation: +/- 1%		
c.	Nominal Output Frequency: 50 / 60 Hz **(Selectable)**		
d.	Output Frequency Regulation: +/- 0.05 Hz (Free Running / Self Clocked Mode)		
e.	+ / - 5 % (Synchronized to Mains Mode, Selectable)		
f.	Output Frequency Slew Rate: 1 Hz / s		
g.	Output Wave Form: Pure sine wave		
h.	Output Voltage Distortion (Vthd): <= 1% (For 100% Linear / Resistive Load) <= 5% (For 100% Non-Linear / RCD Load)		
i.	Crest Factor: 3 : 1 On Full Load		
j.	Unbalanced load on phases: 100% unbalanced load should be allowed		
k.	Displacement angle for 100% balanced Load: 120 deg +/- 2 deg		
6	**Transient Response / Recovery**		
a.	Transient response: Dynamic regulation for step load +/- 5%		
7	**Transfer Time**		
a.	Transfer Time (Mode of operation): Nil from Mains mode to Battery Mode Nil from Battery Mode to Mains mode		
b.	Transfer Time (Inverter to Bypass / Bypass to Inverter): < 1 ms (Synchronized Mode) < 10 ms (Asynchronized Mode)		
c.	Automatic & Bi-directional static by-pass (In-built): Uninterrupted transfer of load from Inverter to bypass (under overload / fault conditions) & automatic retransfer from bypass to inverter (on removal of overload / fault conditions)		
8	**Efficiency (At Nominal Voltage & Resistive Load up to kW rating of UPS)**		
a.	Overall Peak Efficiency (AC to AC) - Online (Double Conversion): 96%		
b.	Overall Efficiency (AC to AC) - Online (Double Conversion) on 25% Loading: 95%		
c.	Eco mode efficiency : 99%		

SL	Category	Complied (Yes / No)	Remarks
9	**Overload**		
a.	Inverter Overload capacity (Mains Mode & Battery Mode) 125% for 10 minutes 150% for 60 seconds, > 150% for 1 sec		
10	**Display Panel (In-build Touch Display)**		
a.	**Measurements (On Touch Display)**		
	Input: Voltage /Current/ Frequency		
	Bypass: Voltage /Current/ Frequency		
	Output: Voltage / frequency / Current		
	Battery: Voltage / Capacity		
	Load: In kVA / kW / Percentage		
	Temperature: STS/Inverter/PFC		
b.	Events Logs (10000 events) like: Over temperature / DC Bus Fail / Fan Fail / Fuse Fail / Overload / Short-circuit / Device Fail / Inverter Fail / Rectifier Fail / Bypass Fail, etc. Statistical Data: No. of power failures / Transfers to Bypass / Total Running time, etc		
c.	**User Programmable Parameters & Settings (On Touch Display)**		
	Bypass: Voltage / Frequency Range		
	Inverter: Voltage / Frequency / Eco Mode / Frequency converter		
	Battery: Type / Banks / Chargers Current / Manual & Automatic Testing		
	Mode selection : online Mode, Green Mode, ECO Mode, Energy Recycle Mode & Frequency conversion mode		
	Auto Equalize charge enable/disable option with selectable interval		
	Alarms: Buzzer Test / Buzzer Mute		
	Date & Time Setting		
	Password: User / Administrator Setting		
	Information: UPS Serial No. / Firmware		
	Log & Statistical Data Reset & Firmware upgrade		
11	**Alarms**		
a.	Audible Alarms: Mains Failure / Battery Low Alarm / UPS Overload / Fault / Short-circuit		
12	**Battery Type: VRLA (AGM) Sealed Maintenance Free (SMF) - 12V Cells**		

SL	Category	Complied (Yes / No)	Remarks
a.	Backup Required: 30 minutes on 110 kVA Load for UPS		
b.	Battery Makes: Amara Raja / Exide / HBL / Amco		
c.	Minimum Capacity in Ah: 96000 VAH		
d.	Minimum Charger Rating (Including internal / external): 10% of Battery Ah rating offered		
e.	Charger type / Charging Method & Charging Voltages: Constant Voltage Constant Current Solid state SMPS charger designed for at least 10% of Battery Ah offered. Float Voltage: 2.25 VPC Boost Voltage: 2.32 VPC		
f.	Battery recharge time (After complete discharge) to 90% capacity: 10-12 hours		
g.	Battery Protection (Vendor to specify the rating): Electronic switch (SCR) & Fuse		
h.	Battery End Cell Voltage: 1.75 VPC		
i.	Nominal Operating Temperature: 0deg C to +40deg C		
13	**Dry contact/ communication Ports**		
a.	Output Dry contact :6 configurable for 21 events including Battery breaker shunt trip, backfeed protection EPO activated Input Dry contact: 4,ParallelPort : 4, REPO, External battery Temperature sensor : 4 ,External switch Breaker status: 4 ,USB Port & RS232 Port ,SMART slot for more no. of Dry contacts, Integrated MODBUS/SNMP card		
14	**Restart / Testing Capability**		
a.	Automatic Restart: UPS should start up automatically on mains resumption after battery low shutdown		
b.	Battery Self Test: Manual / Scheduled battery test to ensure healthiness of batteries.		
15	**Physical**		
a.	Operating Temperature: 0 to 40 deg C full load		
b.	Storage Temperature: -25 to 70 deg C		
c.	Operating Humidity: 0 to 95% RH (Non-condensing)		
d.	Operating Altitude: 1000 m (meters above sea level) without derating, Derating 1% for each additional 100m.		
e.	Protection Class: IP – 20		
f.	Type of Cooling: Forced Air		
g.	Noise Level: < 65 dbA at 1 meter distance		

SL	Category	Complied (Yes / No)	Remarks
i.	Form Factor: Free Standing Floor Mounted UPS		
j.	Dimension (w x d x h) in mm: Vendor to Furnish		
k.	Weight - in kg: Vendor to Furnish		
l.	Reliability: MTBF greater than 350000 hours		
m.	Connections - Rectifier Input / Output / Bypass Input / Battery: Breakers for input, output, bypass & Maintenance bypass		
16	**Certifications**		
a.	**Manufacturer:** **QMS:** As per ISO 9001: 2015 EMS: As per ISO 14001: 2015 OSHAS: As per ISO 18001: 2007		
b.	**Product:** **Safety:** As per IEC62040-1 EMC: As per IEC62040-2 Performance : As per IEC62040-3 ESD: As per IEC61000-4-2 Level 4 RF: As per IEC61000-4-3 Level 3 FT/Burst: As per IEC61000-4-4 Level 4 Surge:As per IEC61000-4-5 Level 4 CE Declaration of Conformance		
	Specification of Precision Air-conditioning System		
	General		
1	All moving assemblies like compressor, fan etc. shall be mounted on vibration proof base.		
2	Server Room requires round the clock 365 days precision cooling to maintain temperature of 18°C ± 1°C and relative humidity 50% + 5%.		
3	The room air-conditioning system shall be a floor discharge unit designed specifically for high sensible heat ratio applications such as Server and Computer rooms.		
4	The solution should be scalable to address future load of servers.		
5	For effective and uniform distribution of cooling, proper equipment layout planning with high CFM units to be considered.		
6	No. of PAC units - N + 1 (N working + 1 standby). The standby will be set in automatic rotation. (Where N stands for no. of units required)		
7	Flow direction - Downward flow		
8	Filters efficiency - 95% down to 5 microns.		
9	Type of load - High sensible heat load.		
10	The system shall contain Scroll compressors, Evaporator, Humidifier, Condenser, and Thermostatic expansion valve which shall be contained within the cabinet of the unit.		

SL	Category	Complied (Yes / No)	Remarks
11	The frame and panels shall be constructed of heavy gauge Zinc -anneal corrosion resistant sheet steel. The fan section shall be insulated with minimum 25 mm thick fire rated insulation. The cabinet shall be powder coated and have a textured finish.		
12	The units shall be fitted with large surface area cooling coil with split coil mechanism for dehumidification. The evaporator coil shall be constructed of copper tubes and slit aluminium fins with frame and drip tray fabricated from heavy gauge aluminium.		
13	Each air-conditioner shall be provided with Hermetic Scroll compressors. Compressor shall have inbuilt overloads, and shall be mounted on anti-vibration mountings.		
14	The refrigeration circuit shall be direct expansion type and incorporate hermetic scroll compressor.		
15	The system shall include a manual reset HP and an auto reset LP switch, filter drier and charging port. A thermal expansion valve, sight glass and filter drier shall be provided for each circuit.		
16	The blower shall be centrifugal type, double inlet, double width, statically and dynamically balanced.		
17	Blower shall be driven by a high efficiency motor with a self tensioning belt drive arrangement. The blower-motor assembly shall be mounted on anti vibration mountings.		
18	Each unit to be provided with multiple blowers.		
19	The unit shall be in-built with Humidifier.		
20	Humidifier shall be provided by boiling water in a high temperature polypropylene steam generator.		
21	The humidifier shall be fully serviceable with replaceable electrodes.		
22	The electrical heating elements shall be of low watt finned tubular construction.		
23	The heating circuit shall include dual safety protection through loss of air and high temperature controls.		
24	The condenser shall be the low profile, weather-proof type incorporating high efficiency direct drive, external rotor motors with axial blade fans.		
25	The heat rejection coil shall be constructed from copper tubes and aluminium fins.		
26	The fan shall be selected for quiet operation and shall be suitable for 24 hours operation.		
27	The standard controls shall be microprocessor based programmable PID (Proportional, Integral and derivative) logic controller that monitors, displays and operates the precision cooling units, so that the environment is held within desired specifications.		

SL	Category	Complied (Yes / No)	Remarks
28	The controller shall have a LCD display screen, which shall be visible from the front of the unit without removing any covers/external panels.		
29	The controls shall have separate indications for various modes of operation (cooling, heating, humidifying and dehumidifying)		
30	The controls shall have alarm conditions (temperature high, wet floor and loss of air) temperature and humidity.		
31	The controls shall have graphical displays of set temperature and humidity and achieved temperature and humidity.		
32	The controls shall have no airflow, low humidifier water, service intervals and low battery.		
33	The system shall have a menu driven interface with supporting help screens and shall use multi-protocol data communications.		
34	Access to the controller settings shall be protected with passwords to prevent against unauthorized access.		
35	Necessary interfaces shall be provided for remote monitoring of temperature, RH and other parameters of the Air Conditioning systems from the Admin Room in Systems Department.		
36	PAC units should have the safety precautions with high pressure trip - Manual reset for each compressor, low pressure trip - Manual reset for each compressor, single phasing preventers, reverse phasing, phase imbalancing, phase failure and overload tripping (MPCB) of all components.		
37	Air cooled condenser shall be installed by the side of the Server Room on steel frame.		
38	Condenser and air-conditioner shall be suitably connected with insulated refrigerant pipings. Condenser shall have heat rejection coil block, fan-motor assembly with all necessary automation/interlocking.		
39	The PAC units shall auto start the redundant unit in case there is failure of any running PAC.		
40	The standby unit shall continue to work till the failed unit is serviced and repaired.		
41	The unit shall be serviceable with a maximum space of 1000mm from front.		
42	The precision air-conditioning units shall be complete with Scroll compressors, Evaporator, Humidifier, Condenser and Thermostatic expansion valve.		
43	Supplier has to do all the civil and structural work required for above installation.		
44	Supplier has to do all insulation work for refrigerant piping, ducting etc.		
45	Supplier has to do all electrical works related to PAC commissioning.		

SL	Category	Complied (Yes / No)	Remarks
46	Control panel shall be provided with Start/Stop push buttons and ON and OFF indicating lamps shall be provided for each drive.		
	Specification of BMS		
	Fire Detection and Suppression		
1	All the areas of the Server Room and battery room shall have fire detection system which shall be designed and installed as per NFPA STD 2001.		
2	All the detectors shall be connected to an Analog Addressable Fire Alarm Panel, which indicates the exact address of the Detector on Fire.		
3	In case of Fire the alarm needs to be generated at the local site as well as Systems Department.		
4	The detection and control system shall employ multi-sensor detectors which are a combination of photoelectric and heat detectors.		
5	The detectors shall be located in the server room and UPS room.		
6	The detectors shall be strategically located in the false floor and above and below the false ceiling.		
7	Analogue addressable fire alarm system comprises of multi sensor Detectors, manual Call Points, manual Abort, manual Release Station, isolator Modules, relay Output Device (Control Modules), hooter: output 86-90dBA. Additional set hooter to be installed in the Systems Dept.		
	VESDA System		
1	The Very Early Smoke Detection and Alarm (VESDA) system for Server room, shall provide the highest sensitivity appropriate for detecting a complete range of smoke particles		
2	Produced in incipient stage and real fires involving natural or synthetic materials.		
3	VESDA should comprises of an air sampling system, filter assembly, aspiration system, detector and control system.		
4	4. The VESDA panels shall be located in the respective protection areas.		
	Fire Suppression System		
1	Fire Protection system using fire suppression agent NOVAC 1230 gas conforming to NFPA 2001 "Standard on Clean Agent Fire Extinguishing Systems" shall be provided with automatic and manual gas release mode.		
2	The gas release panel will be interfaced through control modules to the Analog Fire Alarm System.		
3	NOVAC gas based suppression is considered for the Server Room and CO2 based fire extinguishers in the other area		

SL	Category	Complied (Yes / No)	Remarks
4	The bidder shall enclose their design sheet along with the offer and the offer/BOQ should be in line with their design.		
5	All materials and equipment shall be from approved manufacturers and shall be suitable for the performance of their respective functions.		
6	The NOVAC 1230 cylinders will be located in the protection area adjacent to the Server Room or in the Server Room.		
7	Nozzle shall control the flow of NOVAC 1230 to ensure high velocity, proper mixing in the surrounding air and uniform distribution of the agent throughout the enclosure.		
8	The number of nozzles and their positions must be chosen so that the design concentration is maintained everywhere in the enclosure.		
9	Nozzle shall be located where they can be adequately supported on walls, ceiling or structural members.		
10	In case of any leakage or accidental discharge of the agent, it should be possible to refill the cylinders in India itself.		
11	The bidder should indicate the source of refilling and time that will be taken for refilling and replacement.		
12	The scope of work involves supply, installation, testing and commissioning of NOVAC 1230 based Fire Suppression system for Server Room.		
13	For the other area, adequate number of hand-held CO2 fire extinguishers to be provided.		
	Access Control System		
1	The system employed shall be based on Biometric Technology for the Server Rack area, and Proximity technology for Backup area.		
2	Proximity Card Readers shall be used for entry at each door at NOC, BMS and Electrical Room.		
3	The readers at each door shall be connected to Door Controller.		
4	The components of the system are as follows:		
	· Network Server		
	· Card issue terminal – PC		
	· Application software		
	· Controller		
	· Proximity card reader		
	· Finger print reader		
	· Proximity card		
	· Cables		

SL	Category	Complied (Yes / No)	Remarks
5	The scope of work involves supply, installation, testing and commissioning of Access Control system for Server Room with requisite GUI software, PC and database for monitoring the entry/exit by authorized persons.		
6	Monitoring of system shall be done from the BMS Room		
	Closed Circuit Television (CCTV) System		
1	Products with UL listing and proven installation worldwide only shall be supplied.		
2	The video output from individual camera locations shall be available on high resolution display via Network Video Recorder (NVR).		
3	Twisted pair telemetry shall be employed to control pan/tilt/zoom functions. Viewing/Monitoring would be done from the Systems Department.		
4	The Controls shall be based on Network Video Recorders (NVR).		
5	The NVR shall combine the functions of duplex multiplexing, video storage, control of cameras, alarm/event detection, etc.		
6	The NVRs shall be connected to the PC provided with user friendly GUI for remote monitoring. The NVR shall be capable for multiple camera displays for live viewing or play back while recording, continuous motion detection, alarm, pre alarm handling and schedule recording modes.		
7	The recorder shall provide programmable motion detection.		
8	Each camera shall be customized for specific 'motion triggered' recording with digital zoom.		
9	The CCTV cameras shall be located in Server room, NOC, BMS Room, Helpdesk area and the entry passage.		
10	The scope includes provision of monitoring software, server with adequate disk space for storing Video data for 30 days, 32 inch LED display, graphics card etc.		
11	The 32 inch LED Display shall be installed in the BMS Room and display video from four camera sources simultaneously.		
	Pest/Rodent repellent system		
1	Appropriate system of solution to keep away rodent/cockroach/pests from Server Room, Electric Room and other area.		
	Water Leak Detection System		
1	Water leak detection cable provisioned in the water prone areas of Server Room.		
2	Water leak detection System shall be designed to protect the air-conditioned premises and to provide alert at the Systems Dept about the leak in the AC systems.		

SL	Category	Complied (Yes / No)	Remarks
3	The system shall also be designed to trip the AC when the sensor is activated.		
4	Events should be clearly reported on LCD/LED display with full English language description of the nature of the fault in the panel.		
5	The Water leak detection system shall comprise of Tape Sensors, Water Leak detection modules, Condensation detectors, I/O modules and sounders all connected to a Control Panel.		
	Specification of BMS Applications		
	GENERAL SPECIFICATION		
a.	The Software shall be compatible with Windows 7, Windows 8, Windows 10, Windows Server 2008 and Windows Server 2012. The networking software shall use the TCP / IP LAN protocol.		
b.	Software shall have seamless integration to exchanges real time data within the Ethernet/IP network distributed autonomous automation stations for HVAC and room automation, input and output modules, gateways, DALI constant light controllers, touch panels, and infrastructure products, independently of the underlying field bus technology (CEA-709 (LonMark), BACnet, KNX, DALI, M-Bus, Modbus, , etc.).		
c.	Compatibility with Internet Explorer, Firefox, Chrome, etc. With minimum 5 simultaneous users/client on LAN and 20 User/Client licenses for remote operation. Software shall support Multi-browser support (web access).		
d.	Software uses client-server architecture and thereby consists of a building management server application and one or more client applications as a user interface.		
e.	Software shall Manage multi users and access rights via ACL.		
f.	Software shall be compatible with Mobile & tab i.e. system is to be compatible with Android / IOS etc.		
g.	Software should have built-in feature for energy management to create reports based on trend logs for energy.		
h.	Software should be fully scalable to cater future expansion i.e. if required than the existing software could be upgraded up to unlimited IOS / user licenses.		
i.	Software shall be capable of managing and Storing Operating Parameters, Historic Data, Access Rights and Device Configurations in an SQL Database.		
j.	Software shall have Data bases: SQLite (included) or Microsoft SQL server or MySQL.		

SL	Category	Complied (Yes / No)	Remarks
k.	Software shall Displays customized graphical pages with dynamic content.		
l.	Each schematic can consist of a large number of dynamic display elements which reflect the current status of the facilities in real time. It is also possible to directly integrate alarms, trend logs, schedules, web links, dynamic pages, and MP3 streams into the graphics.		
m.	Dynamic information is shown in the form of numeric values, text, changing icons, bar graphs, trend logs, alarm and event lists, or schedule controls.		
n.	Software shall support Alarming from different sources, and time- and event based forwarding via e-mail to several recipients.		
o.	Software shall support Hierarchical organization of calendar and scheduler parameters.		
p.	Software shall support Presentation of trend data in the form of charts or tables.		
q.	Software shall support Structured representation and efficient adaptation of system and operating parameters.		
r.	Software shall support Fast and system-wide access to real time data.		
s.	Software shall support Supports Global Connections.		
t.	Software shall have Reporting module to generate reports from trend logs using templates.		
u.	Software shall support web services for communication (OPC XML-DA, SOAP/ XML)		
v.	Software shall support Easy communication across firewalls and NAT routers on the Intranet and Internet		
w.	Software shall Import/Export of trend logs and Identification keys scheme.		
x.	Software shall support installation of Client in Same PC as of Server.		
y.	Alarms have to be acknowledged and sent, dependent on the weekday and time or free definable rules, to one or multiple recipients via e-mail or as a notification. If the alarm is not acknowledged within a configurable amount of time, an alternative action like an escalation can be triggered.		
	DDC Integrator:		
a.	Modular DDC controller shall directly communicate with BMS Software on BACnet I/P or OPC.		
b.	Modular DDC controller Shall capable to connect IO Modules on Lon TP/ FT-10, LON-IP, BACnet-IP or Proprietary Protocol.		
c.	Modular DDC controller Shall have in Built Port for Modbus RS-485/BACnet/LON TP/FT-10 for third Party Integration.		

SL	Category	Complied (Yes / No)	Remarks
d.	Modular DDC controller shall have In- Built LCD Screen & Keys/ Jog-dial.		
e.	Modular DDC controller should be redundantly powered by using two power supplies.		
f.	Modular DDC controller should equip with two Ethernet ports. It can either be configured to use the internal switch to interconnect the two ports or every port is configured to work in a separate IP network.		
g.	When the Ethernet ports are configured for two separate IP networks, one port should be connected for instance to a WAN (Wide Area Network) with enabled network security (HTTPS) while the second port to be configured to be connected to an insecure network (LAN) where the standard building automation protocols like BACnet/, LON/, or Modbus TCP are present. These devices should also feature firewall functionality of course to isolate particular protocols or services between the ports.		
h.	Modular DDC controller shall support Network Redundancy and for this controller or Modular DDC controller shall be equipped with 2 Ethernet Ports.		
i.	Modular DDC controller s shall have features like Scheduling, Alarming & Trending.		
j.	Modular DDC controller shall support Local and remote access to information about device status and data points.		
k.	Modular DDC controller shall support Memory expansion with microSD card or USB Drive.		
l.	Modular DDC controller shall have Built-in OPC XML-DA and OPC UA server.		
m.	Modular DDC controller shall support KNXnet/ IP, connection to KNX TP1.		
n.	Modular DDC controller shall support Configurable via Ethernet/ IP.		
o.	Modular DDC controller shall be futuristic with having following features Connection to EnOcean wireless devices, Supports SMI, WLAN.		
p.	Modular DDC controller shall be UL Listed, BTL Certified BACnet Building Controller (B-BC) conform to the ANSI/ASHRAE–135-2012 and ISO 16484-5:2012 standard.		
q.	Modular DDC controller shall be capable for sending event-driven e-mail/SMS notification.		
r.	For quicker response of Modular DDC controller program, cycle time should be: Down to 10 ms. It should not be event-driven.		
s.	Modular DDC controller shall be capable of storing graphics pages.		
t.	Power supply should be UL listed, modular & same make as of modular DDC controller.		

SL	Category	Complied (Yes / No)	Remarks
u.	I/P power to the modular DDC controller shall be 24V DC.		
v.	Each IO module should have inbuilt LCD Screen.		
	DDC CONTROLLER		
a.	Controller shall directly communicate with BMS Software on BACnet I/P or OPC.		
b.	For quicker response of controller program, cycle time should be: Down to 10 ms. It should not be event-driven.		
c.	Controller shall have In- Built LCD Screen & Keys/ Dial.		
d.	Controller shall have In- Built Real Time Clock.		
e.	Controller shall have features like Scheduling, Alarming & Trending.		
f.	Controller shall have more than 15 On-Board IO Points & can be extended up to 35 I/O points.		
g.	Universal Input: 1% Accuracy at 1-10 V can configured in following ways:		
h.	- Digital Input (impedance >20 kΩ, sampling period 10ms)		
i.	- Voltage Metering 0-10 V (impedance >20 kΩ, sampling period 1s)		
j.	- Current Loop 4-20 mA (impedance 249 Ω (if internal shunt available), sampling period 1s)		
k.	- Resistance Measurement (impedance 10 kΩ, sampling period 1s)		
l.	Controller shall be UL, BTL Certified BACnet Building Controller (B-BC) conform to the ANSI/ASHRAE–135-2012 and ISO 16484-5:2012 standard.		
m.	Controller shall support Network Redundancy and for this controller shall be equipped with 2 Ethernet Ports.		
n.	Controller shall be capable of storing graphics pages.		
o.	Power supply should be UL listed, modular & same make as of DDC.		
p.	I/P power to the modular DDC controller shall be 24V DC.		
q.	Each IO module should have inbuilt LCD Screen.		
	Graphics SOFTWARE		
a.	The Software shall be compatible with Windows 7, Windows 8, Windows 10, Windows Server 2008 and Windows Server 2012. The networking software shall use the TCP / IP LAN protocol.		
b.	Software shall have seamless integration to exchanges real time data within the Ethernet/IP network distributed autonomous automation stations for HVAC and room automation, input and output modules, gateways, DALI constant light controllers, touch panels, and infrastructure products, independently of the underlying field bus technology		

SL	Category	Complied (Yes / No)	Remarks
	(CEA-709 (LonMark), BACnet, KNX, DALI, M-Bus, Modbus, , etc.).		
c.	Compatibility with Internet Explorer, Firefox, Chrome, etc. With minimum 5 simultaneous users/client on LAN and 20 User/Client licenses for remote operation. Software shall support Multi-browser support (web access).		
d.	Software uses client-server architecture and thereby consists of a building management server application and one or more client applications as a user interface.		
e.	Software shall Manage multi users and access rights via ACL.		
f.	Software shall be compatible with Mobile & tab i.e. system is to be compatible with Android / IOS etc.		
g.	Software should have built-in feature for energy management to create reports based on trend logs for energy.		
h.	Software should be fully scalable to cater future expansion i.e. if required than the existing software could be upgraded up to unlimited IOS / user licenses.		
i.	Software shall be capable of managing and Storing Operating Parameters, Historic Data, Access Rights and Device Configurations in an SQL Database.		
j.	Software shall have Data bases: SQLite (included) or Microsoft SQL server or MySQL.		
k.	Software shall Displays customized graphical pages with dynamic content.		
l.	Each schematic can consist of a large number of dynamic display elements which reflect the current status of the facilities in real time. It is also possible to directly integrate alarms, trend logs, schedules, web links, dynamic pages, and MP3 streams into the graphics.		
m.	Dynamic information is shown in the form of numeric values, text, changing icons, bar graphs, trend logs, alarm and event lists, or schedule controls.		
n.	Software shall support Alarming from different sources, and time- and event based forwarding via e-mail to several recipients.		
o.	Software shall support Hierarchical organization of calendar and scheduler parameters.		
p.	Software shall support Presentation of trend data in the form of charts or tables.		
q.	Software shall support Structured representation and efficient adaptation of system and operating parameters.		
r.	Software shall support Fast and system-wide access to real time data.		
s.	Software shall support Supports Global Connections.		
t.	Software shall have Reporting module to generate reports from trend logs using templates.		

SL	Category	Complied (Yes / No)	Remarks
u.	Software shall support web services for communication (OPC XML-DA, SOAP/ XML)		
v.	Software shall support Easy communication across firewalls and NAT routers on the Intranet and Internet		
w.	Software shall Import/Export of trend logs and Identification keys scheme.		
x.	Software shall support installation of Client in Same PC as of Server.		
y.	Alarms have to be acknowledged and sent, dependent on the weekday and time or free definable rules, to one or multiple recipients via e-mail or as a notification. If the alarm is not acknowledged within a configurable amount of time, an alternative action like an escalation can be triggered.		

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* TPSODL*'s 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:

NIT No.: TPSODL/OT/2021-22/008

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
1a.	If variable price variation on clause given	Yes / No
1b.	Ceiling	--------- %
1c.	Inclusive of GST	Yes / No (If Yes, indicate % rate)
1d.	Inclusive of transit insurance	Yes / No
2.	Delivery	Weeks / months
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 (90 days) (From the date of opening of bid)	Yes / No
8.	Inspection during stage of manufacture	Yes / No
9.	Rebate for increased quantity	Yes / No (If Yes, indicate value)
10.	Change in price for reduced quantity	Yes / No (If Yes, indicate value)
11.	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:

NIT No.: TPSODL/OT/2021-22/008

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 if applicable	
16	Client Testimonial/Performance Certificates if applicable	
17	Credit rating/solvency certificate if applicable	
18	Undertaking regarding non blacklisting (On company letter head)	
19	List of trained/untrained Manpower	
20	Drawings/Documents mentioned in Sr no. 18 of the specification	

Seal of the Bidder:

Signature:

Name

NIT No.: TPSODL/OT/2021-22/008

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 fairer and more transparent, TPSODL 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. 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 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 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 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

ANNEXURE VII
SCOPE OF WORK / SERVICE LEVEL AGREEMENT

1. Terms of Agreement

This agreement shall remain in force from the date of commencement (date of issue of Work Order) till the expiry of the warranty (including extension if any) for the device provided against this order. It shall be open to TPSODL to terminate this agreement any time during its currency by giving one month notice to the BA, in writing.

2. Commencement of Warranty Period

The warranty/support period will start from date of completion of installation of device i.e. from the date on which installation report is signed by TPSODL in TPSODL format.

a) The warranty of the equipment's carries for 1 years warranty.

b) BA shall be authorized channel partner of OEM. BA shall submit the authorization certificate form OEM along with this SLA.

c) Uptime guarantee: Uptime of the equipment's will be 99 %. This will be calculated on monthly basis.

3. Scope of Work

Supply Installation Testing Commissioning and Management of Data Centre non IT - infra, (Civil, Electrcal) UPS, BMS, and etc…

The scope of the work includes, but is not limited to, detailing of functionalities listed in this tender document, Understanding of TPSODL Business Processes, Design and development of implementation plan for Supply of Data centre items(as described in the BOQ) installation, , Configuration and realization of the DC solution

1.4. Layout of Data Centre

Entire Data Center area is logically divided in Zones based on DC guidelines. Each of these zones are having different objective described further in this section. The entire data center area is 2052 sq.ft. (approx.) with a server area of approx. 650 sq.ft. A draft layout of the same has been included in section

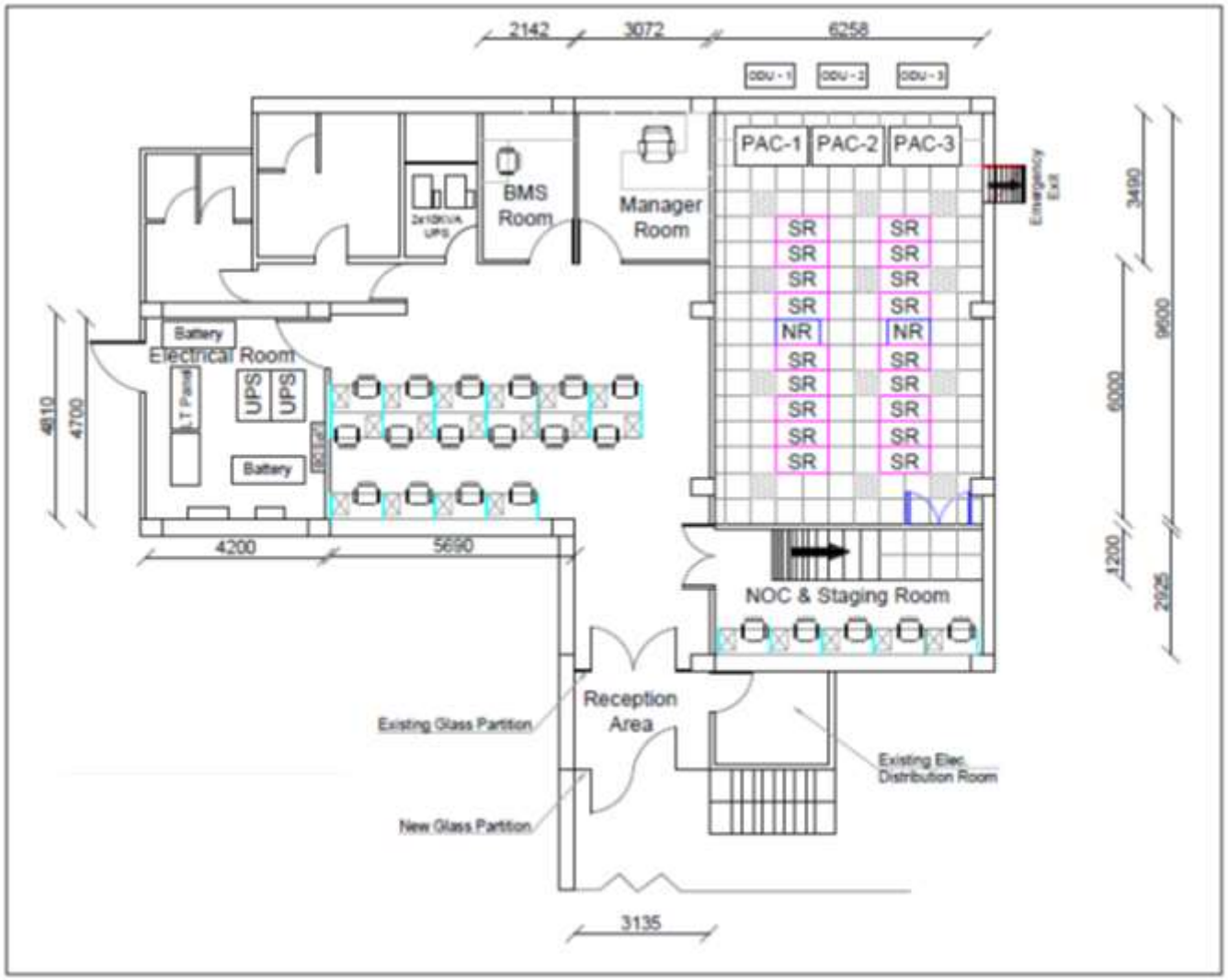
However, the bidder has to furnish a detailed layout of the DC after a complete study of the space allocated for TPSODL Data Center

Zone A - This DC Server room area would host servers, server racks, storage racks and Networking component. The area required for Zone A should approximately be 650 sq ft

Zone B - Comprises of NOC room, reception area, Office area, BMS Area and Manager Room. This zone requires approximately 1190 sq. ft

Zone C - Comprises of room for power panels, AHU, UPS, Fire suppressions, Telecom Room, etc. This zone requires approximately 212 sq. ft.

Zone D - Comprises of reception area. This zone requires approximately 100 sq. ft.



Scope of Work for BMS

The BMS supplier shall provide new, latest technology, high speed, network able, interoperable, user friendly fully operational BACnet protocol Building Management System .

In the building operates the following utilities & services to be integrated to achieve Monitoring, control, scheduling, operational control, maintenance, and ease of operation, energy conservation, & remote interface. The integrated system network architecture shall offer the maximum operational systems.
The System shall mainly comprise of Direct Digital Controllers, Protocol Integrators and relevant field level instrumentation. The BMS shall provide design the system with DDC Controls distributed at all floors to minimize Cabling and to achieve maximum operational system high speed communication.
The DDC`s offered shall be intelligent type with self-storage of data & expanded memory. The BMS shall ensure that all critical / medium alarm generation points of any one service not to be linked to one DDC. This will avoid failure of entire data of particular services in case of failure of the corresponding DDC.

The BMS shall include Client Workstation Software's.
The BMS Vendor shall also satisfy following technical requirements and scope of works:-

- Design, supply, installation, testing and commissioning of all hardware, software, controls wiring, containment, conduit, trunking.
- Design, supply, installation, testing and commissioning of all sensors (Refer IO Schedule for Scope definition and use): wall/duct temperature and humidity sensors etc. as described in IO summary.
- Transportation, off-loading, crane age and moving into position of all of the above.
- Warranty all Equipment Supplied and the Complete Installation for 12 months from date of issue of the Certificate of Practical Completion.

1.6.9 Scope of work – Network Passive Infrastructure, Racks, PDU etc.

i. Copper cabling as per TIA/EIA guidelines
ii. Tier III complaint design
iii. 25 years certification
iv. Copper cabling will be through different cable tray / busket for all the 12 racks.
v. All Server Racks to be supplied are 800mm x 1200 mm with castor wheel and Network Racks to be supplied are 800mm x 1000 mm. All are having perforated door and height will be 42U.
vi. Each rack will have two numbers of PDU with 32 AMP MCB and industrial type socket.
vii. Each row has to be provisioned with a network cum passive rack.
viii. All the BMS/Helpdesk/Manager room network point to be terminated to the network rack.

ix. Each desk in the helpdesk and manager room will have two data ports and BMS room should have minimum 10 nos. network port.

4. Maintenance Services

BA shall provide maintenance services under this agreement for the equipment listed above on per agreed vide purchase order number for the purchased equipment.

The maintenance services shall include the following: -

(i) Corrective Maintenance

Any system failure, service will be attended by BA's engineer and if necessary by their specialists and consultant. If any spare parts or full system requires replacement, it should be replaced with equivalent model or higher model only. Till the time spare part / services is replaced/restored, entire appliance will be considered to be down.

(ii) Preventive Maintenance

TPSODL will allow BA to carry out required Preventive Maintenance of the device. The down time required for Preventive Maintenance will be included in total down time of system to calculate quarterly uptime and also communicated to TPSODL management by the BA.

5. Spares Availability/ Support for OS Patch

BA shall have a back-to-back Business Critical Support arrangement with the <OEM> for spares and escalation support. BA shall also have a formal arrangement with < OEM> for any technical support that may be required on the hardware and the OS.

A copy of agreement between service provider & OEM should be provided to TPSODL

The deliveries under system Hardware, software/patches support include: -

- System Software (IOS) updates / upgrades
- Pro-active patch notification & installation on device
- Operating System Bug-fixes
- Flash memory up gradation
- Access to OEM Diagnostic Solutions Database.

- Any other changes beneficial to TPSODL will be done on device through the bidder

6. Response and Resolution Time:

S. No	Activity	SLA Timelines
1	Configuration/ Call Response Time	2 Hours response time.
2	Resolution Time	4 hours from the time of call registration.

7. Delivery Time

The devices should be delivered within 2-3 weeks and installation of the same should be done in 1 week from the date of intimation. (Client will intimate date to bidder for installation of equipment's).

8. Method of contact to Engineer

BA should mention contact no, e-mail id and name of concerned engineer.

9. Level of specialist assistance to engineer.

The BA will ensure that all required specialist /Technical Support will be provided to his engineer so that the guaranteed uptime will be achieved.

Level of Escalation (If problems are not resolved as per SLA)

Category	On call Response	Contact person	Email id
Support – Initial analysis (L1)	Within 2 hrs		
L2	Within 4 Hrs		
Account Manager			
Sales Director			

10. Reporting

The BA shall prepare a **Monthly Report** in the prescribed format of TPSODL covering the following:

- Uptime Summary Report

11. Penalty

Incase uptime commitment of device (as mentioned in clause 2 (a), (c), 3, 5, 6, 7, 8)) of this SLA) is not met, the same would attract a **Penalty** *@ Rs1000 per hour per device.* The penalty money will be recovered from the payment due to BA.

CONTENTS	
CLAUSE NO.	**DESCRIPTION**
1.0	**ORGANIZATIONAL VALUES**
2.0	**ETHICS**
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 Execution Period/Time
3.7	Contract Price /Value
3.8	Contract Document
3.9	Contract Language
3.10	Reverse Auction
4.0	**SCOPE OF WORK**
4.1	Technical Evaluation
4.2	Indemnity
4.3	Display of notice boards at work site
4.4	Disposal of waste at site
4.5	Deployment of workforce
4.6	Damage of Properties
4.7	Issuance of material
4.8	Company's right to use works
4.9	Rights of TPSODL to vary the scope work
5.0	**PRICES/RATES/TAXES**
5.1	For Supply part of Contract
5.2	For Service part of Contract

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, BAs, 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.
4. Prepare and submit MIS of all issues and concerns, corrective and preventive actions on monthly basis to the top management for their information.
5. All Associates and Stakeholders are requested to register any grievance on ethics violation on TPSODL 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 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 (detailed in section 12 of this document) 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 execution of all items in the schedule of quantities (Supply, Service and or both as applicable) shall be deemed as the Contract Execution Completion Date.

3.6 Contract Execution Period/Time

The Period from Contract Commencement Date to Contract Execution Completion Date shall be the Contract Execution Period/Time**.** Timely Completion of Works/Timely Delivery of Materials is the essence of the contract. The period from effective date of contract to the date stipulated for completion of delivery of all items/completion of all the works/services, as per schedule of quantities of the contract is defined as contract execution completion time. The Delivery of Materials /The Completion of Works, as applicable, should be achieved in all respects as per schedules of quantities and all the terms and conditions of the contract, in the contract execution time.

Any revision/amendment in the originally stipulated contract execution time has to be approved by authorized representative of TPSODL.

3.7 Contract Price /Value

The total all-inclusive price/value mentioned in the LOI/PO/RC of the contract document 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/actual measurement of work done and accepted and certified by the authorized representative of the company unless otherwise specified in schedule of quantities or in contract documents.

3.8 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.
- Letter of Intent (LOI/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)

3.9 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.

3.10 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 J. 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 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 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.

4.1 Technical Evaluation

TPSODL reserves the right to assign scores to different parameters including but not limited to the following while evaluating the bids. TPSODL reserves the right to change the parameters and score without prior information to the associates:

S. No.	Evaluation Parameter	Max. Score
A	**Bidders already Registered with TPSODL**	**100**
A.1.	**Quality of the Products & Services** a. <u>For Supply Part:</u> No Material Rejections in last 2 years Deduction of 3 marks for each PO/ RO (for same product category) with major rejections in last 2 years. (Major rejection shall be considered when material is taken back by the BA for rectification and the quantity of rejected material is more than 10%). b. <u>For Service Part:</u> No violation of statutory compliances in last 1 year. Deduction of 2 marks for each instance of violation in last 1 year. c. <u>Safety</u> Deduction of 2 marks for each instance of safety violation in last 1 year. Deduction of 4 marks for each reported Non-Fatal Accident in last 1 year. In case of any reported fatal accident: *ZERO MARKS*	12 12 16
A.2.	**Timely Execution of Contracts** Total Achieved Score = {30 – 3 x (Avg. %age LD deductions in last 2 years)}	30
A.3.	**Legal Issues with TPSODL** Zero instances of Arbitration procedures / Court Cases / PBG forfeitures in last 2 years: 30 marks else ‘Zero’ marks	30
B	**Bidders new to TPSODL**	**100**
B.1.	**Visits** <u>For Supply Part</u>: Factory Visit and Evaluation. <u>For Service Part:</u> Client Site Visit where the bidder is providing similar services.	30

S. No.	Evaluation Parameter	Max. Score
	The visits as above shall be arranged by the bidder. However, all costs towards conveyance, lodging, boarding etc. shall be borne by TPSODL. The score assigned by TPSODL based on the above visits shall be final and binding on the bidder. **Safety:** Score achieved against the BA safety Management System questionnaire.	20
B.2.	**Client Referrals** At least 3 nos. Customer References for similar products/ services in last 3 years. All customer references shall be either of the following: ▪ Govt. Organizations/ PSUs/ Power Distribution Utilities. ▪ Private Organizations with an annual turnover of >= 500 cr. PO copies or Completion Certificates are admissible. Each reference: 10 marks	30
B.3.	**Blacklisting Information** Not blacklisted by any reputed organization / utility in last 2 years: 20 marks else 'Zero' marks.	20

- Bidder shall be considered as technically qualified if they are able to achieve a technical score of >70 marks on the above parameters. 'A' or 'B'.
- The bidder must have the PF and ESI registration. In case it is not there (provided the bidder is not exempted from the PF and ESI), bidder shall not be evaluated on the above parameters and will be considered as disqualified.

4.2 Indemnity

Associates shall undertake to fully indemnify TPSODL (also referred to as the Company in the GCC) against all kinds of liabilities or damages, of whatsoever nature, including compensation arising from any accident to the person or property of those in Associate's employment or to any other person or properties including those of TPSODL, arising due to reasons attributable to any, act, omission or negligence of the Associate the Associates, for the entire period of contract including period of guarantee.

Within 7 days of award of work, the Associates shall submit Indemnity Bond in the format as per Annexure-E to Order Issuing Authority.

Contract having value more than Rs 2 Cr per Annum, Associates shall submit Indemnity Bond on Rs 100/- Non Judicial Stamp Paper in the format as per Annexure- E to Order Issuing Authority.

4.3 Display of Notice Boards at Work Sites

The Associate shall put up display notice board at each project site where the works are in progress indicating the information given below:

- Name of the Project.
- Estimated Cost of Project.

- Date of Commencement.
- Expected date of completion.
- Name of Associate and his telephone number.
- Name of Engineer-in-Charge and his telephone number.

4.4 Disposal of Waste at Site

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.

The associates shall follow the below criteria for disposal of waste at site during the execution of project.

- Associate shall ensure that the detailed project plan include the waste management, segregation of all designated waste material (Recyclable/ Non-Recyclable), collecting, storing, disposing and transferring the same to pre-arranged facility/destination in timely and safe manner as per environmental legislations during the execution of project. The project plan shall also include the innovative construction practice to eliminate or minimize waste, protect surface/ground water, control dust and other emissions to air and control noise during the execution of project. The copy of same shall be given to EIC before the commencement of project.
- The purchase policy of BA shall encourage the procurement of material with recycled and minimum packaging of goods during delivery. Associate shall provide the appropriate means for site to site transportation of materials to avoid damage and litter generation.
- Associate shall educate and inform to its project team about the requirement and responsibilities for waste minimization and disposal in general and provide training of practices that support this. Waste management should be treated like a safety program.
- In the event that area of contaminated or biological hazard is identified, Associate shall ensure that plant, equipment, personnel and any activity associated with the work is carried out in consultation with EIC of TPSODL.
- Associate shall ensure that the residents living near the site are kept informed about proposed working schedule and shall informed timings and duration of any abnormal noise full activity that is likely to happen.
- Associate shall ensure the regular maintenance and monitoring of vehicles and equipment for efficient fuel use so that emissions and noise are within acceptable limits to avoid air pollution.

4.5 Deployment of Work Force

Associate shall deploy adequate labour as considered necessary by TPSODL for execution of the contract including Sundays and Holidays whenever required to do so with no extra cost to TPSODL. However, prior permission shall be taken from the site Engineer to carry out the work beyond normal working hours or on Sundays and Holidays. Female employees shall not be

deployed beyond normal working hours/days and no child labour shall ever be deployed. Associate shall depute full time qualified and experienced engineers to supervise the work at site. All such staff shall be maintained from commencement to completion of all works to the entire satisfaction of the Engineer-in-Charge. Associate's employees deployed for the works under this contract will not be considered in Company's employment at any time. Associate shall continue to be responsible for all such employees, their safety, all types of statutory compliances related thereto and in any other manner whatsoever. The company will stand indemnified by the Associate in respect of all the above. At the same time Company upon noticing any breach or default on any statutory compliances, may at their sole discretion, decide to act in a manner as deemed fit at the risks and costs of the Associate.

TPSODL shall have the right to instruct the Associate to change the Sub- Associates or skilled /unskilled workers in case the conduct, the workmanship or speed of the work is not satisfactory.

Associates shall submit duly signed undertaking regarding engagement of competent staff / employee commensurate to the nature of job to Engineer–in–charge in the format attached as Annexure – H.

4.6 Damages to Properties

The Associates shall take necessary steps to ensure that the equipment and installations of the Company, third parties, including other utility services like water supply pipelines; open drains telephone cables etc. are not damaged during execution of the works. The Associates shall be responsible for all such damages and shall have to repair/ replace and/or compensate for the entire claims in respect of such damages at its own cost.

4.7 Issuance of Material

The material issued to the Associate shall be in the custody of the Associates who shall be fully responsible for the same. After completion of the works, the Associates will reconcile the material. Any cost of material which is short or damaged/lost will be deducted from Associate bill/ deposits.

4.8 Company's Right To Use Works

If Taking Over Certificate is delayed for any reason, for which TPSODL's decision shall be final and binding upon the Associate, the Company shall be entitled to use the works or portion thereof without affecting Associate's responsibility and liability to complete the balance works as per company's directives from time to time, though Associate shall be afforded reasonable opportunity by the company to enable Associates to complete all balance works required for issuance of 'Taking Over Certificate' by the company.

4.9 Rights of TPSODL to vary the scope work

TPSODL shall 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 communicating the intent to do so in writing to the Associate. On receipt of such communication the Associate shall, within the time frame specified in the contract shall provide TPSODL with a reasonably detailed estimate of the cost of the change in scope outlined in the TPSODL communication. The change in the Contract price and time shall be revised 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 in the scope of work till such time revision of Contract price and time schedule are approved and communicated to the associate by TPSODL.

Any change in the Scope of Work and/or Terms & Conditions of the order shall be intimated by TPSODL through an amendment to the contract. The amendment shall be treated valid only if signed by the authorized signatory of the original contract.

5.0 PRICES/ RATES/ TAXES

5.1 For Supply part of Contract

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, cesses 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.

5.2 For Service part of Contract

The Prices and Rates are inclusive of cost of materials supplied as per contract terms and for which MDCC is issued by TPSODL and to the extent required for completion of works, cost of service executed as per schedule of quantities, cost of testing as per contract terms, cost of documentations including all relevant test certificates and other supportive documents to be furnished as per contract terms. The rates shall remain firm till actual completion of contract.

The Prices/Rates are inclusive of all taxes, levies, cesses 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 shall remain unchanged irrespective of TPSODL making changes in quantum in all or any of the schedules of items of contract.

5.3 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.

6.0 TERMS OF PAYMENT

A. 5% of the Release Order/ Purchase Order price shall be paid as initial interest free advance on fulfillment of the following by the Associate:

   a) Acceptance of PO/ LOI.
   b) Submission of advance payment BG of 15% of the Release Order/ Purchase Order price which shall remain valid till the advance is fully adjusted.
   c) Submission of Contract Performance Bank Guarantee of 5/10% of the RC/ PO price valid till 30 days after taking over of the works.

B. 10% of the Release Order/ Purchase Order price shall be paid as interest free advance against approval of drawings under Category-1 of major drawings, Quality Plans, Pert Chart, Field Quality Plan, posting of Project Manager and commencement of the first mile stone of the work mutually agreed including C-3 Form, and submission of a true copy of 'Erection All Risk Insurance Policy' taken for the awarded jobs. The drawing list shall be mutually agreed at the time of award of work.

C. 50% on account payment of the total of item wise cost of material Release Order/ Purchase Order shall be paid against receipt of material at site in good condition and certification by TPSODL along with bills complete in all respects viz. MDCCs etc.

D. 20% on account payment of the actual executed value shall be paid against mechanical completion of erection on prorate basis against monthly bills and 70% on account of the actual executed value shall be paid against the service line item including composite line item. In case this milestone is not completed beyond 120 days for reasons attributable to TPSODL, the payment corresponding to supply part shall be released subject to submission of BG of equivalent amount by the BA valid for a period of further 12 months. If required, it shall be extended by the BA on request of TPSODL.

E. 15% payment of the actual executed Release Order/ Purchase Order shall be paid after completion of acceptance test and Taking Over of the complete systems specified in the enquiry, including clearance of Electrical Inspection, compliance of final punch point and after reconciliation & adjustment of payments, if any, towards Quantities of materials issued from purchaser's stock and consumed by the contractor for expeditious completion of the job. In case this milestone is not completed beyond 120 days beyond schedule for

reasons attributable to TPSODL, the payment corresponding to supply part shall be released subject to submission of BG of equivalent amount by the BA valid for a period of further 12 months. If required, it shall be extended by the BA on request of TPSODL.

The Contractor shall submit all Operation & Maintenance manuals and "As Built Drawings" etc. and shall also submit Equipment Warranty Bank Guarantee (EWBG) equivalent to 5/10% of actual executed contract price before the release of this last payment and return of CPBG. The validity of EWBG shall be for a period of 15 months from the date of taking over of the works or specified guarantee period in drawing/tender/technical specification documents etc. whichever is later. The associate shall also submit 'No Demand Certificate' at the time of receipt of full and final payment.

6.1 Pre-Requisites for Payment

- Associate should have completed execution of that part of contract, for which payment is sought, to the satisfaction of TPSODL's Engineer-in-Charge responsible for the contract and obtained certification for execution of the work.
- Associate has undertaken joint measurement of the work executed along with TPSODL's Engineer-in-charge
- Associate's bills/invoices submitted have been certified by Engineer-In-Charge.

6.2 Bills & Invoices

Unless specified otherwise in the special conditions of contract, Associate shall raise not more than one invoice/contract per month for the services rendered in the prescribed Tax Format and the invoice shall be submitted within 15 days of the following month at Bill Inward Receipt Desk (BIRD) Receipt Desk / Invoice Desk / Office of CFO, TPSODL located at TPSODL Corporate Office, Kamapally, Courtpeta, Berhampur, District Ganjam, Odisha, India – 760 004

All Bills shall be supported by joint measurement of work done, quality test report and a copy of wage sheet, if applicable (showing proof of having disbursed wages as per applicable law) and a copy of statement substantiating that statutory payments having been affected.

Bills/ invoices shall mention Associate's 'Sales, Service, WCT Tax Registration Number, PAN number as applicable.

Final bill submission after completion of project or execution of job must be within 30 days from the actual date of completion/execution of work awarded.

6.3 Payment & Statutory Deductions

Payment shall be released within 30 days from the submission of the bills. The associate shall submit "No Demand Certificate" in the format as per Annexure-D at the time of receipt of full and final payment. In case any non-compliance to contract conditions comes to TPSODL's notice, TPSODL will be entitled to deduct 30% of estimated wages plus 20% of wages as TPSODL's overheads. Associates would be obliged to provide the copy of monthly wage sheet in any case, failing which no payment shall be made. TPSODL at their sole discretion may deposit the PF etc. with statutory authorities. TPSODL will deduct the amounts of TDS as per statutory requirement

under the income tax act and the DVAT Act and certificates (wherever applicable) will be issued to associate accordingly.

In case of non-submission of PAN No TDS @ 20% shall be deducted from all payable amounts for which no TDS certificate shall be issued. TDS once deducted as above shall not be revised in any condition.

6.3.1 Statutory Deductions

TPSODL will deduct the amounts of TDS, TCS as per statutory requirement under the income tax act, the Goods and Services tax act, BOCW Act, or any other applicable tax act and certificates (wherever applicable) will be issued to associate accordingly. For consumption of TPSODL's Water and Electricity by Associate for execution of Contract, Associate shall pay 0.5% & 1.0% respectively of contract value and it shall be deducted from the running bills. The Engineer-in-Charge as stated in the Order shall be responsible for certification of the work executed and the bills. Bills (including original) shall be submitted in triplicate at Bill Inward Receipt Desk (BIRD) / Invoice Desk / Office of CFO, TPSODL located at TPSODL Corporate Office, Kamapally, Courtpeta, Berhampur, District Ganjam ,Odisha, India – 760 004

6.4 Guidelines for Raising Running/Final Bills

Contract Value Up to 5 Lakhs	One Final Bill
Contract Value More than 5 lakhs	Monthly Running Bill & One Final Bill

All Bills shall be processed only when all bank Guarantees are in place and before payments of Final Bill Associate have to furnish NDC.

6.5 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.

6.6 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-D.

7.0 MODE OF PAYMENT

Payment shall be made through RTGS mode for which Business Associated shall submit the details of Bank Account and other details as per annexure K. 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.

The quantities of items indicated are estimated and preliminary. However, payments shall be made on the basis of actual quantity of work carried out and measured jointly by the Company

and the Associate. Associates shall be responsible to organize joint measurements of works with TPSODL Engineer-in-Charge before raising any bill of work done. In the event Associate fails to do so, TPSODL at their sole discretion, may take measurements of work done and proceed as deemed fit and in such an event Associate's right to lodge any subsequent claim shall stand forfeited.

8.0 SECURITY CUM PERFORMANCE DEPOSIT

Associates shall submit within 15 days from the effective date of issue of PO/RC, Security cum Performance 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.

9.2 Social Accountability

TPSODL expects its Associates to follow guidelines of best practices 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

9.2 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	25% relaxation in PBG for order value above 50 lacs else 50% 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).

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

9.4 Compliance to Labour Laws

Bidder needs to ensure compliance to applicable labour laws including timely disbursement of wages. In case wages are not disbursed as per the stipulated timelines, then TPSODL shall pay the wages to BA employees on behalf of BA. Apart from deducting the amount of wages paid, TPSODL shall deduct an additional service charge equivalent to 25% of the wages paid from the payment due to BA.

9.5 Compliance to Construction and Demolition Waste Management Rules & Environment (Protection) Amendment Rules

BA is liable to follow the Construction and Demolition Waste Management Rules- 2016, Environment (Protection) Amendment Rules- 2018 and Guidelines on dust mitigation measures in handling construction material and C&D wastes issued by CPCB.

Following are some main points of above Rules/Guidelines for Construction work, cable laying jobs etc.

1. Barricading to be provided at site to cover complete area.
2. Construction material and waste should be inside the closed area made by using barricading.
3. Water sprinkling/fine spray from nozzles to be done to suppress the dust.
4. The board of Dust mitigation measures shall be displayed at site for public viewing with required details.
5. Loose sand or soil and construction material that causes dust shall be covered.
6. Transport material that are easily wind borne need to be covered by a sheet made of either jute, tarpaulin, plastic or any other effective material.
7. All areas for storing C&D waste/construction material to be demarcated and preferably barricaded particularly those materials that have potential to be dust borne.
8. Grinding and cutting of building materials in open area shall be prohibited.
9. Construction material and waste should be stored only within earmarked area and roadside storage of construction material and waste shall be prohibited.
10. No uncovered vehicles carrying construction material and waste shall be permitted.
11. Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures to be notified at the site.

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 otherwise directed by the TPSODL. In any circumstances the codes, specimen and standards prescribed by any government agency should not be violated.

11.0 SAFETY

All Associates shall strictly abide by the guidelines provided in TPSODL's Contractor Safety Management System (CSMS) as applicable at all stages during the contract period. Associate shall execute the contracts ensuring the following in and as order of priority:

- Safety of Human Beings.
- Safety of equipment/Assets.

- Timely Completion of Contract.

Safety related requirements as mentioned in our Contractor Safety Management System is attached as annexure L and is an integral part of this GCC.

12.0 INSPECTION/PARTICIPATION

12.1 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 within maximum of two weeks of 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.

12.2 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 stationery, 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.

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.

12.3 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.

12.4 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.

12.5 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.

13.0 MDCC & DELIVERY OF MATERIALS

13.1 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.

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 sub-contractors:

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.

13.2 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.

13.3 Consignee

Unless otherwise specified in the Contract Document / Purchase Order/ Release Order, Materials/Goods/Equipment shall be consigned to “Stores-In-Charge”, TPSODL Berhampur

13.4 Submission of mandatory documents on Delivery

Following documents shall be mandatorily submitted by BA along with supply of material to TPSODL 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

13.5 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 Southern 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.

14.0 GUARANTEE

14.1 Guarantee of Performance

Associates shall stand guarantee that the equipment and material supplied/service or work rendered 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.

14.2 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 15 Months from the Date of Commissioning or 24 months from the date of delivery of final lot of supplies made, whichever is earlier.

14.3 Failure in Guarantee Period (GP)

If the equipment and material supplied/service or work rendered 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/service or work rendered under the contract 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/service or work 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 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 BA or by encashment of the SPBG as the case may be.

14.4 Cost of repairs on failure in GP

The cost of repairs/rectification /replacement, apart from the actual cost of repairs/rectification/replacement is also inclusive of all associate costs of required transportation, site inspection /mobilization/dismantling and re-installation costs as applicable, to be borne by the 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.

14.5 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.

14.6 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.

14.7 Support beyond the Guarantee Period

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

15.0 LIQUIDATED DAMAGES

Liquidated damages @1% of the total executed contract value per week or part thereof, for the period of delay in integrated completion, subject to maximum 10% of the value of the contract shall become leviable without prejudice to other rights of the TPSODL. This amount shall be recoverable from any amount due or becoming due to the Business Associates under this or any other contract. In specific cases, TPSODL reserves the right to apply LD only on the unexecuted portion of the supply and works for standalone use, provided full quantity is executed within a maximum 30% additional time. 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.

15.1 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.

15.2 Material Recovery

In case of any recoveries for materials or services (for material free issued by TPSODL and not reconciled by BA or for services claimed and paid in excess at the time of running bills), the total

cost which shall be recovered from the BA, shall be the gross amount of material or services (i.e. including taxes) plus applicable taxes as prevailing at the time of such recoveries.

16.0 ASSIGNMENT OR SUBCONTRACTING

Associates shall not assign/subcontract/outsource the schedule of activities of contract TPSODL enters with the associate, in part or full, without TPSODL's prior written approval. However, outsourcing of materials/equipment/services by Associate to make the integrated product for which TPSODL's has placed the contract with the associate from suppliers, makes and agencies which have been mutually agreed upon during contract pre-award stage is permitted subject to following conditions.

In such cases where outsourcing is done by the Associate

- Shall ensure that outsourced suppliers comply with the technical and financial qualification requirements specified by TPSODL in the contract document
- Shall furnish all particulars about the proposed outsourcing agencies and the details of the goods/services/work outsourced to the Associate while seeking approval of TPSODL for inclusion for outsourcing. The Associate shall give approval or shall refuse approval in writing within thirty (30) days of receipt of such request. However, the Associate shall not be entitled for any additional contract execution time whatsoever in lieu of the process for approval for outsourcing agencies and shall be held responsible for any delay in the project execution time.
- Shall remain jointly and severally liable for any action, deficiency, and/or negligence on the part of his outsourcing agencies. The approval extended by the Associate to outsourcing agencies recommended by the Associate shall not discharge the later from his Contract obligations.

Shall submit to the Associate unpriced copies of purchase orders with technical specifications included in the orders, placed on outsourcing agencies as soon as the respective orders have been placed by the Associate.

17.0 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.

18.0 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.

18.1 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.

18.2 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.

18.3 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 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.

18.4 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.

18.5 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.

19.0 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.

20.0 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 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.

21.0 LIABILITY & LIMITATIONS

21.1 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.***

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.

21.2 Limitation of Liability

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

22.0 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.

23.0 SUSPENSION Of CONTRACT

23.1 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 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,

23.2 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 27 for breach/default of contract conditions.

23.3 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 24.3) 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.

24 TERMINATION OF CONTRACTS

24.1 Termination for Default/Breach of Contract

The contract / PO 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 24 (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.

In case the contract is terminated for any breach of the nature specified in clause 24 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:

i) Associate shall discontinue the supply, on the expiry of the said period of two weeks.

ii) 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 with third parties for due discharge of its obligations under the contract with TPSODL.

iii) 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.

iv) 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.

v) 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 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.

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.

24.2 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. This convenience will be available to associate only after one year from the contract effective date. For this purpose, associate will provide a notice period of 90 days to TPSODL, Associate will have to pay TPSODL a ‘termination convenience fee’ equivalent to 5% of unexecuted contract value.

24.3 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**.**

25.0 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 Berhampur. 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.

25.1 Governing law 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.

26.0 ATTRIBUTES OF GCC

26.1 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.

26.2 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.

26.3 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.

27.0 INSURANCE

The Associate shall arrange accident insurance policy for his foreign experts/specialists/personnel deputed to Site and Associate's/his sub-Associates' manufacturing works as well as for his Indian engineers and supervisory staff. The Associate shall also take out

for his Indian workmen, where applicable, a separate policy as required under Workmen's Compensation Act.

Associates shall be responsible to suitably insure their entire work-force (to the extent of at least meeting requirements under Workmen Compensation Act) Tools, Plant, Third party liability at the project site, All Risk comprehensive insurance for the entire works (insurance for free issue items will be in TPSODL scope) for total contract (PO/RO) value or any other such risks during execution of works, till the works are handed over to the company, in consultation with TPSODL and shall submit copies of such insurances to the Engineer-in-Charge for review / acceptance before commencing the work. Engineer-in-charge must ensure compliance to insurance requirement by Associate before commencement of works. TPSODL shall stand fully indemnified in this respect.

28.0 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.

29.0 TRANSFER OF TITLES

The title of ownership and property to all equipment, installations, erections, constructions materials, drawings & documents shall pass to the TPSODL after Commissioning and complete handing over-taking over.

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.

The Associate shall take all corrective measures arising out of discrepancies, errors and omissions in drawings and other information within the time schedule and without extra cost to the TPSODL.

The Associate shall also be responsible for any delay and/or extra cost if any, in carrying out engineering, and site works by other agencies arising out of discrepancies, errors and omissions stated in as well as of any late revision/s of drawings and information submitted by the Associate.

30.0 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-I. You can also log on to our website www.tpsouthernodisha.com to provide your feedback according to the guidelines mentioned below:

31.0 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

32.0 LIST OF ANNEXURES

S. No.	Subject	Annexure
1.	Performa for Bid Security Bank Guarantee	A
2.	Performa for Advance Payment Bank Guarantee	B
3.	Performa for Performance Bank Guarantee (CP cum EP)	C
4.	Performa for No Demand Certificate by Associate	D
5.	Performa for Indemnification on Statutory Compliance	E
6.	Performa For Application For Issuance of Consolidated TDS Certificate	F
7.	HR Service Level Agreement	G
8.	Under taking for competence of workmen	H
9.	Business Associate Feedback Form	I
10.	Acceptance Form For Participation In Reverse Auction Event	J
11.	NEFT or RTGS payment request form	K
12	Contractor Safety Management System	L
13	BA Appraisal Form	M
14	Manufacturers Authorization Form	N

ANNEXURE-A

PROFORMA FOR BID SECURITY BANK GUARANTEE

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 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 up to 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 up to 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 ADVANCE PAYMENT BANK GUARANTEE

(On Rs.100/- Stamp Paper)

Note:

(a) Format shall be followed in toto

(b) Claim period of six months must be kept up

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

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TP Southern Odisha Distribution Limited

Berhampur

Advance Payment B.G.No……

Contract No……dated……

1. You have entered into a Contract No_____ with M/s._____ (hereinafter referred to as "the BA") for the supply and delivery 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, you have agreed to make an advance payment of Rs._____ (Rupees_____ only) being _____% (_____percent) of the total value of the contract on "the BA" furnishing you with an irrevocable, unconditional and acceptable bank guarantee to be valid till the date of receipt of "the said equipment" covered by your above mentioned contract. For this purpose you have agreed to accept our 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 BA" 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 BA" has not fulfilled his contractual obligations. You shall be the sole judge for such non-fulfillment and "the BA" 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 Year 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 BA", 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 BA" 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 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 BA'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 BA" or for any other reason whatsoever.
8. Any claim / extension under the guarantee can be lodge-able at outstation banks or at Berhampur branch and claim will also be payable at Berhampur Branch (**to be confirmed by Berhampur Branch by a letter to that effect)**
9. Notwithstanding anything herein contained, our liability under this guarantee is limited to Rs._____ (Rupees_____ only) and the guarantee will remain in force up to and including _____(Date) and shall be extended from time to time for such period or period as may be desired by "the BA".
10. Unless a demand or claim under this guarantee is received by us in writing within one Year 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 _____ 200_____

Witness

Bank's rubber stamp

1. _____ Banks full address

Designation of Signatory

2. _____ Bank official number

ANNEXURE- C

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 year must be kept up

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

---

TP Southern 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 BA") 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 BA" 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 BA" 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 BA" has not fulfilled his contractual obligations. You shall be the sole judge for such non-fulfillment and "the BA" 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 year** 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 BA", 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 BA" 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 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 BA'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 BA" or for any other reason whatsoever.
8. Any claim / extension under the guarantee can be lodge-able at outstation banks or at Berhampur branch and claim will also be payable at Berhampur Branch (to be confirmed by Berhampur Branch by a letter to that effect in case BG is from the branch outside Berhampur)
9. Notwithstanding anything herein contained, our liability under this guarantee is limited to Rs._____ (Rupees_____ only and the guarantee will remain in force up to and including _____(Date) and shall be extended from time to time for such period or period as may be desired by "the BA".
10. Unless a demand or claim under this guarantee is received by us in writing within one 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 _____ 200__

Witness

Bank's rubber stamp

1. _____ Banks full address

Designation of Signatory

2. _____ Bank official number

ANNEXURE-D

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 favor of TPSODL, with full knowledge and with our free consent without any undue influence, misrepresentation, coercion etc.

Dated **Signature**

Place **Name**

Designation

(Company Seal)

ANNEXURE – E

PROFORMA FOR "INDEMNIFICATION ON STATUTORY COMPLIANCES"

(To be submitted by the successful Bidder within seven days of award of work)

(Certificate No. CCP/001)

Name of the Project

Letter of Award / Contract No.

Dated

Name of the Associate

Scheme No. / Job No.

By this confirmation we, _____ (Associate) are formally bound to M/s. TPSODL towards any sum which may be imposed, levied or hereinafter recovered by the Provident Fund Organization under the provisions of the Employees of the Provident Fund and Miscellaneous Provisions Act 1952 in respect of employees employed by us.

We well and truly bind ourselves and our heirs executors administrators and representatives jointly severely and respectively for the above payment only to be paid to M/s. TPSODL.

AND WHEREAS we, _____ (Associate) is making compliance of the Employees Provident Fund and Miscellaneous Provisions Act 1952, have entered into the above written bond for the indemnity to M/s. TPSODL against all losses from the acts or default of the said Associate in respect of compliance of the Provident Fund Act.

Similarly, we hereby confirm that we have complied with all statutory and local laws and nothing is outstanding with regard to Local Sales Tax, Labor Laws, Local Municipal dues, Electricity dues etc. We have entered into the above written bond for the indemnity to M/s. TPSODL against all losses from the acts or default of the said Associate in respect of compliance of the Local Sales Tax Laws, Local Laws, Labor Laws, Local Municipal Dues, Electricity dues etc.

NOW THE CONDITION, of the above written bond is as such that if the Associate during the period of this contract commits any default or fails to make payment of Contributions in respect of his employees to the Employees Provident Fund Organization, he shall indemnify the Principal Employer M/s. TPSODL from all and every loss and damage caused to them from any act, omissions or negligence of the said Associate in respect of compliances under the Employees Provident Fund and Miscellaneous Provisions Act, 1952.

IN WITNESS to the above written bond we have here to set our hands, with our free consent.

Dated **Signature**

Place **Name**

Designation (Company Seal)

ANNEXURE-F

PROFORMA FOR APPLICATION FOR ISSUANCE OF CONSOLIDATED TDS CERTIFICATE

To be printed on the letterhead

To,

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

ANNEXURE - G

SERVICE LEVEL AGREEMENT

(To be adhered to by Business Associates (BAs) in TPSODL on Human Resource Issues)

1.0 The following shall be adhered to by the Business Associates during his / its association with TPSODL:

Shall Abide by Tata Core Values:

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

b) Understanding – We must be caring, show respect, compassion and humanity to our colleagues and customers and always work for the benefit of the communities we serve.

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

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

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

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

2.0 The Business Associate / his manager / supervisor who is responsible for managing the project site / performance contract etc. in TPSODL would also ensure adherence of these values by his employees / persons deployed by him in connection with his works undertaken in TPSODL.

3.0 The Business Associates are required to:

a) Support and respect the protection of human rights and make sure that they are not complicit in human right abuses.
b) Respect freedom of association and effective recognition of the right to collective bargaining.
c) Not to resort to any form of forced and compulsory labour.
d) Shall ensure abolition of child labour in his area of work.
e) There is no discrimination in respect of employment and occupation in respect of his employees.
f) Support precautionary approach to environmental challenges.
g) Promote greater environmental responsibility by himself and his employees in his areas of work.
h) Deploy and defuse environmental friendly technologies while carrying out the works.
i) Work against corruptions in all its form including extortion and bribery by himself and his employees.

4.0 The Business Associates are required to adhere to all applicable labour Laws with special reference to the following:

a) No person below the age of 18 years and no child labour will be engaged directly or indirectly for executing the work connected with the business of TPSODL.

b) Minimum wages along with other statutory dues like PF, ESI, etc. as applicable to the workers shall be made within the prescribed period of 7th / 10th day of the following month.

c) Deduction / deposit / record keeping and all other requirements under Employees PF Act 1952, Employees State Insurance Act 1948 and other applicable acts (if any) shall be adhered to.

d) Only statutorily authorized deductions (if any) shall be made in accordance with the relevant statutes.

e) All the provisions of Contract Labour (R&A) Act 1970 shall be complied with in respect of the workers engaged for TPSODL work. The work will be commenced only after completing necessary formalities for obtaining Labour License (if applicable).

f) Necessary registers / records, filing of returns etc. shall be maintained for verification by Statutory / TPSODL authorities.

g) Payment of wages shall be made only in presence of and with certification of authorized representative of TPSODL or shall be made in the form of cheque / bank transfer to the employee.

h) During the period of contract, the Business Associate will arrange for deployment of his supervisor / manager for total supervision and control of the work and their manpower. All the activities related to their manpower e.g. attendance, leave, wage disbursement etc. will be done under the supervision & control of Business Associates, while adhering to the prescribed standard / norms of production / productivity & quality. During execution of the work, Business Associate shall engage only such qualified / skilled manpower as may be envisaged / required for ensuring level of production / service into the contract / work order.

i) Clearances as follows shall be obtained from IR & Welfare Group:

   i. Clearance for commencement (before start of the work).
   ii. No Objection Certificate (after completion / before final settlement).
   iii. Copies of PF / ESI Challans shall be deposited with IR & Welfare Group every month

j) The Business Associate shall indemnify TPSODL from any liabilities under applicable Labour Statutes.

k) The Business Associate shall ensure safety and health of his employees and shall also maintain hygienic working environment / condition in his area of work.

l) The Business Associate and his employee shall abide by Laws of Land and shall not violate any applicable provisions.

m) The Business Associate appreciates with and acquiesces to the right of TPSODL as principal employer to fulfil any of his legal obligations, if he fails to do so under applicable labour laws and

deduct the same from his running bills / final payments / enchasing security deposit / Bank Guarantee as the case may be. If there is any further shortfall TPSODL has the right to recover the same from the Business Associate.

n) The Business Associate ensures that person employed by him adhere to the moral and legal conduct and shall not violate any standard conduct envisaged in the premise of TPSODL by all such as, Transparency, Safety, Discipline, Integrity etc. The Business Associate or his employees should refrain from corrupt practices, giving or taking bribe in connection with any TPSODL business.

5.0 The '<u>Statutory Compliance Enforcement System'</u> in TPSODL is detailed below for adherence by all concerned. Business Associate Cell (BA Cell) will be the process owner for implementation of the system with the help of concerned Engineer I/c or Officer I/c.

a) Statutory Compliance being a professed value in TPSODL Code of Conduct, the concerned Engineer / Officer in charges are requested to adhere to the provisions and advise respective Business Associates in their domain to comply in letter and spirit.

b) Immediately after issuance of letter of intent, the authorized representative of the Business Associate will report to BA Cell for completion of statutory requirements.

c) Normally, the work will be started only after 'Clearance for Commencement of Work (CCW) is issued by BA Cell to the Business associate. However, in exceptional exigencies in engineer I/c / Officer I/c may direct the Business Associate to start the work and inform BA Cell about the same. Statutory requirements in this case may be completed in parallel.

d) First monthly bill will be released only after producing CCW to the finance department. Similarly closure of work and final settlement will be affected after issuance of no objection certificate from BA Cell group.

6.0 <u>Requirements for 'Clearance for Commencement of Work' (CCW):</u>

a) Submission of filled up Form 'A' for database (Annexure-1).
b) Copy of PF Code allocation letter.
c) Copy of ESI Code allocation letter.
d) Submission of duly filled up Form IV CL(R&A) act (In case more than or equals to 20 workers during the period of contract).
e) Submission of duly filled up Form VI A (Notice of Commencement).
f) Copy of insurance cover note under WC Act 1923 (if applicable).
g) Copy of Contract Agreement.
h) Copy of indemnity bond (if applicable).
i) Affidavit with regard to payment of wages through cheque / bank transfer only.

7.0 <u>Requirements during execution of work:</u>

a) Copy of receipt of application for license / license (if applicable).
b) Copy of PF Challan (latest by 26th day of every Month).
c) Copy of ESI Challan (latest by 26th day of every Month).

d) Copy of Wage disbursement sheet / Bank statement.
e) Filing / Maintenance of all statutory registers / reports / returns for inspection by Statutory/ TPSODL authorities.
f) Certification of wage disbursement by authorized representative of TPSODL.
g) Copy of 'Labour Welfare Fund' deposit certificate / Challan.
h) Insuring safe working practices at the workplace.

8.0 <u>Requirements for 'No Objection Certificate' (NOC) for closure of work:</u>

a) Submission of duly filled up Form VI A (Notice of Completion).
b) Copy of Half yearly / Annual return for ESI / PF / CL(R&A).
c) Consolidated copy of wage sheet of last month indicating full & final settlement of all dues like retrenchment benefit, bonus, leave encashment etc. Copy of individual declaration by employees in Form X regarding termination of employment.
d) Confirmation certificate regarding filling up of form for transfer / withdrawal of PF by the concerned workers.

In case any of the above are deviated / not complied with the Letter of Award/Order shall be liable to be withdrawn / cancelled.

Enclosure:

1) Form A
2) Form X
3) Form XI
4) Form VI A
5) Form XXIV

FORM (A)

[To be submitted by the Business Associate to the Principal Employer within a week from LoA issuance]

A. Details of the Agency

1. Name of Agency :
2. Nature of work :
3. Local Address with Ph.No. :

   (With Father's name) :
4. Permanent Address (Full) :
5. PF code no. & Place :
6. ESI Code no. & Place :
7. Name and address of :

   Sub-contractor (if any)

B. Details of Work

8. **Name of work (as specified in LOI/LOA)** :
9. LOI/LOA Nos. & Dates :
10. Period of contract (Specify Dates) :

    [Including Extension period, if any] :
11. Work Area [Department / Location] :
12. Name / Cell no. of Officer I/c :
13. Maximum No. of workers and staff to be engaged on any day during the year.
    - Supervisory Staff :
    - Workers :
14. Do you have any other contract in TPSODL : Yes/No

    If yes, furnish details:

15. Details of Workmen's compensation Policy, if applicable

Name of Insurance Company ……..
……Policy No …… Number of persons covered …… Period of coverage: From …….. To ……..

If no, I hereby undertake the liability arising out of Workmen's Compensation Act and Rules made there under.

C. Details of workers to be engaged

No. of Workers

S. No.	Unskilled*	Semi-skilled*	Skilled*	Clerical / Supervisory

*** Number to be indicated**

I/We shall fulfill all obligations arising from and under all relevant law in force from time to time. I/We undertake to keep the TPSODL indemnified against any loss or liability arising out of failure of my / our abiding the relevant laws.

The name of my / our representatives is …… to enter the TPSODL Premises on my behalf.

DATE:

(SIGNATURE OF THE BUSINESS ASSOCIATE
OR HIS AUTHORIZED REPRESENTATIVE)

This Business Associate is / will be engaged in TPSODL.

(Signature and seal of

Officer I/c of the Work)

Form X

Undertaking

I _____ hereby undertake that all the dues in respect of my employment with M/s _____ for the period of _____ to _____have been settled and final payments including retrenchment benefit have been made to me in full.

( )

_____

Date:

Form XI

Undertaking

With reference to the contract job awarded by M/s TP Southern Odisha Distribution Limited to M/s_____ vide work order No._____ dated_____

I _____on behalf of

M/s _____hereby undertake:

1. that the dues in respect of the workmen/ employee(s) engaged by us for the said contract, payable as per the provisions of relevant statute pertaining to
   i. wages/ salary
   ii. PF & ESI, Berhampur Labour Fund
   iii. All other statutory obligation

   has been paid /settled in full and no amount/ compliance is due/ pending.

2. That in case any dispute / claim is raised by the concerned workers i.r.o. any dues / payments, M/s _____ will settle the same on its own and such liability will be borne by M/s _____

3. That M/s _____ hereby indemnify M/s TPSODL from any future liability i.r.o. any statutory obligation in respect of said contract.

Date:

_____

( )

Authorized Signatory

For M/s _____

FORM- VI A

Notice for Commencement /Completion of contract work

I/We, Sh. / M/s _____ (Name and Address of the Contractor) hereby intimate that the contract work _____ (name of work) in establishment of the _____ (name and address of the Principal Employer) for which License No._____dated_____has been issued to me/us by the Licensing Officer _____(name of the Headquarters), has been commenced / completed with effect from _____date / on date.

Signature of Contractor

With Office Seal

The Inspector

_____

_____

FORM XXIV

[See Rule 82(1)]

Return to be sent by the Contractor to the licensing Officer (in duplicate)

Half -Yearly Ending_____

1. Name and address of the Contractor
2. Name and address of the Establishment
3. Name and address of the Principal Employer
4. Duration of Contract: From _____to _____
5. No. of days during the half year on which
   (a) the establishment of the principal employer had worked
   (b) the contractor's establishment had worked
6. Maximum No. of contract labour employed on any day during the half –year:

Men	Women	Children	Total

7. (i) Daily hours of work and spread over
   (ii) (a) whether weekly holiday observed and on what day
   (b) if so, whether it was paid for
   (iii) No. of man – hours of overtime worked
8. No. of man days worked by

Men	Women	Children	Total

9. Amount of wages paid

Men	Women	Children	Total

10. Amount of deductions from wages, if any

Men	Women	Children	Total

Whether the following have been provided –

(i) Canteen **:** _____

(ii) Rest rooms **:** _____

(iii) Drinking water **:** _____

(iv) Crèches **:** _____

(v) First Aid **:** _____

Signature of contractor

Place _____

Date _____

ANNEXURE – H

UNDERTAKING FOR COMPETENCE OF WORKMEN

Name of Associate :

Tender No. :

Item :

With reference to the tender mentioned above, I/We _____, hereby undertake that the workmen/ employee(s) engaged by M/s _____ for the job against said tender shall be competent in all respect, commensurate to the nature of job.

Date: _____

( )

Authorized Signatory

For M/s

Seal

ANNEXURE-I

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)

SECTION - A

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

S. No.	Parameters	1 Do Not Agree	2 Slightly in Agreement	3 In Fair Agreement	4 Mostly in Agreement	5 Fully Agree	Remarks/ Suggestion
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						

S. No.	Parameters	1 Do Not Agree	2 Slightly in Agreement	3 In Fair Agreement	4 Mostly in Agreement	5 Fully Agree	Remarks/ Suggestion
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)						
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						

S. No.	Parameters	1 Do Not Agree	2 Slightly in Agreement	3 In Fair Agreement	4 Mostly in Agreement	5 Fully Agree	Remarks/ Suggestion
20	TPSODL Employees follow Ethical behavior						

SECTION - B

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

SN	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	Division / Sub-Division						

SN	Parameters	1	2	3	4	5	Remarks/ Suggestion
1.3	Projects/HOG						
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 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 relations**hip with its Business Associates						

SECTION–C

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

SNo	Parameters	Certainly NO	Probably NO	Probably YES	Certainly 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.

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 have observed / experienced elsewhere in Indian/ International organization.

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!!

ANNEXURE-J

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 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:

13. 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).*

14. 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.

15. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of TPSODL, bid process, bid technology, bid documentation and bid details.

16. The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.

17. 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.

18. 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.

19. 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 TPSODL.

20. The bidder shall be prepared with competitive price quotes on the day of the bidding event.

21. 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.

22. The prices submitted by a bidder during the auction event shall be binding on the bidder.

23. No requests for time extension of the auction event shall be considered by TPSODL.

24. 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

ANNEXURE-K

To,

DGM (Finance)

The TP Southern Odisha Distribution Limited
Berhampur

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: -

BA 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)

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 _____

(Authorized 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 authorized 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)

ANNEXURE-L

CONTRACTOR SAFETY MANAGEMENT SYSTEM

1. OBJECTIVE

The objective of the Contractor Safety Management System is to lay down clear guidelines for all Business Associates (including their associates, staff and agents) which would facilitate them to observe all statutory rules and regulations, comply with applicable standards of Central Electricity Authority (Measures relating to safety and electric supply) Regulations, 2010 & (safety requirements for construction, operation and maintenance of electrical plants and electric lines) Regulations,2011, TPSODL Safety Manual and Guidelines and thus, ensure creation of safe working environment for all stakeholders of our network.

2. SCOPE

All contracts (minor and major) will be subject to the provisions of this document.

Minor Contracts: Contracts which satisfy all the criteria listed under the head "Minor Contracts".

Major Contracts: Contracts which satisfy any two or more criteria listed under the head "Major Contracts"

Criteria	Minor Contracts	Major Contracts
Value of Contract	< Rs. 1500000/- (less than Rs. Fifteen Lac)	>= Rs. 1500000/- (Equal or more than Rs. Fifteen Lac)
Period	Period less than 1 year	Any period
Working on energized electrical equipment	No	Yes
Working on height (above 1.8 Mtrs from ground)	No	Yes
Work involving construction activity	No	Yes
Working with hazardous goods or chemicals	No	Yes
Work involving danger to general public	No	Yes

Note: *Exceptions for major and minor contract are – in house software development, supply of material or equipment but no direct or indirect installation of the same material, administration contracts (courier, water supply, printing, security, transport, etc.), minor*

civil work like plastering at ground level or flooring, etc. The facility management (housekeeping) contract will always be treated as a minor contract.

3. INFORMATION REQUIRED AT TIME OF BA REGISTRATION OR BEFORE COMMENCEMENT OF CONTRACT

3.1 Business Associate is required to fill the Safety Management System Questionnaire as per *annexure 1* and submit along with the BA registration process / bid / tender document. The filled questionnaire will be scrutinized by Engineer In-charge / indenting group and recommend suitability of the BA with respect to safety requirements. The fulfilment of statutory requirements for BA registration pertaining to labour laws etc. shall be done by BA Cell on being referred to it.

3.2 Business Associate is required to take suitable risk control measures mentioned against the identified Hazards and Risk document provided for all contracts as per *annexure 2*. The primary objective of this is to evaluate the understanding of the BA towards risk mitigation and employment of safe work procedures. BA is required to conduct the Hazard identification and Risk Assessment study as per the procedure and deploy more or other measures if deemed necessary.

3.3 Business Associate shall comply with **Statutory Requirements related to Safety and Occupational Health** and submit the "Safety Undertaking" as per *annexure 4*.

4. GENERAL SAFETY CONDITIONS REQUIRED TO BE FULFILLED BY BUSINESS ASSOCIATES

The requirements of the contractor safety management system applicable to the minor or major contracts related to various groups are as following –

4.1 Maintenance of Distribution Network – *Annexure 3.1*
4.2 Distribution Projects – *Annexure 3.2*
4.3 EHV Projects – *Annexure 3.3*
4.4 Maintenance of Sub transmission network – *Annexure 3.4*
4.5 Civil / Generation Projects – *Annexure 3.5*
4.6 Meter Management Group (MMG), Revenue Recovery Group (RRG), Energy Auditing Group, AMI, MRG, etc. – *Annex3.6*
4.7 Maintenance and Operation of Street Light. **–** *Annexure 3.7*

1. *Please note that hydra cranes used by any dept should be ACE Model No. FX 150 ACE SX 150, Escorts Model No. TRX 1550 or contemporary. Use of old generation hydra cranes like ACE 14XW or ACE 12 XW, etc are prohibited.*

(*Details as per Annexure attached)*

Note: *For minor contracts, the BA shall assign the duties of Safety Representative to the Work Supervisor. Work Supervisor will deliver all duties and responsibilities of Safety Supervisor as detailed in this document.*

The Business Associate (BA) having major contract will appointing Safety supervisor, engineer / manager for the TPSODL work. The BA shall make all necessary arrangements for getting their workforce safety trained and competency checked from the concerned official of TPSODL before deployment in the field. BA Cell shall recommend the suitability after competency checked by Engineer In-charge and SAFETY group (or his representative) of TPSODL. After getting the clearance from concerned official, BA cell and receiving temporary I-card issued by TPSODL, Business Associate shall commence the working.

Safety Representative of Business Associates will formally become the nodal point for safety concerns for TPSODL. ***BA shall not frequently transfer or terminate the services of any of the safety representatives appointed for TPSODL work site. BA needs to ensure that Safety representative is available at all points of time; failing which the work being carried out in the interim (period when Safety representative is not available) shall be treated as working under improper supervision and due penal provisions shall be initiated against the BA.*** BA will be required to provide all applicable infrastructure and power to ensure smooth working of the safety representative to maintain a sound safety management system. **In all contracts safety representative will not be assigned any other activity at site apart from the works related to safety management. The duties are detailed in clause 5.5 of this document.** TPSODL will be auditing the facilities provided to the BA`s safety team time to time.

The Safety Representative of the BA shall be required to meet and follow the instructions of the Engineer In-charge and SAFETY Group of TPSODL. He shall be responsible for providing the MIS and/or any other relevant information, as and when desired, within the stipulated time frame as per the requirements of TPSODL. Any non-conformance to safety will lead to the negative marking or issue of safety violation challan/ tokens which shall affect the monthly evaluation and performance of BA.

All contracts where BA has to depute vehicle for their staff and equipment to move from one location to other, the BA shall ensure that vehicle complies all required statutory clearances and requirement as per The Motor Vehicle Act, 1988 as well as TPSODL Road Safety Policy and are in good & safe state of working.

5. QUALIFICATION AND EXPERIENCE OF THE SAFETY AND SITE PERSONNEL

Qualification and experience required for the safety and site personnel are as following:

5.1 Safety Supervisor: It is mandatory that educational qualification of safety supervisor be ITI (of relevant trade) / Diploma (Any branch of engineering) and he has a working experience on electrical system / relevant field of work at least 5 yrs for ITI and 3 years for Diploma holder. Having formal experience of the safety systems will be an added advantage

5.2 Safety Engineer: It is mandatory that educational qualification of safety engineer be at least Diploma (relevant branch) and he has working experience on electrical system of at least 3 yrs. Having the formal experience of the safety systems will be an added advantage.

5.3 Safety Manager: The educational qualification of safety manager should be graduate engineer with working experience on electrical system / network of at least 3 yrs. OR Diploma in Industrial Safety with working experience of 05 years including at least 02 years on electrical network.

However, clause 5.1, 5.2 and 5.3 are not applicable for minor contracts. In such cases, BA shall assign the duties of Safety Representative to the Work Supervisor. Work Supervisor will deliver required duties of Safety Representative (as per clause 5.5) in addition to other duties without diluting the importance of safety.

5.4 Site Skilled Personnel: For all responsibility related to site activities and operations, the BA shall employ only qualified and skilled persons and shall comply the provisions of section 19 & 29 of Southern Electricity Authority (Measures relating to safety and electric supply) Regulations, 2010. Persons holding valid approvals only by any Government approved agency or a competency assessment panel or a team set up by TPSODL shall be allowed to perform the High Risk / High Hazard activities (refer page 1). The skill / qualification required for the electrician and electrical supervisor are given in *annexure 5*. The contracts related to maintenance of Distribution Network, Distribution Projects, EHV Projects, maintenance of Sub-Transmission Network, MMG & EAG, maintenance and operation of streetlights, shall preferably have at least 20 per cent of ITI qualified electricians in the first year of the contract. This figure shall preferably be incremented by 15 per cent every subsequent year.

Note: For the competency assessment may please refer the work instructions. An employee shall have to necessarily undergo the competency assessment check once in every eighteen months.

5.5 Requirements from the Safety Representative(s) of the Business Associate:

5.5.1 Safety training of 2 hrs/employee/month and one day of safety induction training to all new employees joining the BA will be conducted by the BA as per Safety training modules of TPSODL.

5.5.2 Safety Talk / toolbox talk before start of shift to BA employees.

5.5.3 Ensuring the availability & proper usage of the standard safety equipment (PPE)

5.5.4 Periodic inspection of PPE to ensure their serviceability and maintaining the 10% buffer stock of standard PPEs.

5.5.5 Ensuring the adherence to standard operating procedures of TPSODL as mentioned in TPSODL Safety standard and O & M and concerned function's manual.

5.5.6 Safety inspections / audits as per the process of TPSODL

5.5.7 Working in close coordination SAFETY Group of TPSODL.

5.5.8 Reporting of unsafe acts, unsafe conditions, near miss, incident or accident to Engineer In-Charge and SAFETY Group of TPSODL immediately after its occurrence.

5.5.9 Regular HIRA at site and comply the control measures as stated in the detailed HIRA as per the *annexure 2*. Also, deployment of JSA based checklist shall be ensured.

5.5.10 Ensuring compliance with safety and other laws as may be applicable and providing for safety assurance.

5.6 Training and Syllabus: The BA shall not deploy any person at workplace / site or send newly recruited personnel directly to concerned official for competency assessment without Safety Induction Training.

5.6.1 All new BA employees have to necessarily undergo one and half days Safety training and Competency assessment at training centre of BA cell. This training will be conducted once in a week. After the completion of Safety training & Competency assessment I-card will be issued to all competent BA employees

5.6.2 BA is expected to initially train and judge the capability of the workman at his own end before further recommending the workmen for Competency assessment. If any BA workman sent for competency assessment. In case any BA workman fails in the Competency test at concerned official, it will be deemed that BA has not imparted sufficient training at his end and actual cost of training ₹ 7500/ BA employee/ failed attempt will be recovered.

5.6.3 The workers who have imparted Safety Training and issued I-Cards of TPSODL, are not deployed at TPSODL worksites/ voluntarily left the job by workers/ used somewhere else other than TPSODL by the BA, in that case Management reserves the rights to intervene and recover the actual cost of training i.e. ₹ 7500/BA employee. (*Exempted for attrition rate of BA workers less than or equal to 10% of total workforce deployed at TPSODL)*

5.7 It is desired that Safety representative of the BA to impart the general safety training to each employee of duration 2 hrs per month. The training will be organized at BA level and the record to be sent to engineer in-charge and SAFETY group of TPSODL every month. Please refer schedule and syllabus in *annexure 6*.

List of Personal Protective Equipment (PPE) and Maintenance schedule: BA shall commence the project or any work only when the required PPE are made available to the team of employees involved in the work. Each PPE of BA shall be checked / inspected by the safety representative / supervisor at zone before the work start or as prescribed in the list. Safety representative shall regularly check the healthiness of each PPE allocated to lineman. Suitable record shall be maintained at zone. Defective PPE shall be immediately replaced or within 24 hours by the BA. In no case linemen or any other official of BA may be allowed to work with defective PPE. It is preferred that BA ensures minimum stock of each PPE at zone for immediate replacement with defective one. The PPE shall be IS / BS / CE marked and exactly as per the standard or specification mentioned in the *annexure 7*. Working without PPE / non-standard PPE shall be treated as safety violation and penalty as stated in section 6.0 of this document. If TPSODL finds that BA has not provided the adequate / appropriate PPE to their staff, TPSODL reserves the rights to stop the work and call the BA to provide appropriate PPEs at the risk. If the BA fails to provide the required PPEs at the risk then the same shall be provided by TPSODL at the actual cost of the PPE. The amount shall be charged to BA and same shall be first recovered from the current bill of BA or any future payment to be made to BA. In the event of any balance amount still left for recovery, the same shall be adjusted against retention amount or by invoking bank guarantee submitted by BA.

5.8 Safety Audit / Inspection & HIRA: The BA shall get the required safety inspection / audit conducted by his technical team comprising of safety representative as per the *annexure 8*. The safety representative will be required to conduct the HIRA (Hazard Identification and

Risk Assessment) *as per annexure 2* of the process and work undertaken at least two times in a year or every time if a new process / activity / machine is introduced or whenever an accident take place. The risk identified to be addressed suitably with –

- Engineering Control
- Management Control, and
- Personal Protective Equipment.

The safety representative of BA shall inform and educate for the identified risk and hazard control methods to employees, supervisor and engineer as well as the engineer in-charge and SAFETY group of TPSODL.

5.9 Safety Performance and Safety MIS: The BA shall maintain good practice of safety all through the contract duration. Safety shall always be of paramount importance during the contract period. Safety performance will be monitored on yearly basis throughout the period and no relaxation will be given for bad performance. BA with good track record and excellent performance will be rewarded suitably as per clause 6.0 of this document. The BA has to provide monthly "Performance Report – Safety" to engineer in-charge and SAFETY group TPSODL this shall be part of monthly bill along with training details. Performa of the report is enclosed as *annexure 9*.

5.10 Pre – Employment Medical Check-up and Fitness of employees engaged for the critical works: The BA shall submit the health fitness certificate for all those workers involved in climbing the pole or working at height for following diseases:

5.10.2 Epilepsy
5.10.3 Colour blindness
5.10.4 Deafness
5.10.5 Vertigo & height phobia

Every year BA will give an undertaking stating that all the employees are fit to work and have not developed aforesaid diseases. The Record of such medical check-ups shall be submitted to BA Cell before issue of temporary identity card. The records shall be maintained at BA Cell. All such medical check-ups shall be repeated once in a year for all workers involved in climbing the pole or working on electrical network.

6. REWARD AND PUNITIVE MEASURES

6.1 To support the enforcement of good SHE & DM practices by the Business Associate and to eliminate repeated or continuing safety violations, use of appropriate reward and punitive measures shall be made. Each unsafe act or violation of the safety guidelines as described in the Safety Manual of the TPSODL will be audit criteria of this system. Broadly the measures identified are following:

6.1.1 Working without PPE/ Safety Gadgets
6.1.2 Working without proper tools and tackles, barricading, Poor condition of Crane / Hydra / Vehicle, using without certification / Licence, Incompetent driver/ Helper

6.1.3 Working without creation of effective safety zone

6.1.4 Improper Supervision at worksite, Lineman/ Supervisor working without competency

6.1.5 Working without adherence to PTW process or authorization/ not adherence to SOPs / W.I. of TPSODL.

6.1.6 Improper Working at height equal to or above 1.8 mtrs without taking proper fall protection measures/ Poor condition of Ladder

6.2 Measures of Reward and Punitive Measures

The Engineer In-Charge, NSO, SC, ASOs, CSI / SIs and SHE &DM group will conduct the surprise audits of the work / project and if any non-conformance is found the same will be booked and entered in the format "Safety Violation Record" *annexure 10*. The flow of the information is given below:

Safety Violation Escalation & Monitoring process	
Action	**Responsibility**
Safety Violation form has been filled and counter foil sent to SAFETY team for information. The main form is to be given to BA supervisor / Engineer in-charge. *(Automatically generated if Site audit done through Mobile App.)*	Engineer In-charge/ NSO / SC / SAFETY Group /CSI/ ASO/ Any authorised TPSODL official.
↓	
Entry of the violation in the master record and sending the information to concerned Manager, HoG, HoD, Head and Chief (O &S). *(Automatically generated if Site audit done through Mobile App.)*.	SAFETY Group
↓	
Forwarding the information Centralized Account Payable (CAPS) for amount deduction from the current bill of the BA, *if any.*	Engineer In-charge
↓	
HoG (Safety – II) & HoG (Safety & Quality – Commercial) and CAPS to generate the MIS of the violations and the amount deducted.	SAFETY Group
↓	
The pool of the amount generated after the deduction to be utilized in safety welfare of BA employees.	SAFETY Group with approval of CFO/Chief (O & S) /CEO&MD

The safety violations have been rated from 1 to 5 (figure 6.3) as per the gravity of the violation. If the same violation is repeated it may escalate into a higher penalty. If a particular Business Associate employee violates safety norms three times, he shall not be allowed to work in TPSODL for a period of one year from the date of the 3rd violation.

6.3 Safety Violation Escalation Matrix

6.3.1

Consequence of Safety Violation Observed (Not related to Incident/ Accident)		Violation				
S.No.	Safety Violation	1st	2nd	3rd	4th	Subsequent Violations
1	Working without PPE (Helmet/Gloves/Safety Harness/ Safety Shoes etc.)	A	B	C	D	Will attract the same penality as applicable in the 4th violation.
2	Improper Working at Height	A	B	C	D	
3	Working without proper tools and tackles	A	B	C	D	
4	Poor condition of Crane/Hydra/ Vehicle/Incompetent driver/ Helper	A	B	C	D	
5	Violation of SOP/ WI	B	C	D	E	
6	Working without adherence to PTW process or authorization/ Safety Zone	C	D	E		

Legend	Action to be taken	Responsibility	Penality Amount (in Rs.)	
A	Warning letter	Engineer Incharge	Nil	The number of violations are to be calculated cumulatively over the contract period and not on monthly basis.
B	Levy of Penalty	Engineer Incharge	2,000	
C	Memo to BA & Levy of Penalty	Head of Group	4,000	
D	Memo to BA & Levy of Penalty	Head of Department	10,000	
E	Memo to BA, Levy of Penalty and termination of Contract	Head of Department	1,00,000	

Figure 6.3 (1a)-Penality Matrix for Safety violation (Applicable for Minor Contracts)

Consequence of Safety Violation Observed (Not related to Incident/ Accident)		Violation				
S.No.	Safety Violation	1st	2nd	3rd	4th	Subsequent Violations
1	Working without PPE (Helmet/Gloves/Safety Harness/ Safety Shoes etc.)	B	C	D	D	Will attract the same penality as applicable in the 4th violation.
2	Improper Working at Height	B	C	D	D	
3	Working without proper tools and tackles	A	B	C	D	
4	Poor condition of Crane/Hydra/ Vehicle/Incompetent driver/ Helper	B	C	D	E	
5	Violation of SOP/ WI	C	D	E		
6	Working without adherence to PTW process or authorization/ Safety Zone	C	D	E		

Legend	Action to be taken	Responsibility	Penality Amount (in Rs.)	
A	Levy of Penalty	Engineer Incharge	5,000	The number of violations are to be calculated cumulatively over the contract period and not on monthly basis.
B	Memo to BA & Levy of Penalty	Engineer Incharge	10,000	
C	Memo to BA & Levy of Penalty	Head of Group	25,000	
D	Memo to BA & Levy of Penalty	Head of Department	50,000	
E	Memo to BA, Levy of Penalty and termination of Contract	Head of Department	1,00,000	

Figure 6.3 (1b)-Penality Matrix for Safety violation (Applicable for Major Contracts)

Once the BA reaches the “BLACK” (color – “5”) category, i.e. highest level of safety violation, “Termination” notice to BA will be issued from the office of the Head of Department (equivalent to GM/ Sr. GM level) and further, *if required,* continuation / extension of contract will only be initiated by Functional Chief / Head of the department (equivalent to Sr. GM / Chief level) and approved by CEO & MD. Till the extension, the contract will remain suspended.

TPSODL encourages the reportage of the safety violation during the contract work by BA. Any TPSODL employee can register a safety violation against the BA in the “Safety Violation Form” *annexure 10*. Initially the observer has to fill the form and handover the counterfoil (lower portion) of the document to the supervisor of the BA, inform the site engineer of TPSODL and send the

top portion of the Safety Violation Form to SAFETY group for the further necessary action against the BA. ***The cumulative nos. of Safety Violations pertaining to any particular BA shall be calculated on yearly basis.***

Safety violations resulting in incident / accident will be treated as per gravity of the injury / fatality and its impact as well as type i.e. minor or Major. Consequences of incident / accident are shown in the matrix (figure 6.3(2) for major and 6.3(3) for minor) below. In case of any accident, findings and recommendations of Accident Enquiry Committee will be final and binding and will supersede the arbitration clause of GCC.

Consequence Of an Incident / Accident (In case of MAJOR contract)		Incident / Accident				Action Required
Sl. No	**Type of the injury**	**1st**	**2nd**	**3rd**	**4th**	
1	Slight injury (First Aid Case)	F (Strengthening of process through continuous improvement in the work procedure)				Take risk reduction measures
2	Minor injury (No or Hospitalization less then 48 Hrs)	F	G	G	H	
3	Major injury (Bone injury or burn or Hospitalization more then 48 Hrs)	G	G	H	I	
4	Single fatality	J	K			Intolerable
5	Multiple fatalities (Two or more fatalities during one event)	K				

Legend	Action to be taken	Responsibility	Penalty (in Rs.)	
F	Memo to BA and levy of penalty	Engineer Incharge	5,000/-	*The number of violations are to be calculated cumulatively over the contract period and not on monthly basis.*
G	Memo to BA and levy of penalty	Head of Group	20,000/-	
H	Memo to BA and levy of penalty	Head of Group	50,000/-	
I	Memo to BA and levy of penalty	Head of Department	2,00,000/-	
J	Memo to BA and levy of penalty	Head of Department	5,00,000/-.	
K	Memo to BA, levy of penalty, termination of contract and black listing of BA	Functional Head	10,00,000/-	

Figure 6.3 (2) - Penalty Matrix for Incident / Accident in Major Contracts

(*For example: In major contracts, if there is first incidence of major injury say bone injury (Cat. 3) where worker was hospitalized for more than 48 hrs then a penalty of amount Rs.20000/- will be deducted from the current bill produced for the payment. This penalty will be similar for first two incidents. However, it will increment to next higher category i.e. Rs. 50,000/- on subsequent incidents as per the above matrix)*

Consequence Of an Incident / Accident (In case of MINOR contract)		Incident / Accident				Action Required
Sl. No	Type of the injury	1st	2nd	3rd	4th	
1	Slight injury (First Aid Case)	L (Strengthening of process through continuous improvement in the w ork procedure)				Take risk reduction measures
2	Minor injury (No or Hospitalization less then 48 Hrs)	L	M	M	N	
3	Major injury (Bone injury or burn or Hospitalization more then 48 Hrs)	M	M	N	O	
4	Single fatality	P	Q			Intolerable
5	Multiple fatalities (Two or more fatalities during one event)	Q				

Legend	Action to be taken	Responsibility	Penalty (in Rs.)	
L	Memo to BA and levy of penalty	Engineer Incharge	5,000/-	*The number of violations are to be calculated cumulatively over the contract period and not on monthly basis.*
M	Memo to BA and levy of penalty	Engineer Incharge	10,000/-	
N	Memo to BA and levy of penalty	Head of Group	25,000/-	
O	Memo to BA and levy of penalty	Head of Department	1,00,000/-	
P	Memo to BA and levy of penalty	Head of Department	3,00,000/-.	
Q	Memo to BA, levy of penalty, termination of contract and black listing of the BA	Functional Head	5,00,000/-	

Figure 6.3 (3) - Penalty Matrix for Incident / Accident in Minor Contracts

(*For example: In minor contracts, if a worker meets with a non-fatal accident say bone injury (Cat. 3) where he was hospitalized for more than 48 hrs then a penalty of amount Rs. 10,000/-, will be charged from the current bill produced for the payment. This penalty will be similar for first two incidents. However, it will increment to next higher category i.e. Rs. 25,000/- on subsequent incidents as per the above matrix.)*

In case of single or multiple fatalities described under legends J&K of 6.3(2) and P&Q of 6.3(3), the concerned BA may be debarred from extension of contract or participate in new contract. In such event the approval of Chief (O & S) will be necessary for extension or award of new contract to concerned BA.

6.3.2 COMPENSATION FOR BA PERSONNEL

In the event of any untoward incident/ accident, the Business Associate shall ensure prompt medical assistance such as treatment, sickness benefit, etc. is provided to the victim(s) as per the Employees' Compensation Act, 1923 or Employees' State Insurance Act, 1948, as applicable. Also, the BA will be required to take adequate measures for compensating the victim(s) or his/her/their kin as follows:

I. <u>For Death or Permanent / Total Disablement</u>

The BA shall take an insurance coverage of at least Rs. 15 lakhs for each engaged employee, to cover any incidence of Death or Permanent / Total Disablement (Permanent/Total Disability shall be considered as defined under Employees' Compensation Act, 1923). In the event of any such

unfortunate incident, the BA would ensure that adequate compensation is paid immediately to the family of the victim(s) from his own resources. This compensation shall be covered under the insurance policy subscribed by the BA mentioned earlier and the arrangement should be such that it would get reimbursed to the BA by the insurance agency subsequently.

II. <u>For Permanent Partial Disablement and Temporary Total Disablement</u>

The compensation in this case will be as per provisions of the Employees' Compensation Act, 1923 or Employees' State Insurance Act, 1948, as applicable.

Accordingly, the BA shall obtain a suitable Insurance Policy on award of Contract and submit documentary evidence of the policy to the BA Cell before commencement of work. The BA shall ensure that the Insurance policy is active at all times and all employees are covered in all respects till the conclusion of contract period or till working with TPSODL. The BA shall submit a copy of the policy after periodic renewals to the BA Cell.

However, on occurrence of such unfortunate incident, if it is found that the victim(s) is/are not covered under any insurance policy, the BA shall be liable to pay the entire sum of Rs. 10 lakhs from his own resources.

Further, in case of an accident resulting in Death or Permanent / Total Disablement while on duty, the appointed BA Nodal Officer will ensure that the BA complies with all statutory provisions and benefits i.e. PF, Compensation, Gratuity etc., and that all these are made available to the employees' nominee(s) as per the stipulated timelines.

6.3.3 TPSODL rewards the BA with good track record of safety management. It is proposed that BA complying with Contractors Safety Management, Safety Manual and Safety process will be rewarded suitably as per the procedure, rule and regulations of the TPSODL. In any case major accident is reported during an assessment period BA will not be eligible for this reward scheme. Assessment of contracts will be once in year. Generally, the assessment cycle is calendar year and guidelines will be declared time to time.

Abbreviations Used in the Document

TPSODL	TP Southern Odisha Distribution Limited
BA	Business Associate
HIRA	Hazard Identification & Risk Assessment
JSA	Job Safety Analysis
EHV	Extra High Voltage
SAFETY	Safety, Occupation Health, Environment & Disaster Management
MMG	Meter Management Group
EAG	Energy Audit Group
PPE	Personal Protective Equipment

SOP	Standard Operating Procedures
CSI/SI	Circle Safety In-charge / Safety In-charge
ASO	Area Safety Officer
NSO	Nodal Safety Officer
SC	Safety Coordinator
HoG / HoD	Head of Group / Head of Department
AGM / GM / VP	Assistant General Manager / General Manager / Vice President
CFO / Chief (O & S)/ CEO & MD	Chief Finance Officer / Chief (Operating & Safety) / Chief Executive Officer & Managing Director
COS	Corporate Operation Services
CAP	Centralized Account Payable System
PTW	Permit To Work
GCC	General Conditions of Contract.

- END -

Annexure 1 (Refer Para 3.1)

Business Associate Safety Management System Questionnaire

	Certification			
	The information provided in this questionnaire is a summary of the company's occupational health and safety management system.			
	Company Name:			
Turnover and experience:			Name of top officer:	
Date:			Position	
	Contract Details			
Contract Name			Contract Number:	

Business Associates Safety Management System Questionnaire	**Marks**	**Yes**	**No**	**Score achieved**
Safety Policy and Management				
- **Is there a written company Safety policy?** - If yes provide a copy of the policy, if No please refer Note 1.	1			
- **Does the company have an Safety Management system** - If yes provide details, if No please refer Note 1.	1			
- **Is there a company Safety Management System manual or plan?** - If yes provide a copy of the content page(s), if No please refer Note 1.	2			
- **Are Safety and occupational health responsibilities clearly identified for all levels of Management and staff?** - If yes provide details, if No please refer Note 1.	2			
Safe Work Practices and Procedures				

	Certification				
- **Has the company prepared safe operating procedures or specific safety instructions relevant to its operations and relevant work as per contract?** - If yes provide a summary listing of procedures or instructions, if No please refer Note 2. - Comments		1			
- **Is there a register of injury or accident?** - If yes provide a copy (format)		1			
- **Is there a documented incident or accident investigation procedure?** - If yes provide a copy of a standard incident report form, if No please refer Note 2. - Comments		1			
Safety Training					
- **Describe how occupational health and safety training is conducted in your company** If No please refer Note 1.		2			
- **Is a record maintained of all training and induction programs undertaken for employees in your company?** - If yes provide examples of safety training records, if No please refer Note 2.		1			
- **Are regular safety inspections / audits are undertaken at worksites?**		1			

	Certification				
-If yes provide details (formats), if No please refer Note 3.					
- **Is there a procedure by which employees can report hazards at workplaces?** - If yes provide details if No please refer Note 1.	1				
Safety Monitoring					
- **Is there an officer / supervisor responsible for monitoring workplace / worksite safety?** - If yes provide details	1				
Safety Performance Monitoring					
- **Are employees regularly provided with information on company health and safety performance?** - If yes provide details	1				
- **Has the company ever been convicted of an occupational health and safety offence?** - If yes provide details	NO Marks *(Negative mark ONE for each case)*				
- Has there been any major accident of employee at TPSODL site in past	NO Marks *(Negative mark ONE for each case*				
- Has there been any fatal accident of employee at TPSODL site in past. - (Note: Bid evaluation committee has to take cognizance of the incident and shall evaluate the bid only after formal approval of competent authority i.e. CTO. - In case of yes please refer Note 4.	NO Mark (Negative mark FIVE for each case)				

	Certification				
Minimum of 75% marks is required for qualification.		Total Marks achieved			
Company Reference					
1. Name of company *2. Name of company*					

Note

1: If company does not have formal procedure on Safety Management System than BA may submit proposed Safety road map along with safety action plan and brief safety policy on his letter head signed by head of the organization.

2: The BA may submit the same in the Safety Action Plan.

3: The BA may utilize the same format of TPSODL or on request SAFETY group will assist the BA in developing the audit system. For other points also BA may take the assistance of SAFETY group for development of Safety management system.

4: The BA may submit the Safety Improvement Plan and Safety Action Plan for his employees based on following points.

i. Action plan for enhancing safety awareness
ii. Action plan for safety training of employee
iii. Action plan for increasing safety audit in field
iv. Action plan for provision and utilization of safety PPE.
v. Action plan for fatality reduction.
vi. Action plan for enhanced supervision at site
vii. Action plan for making employee more responsible and accountable for safety.
viii. Action plan for availability and utilization of all required tool and equipment.
ix. Safety Improvement done in last two years, specially highlighting those which have been taken after the fatal accident along with results.
x. Safety initiatives planed or started recently.
xi. Any other point.

Based on above points and documentary evidences BA will be required to submit a detailed report in support of his bid. The bid evaluation committee and competent authority will scrutinize the facts and the evidence submitted. If found satisfactory competent authority i.e. CTO may accord his approval for bid opening otherwise his tender shall be disqualified.

Annexure 2 (Refer Para 3.2 and 5.8)

Risk Assessment Form

Business Associate:
Scope of the work:
BA's Representative:
Telephone:
Signature: Date:

Specific Task/Activity	Potential Hazards/Consequences	Class of Risk	Control Measures
Working at Height	Fall from height	2	1. Mandatory usage of JSA checklist prior to start of work 2. Use appropriate ladder 3. Use full body safety harness having double lanyard. 4. Use Electrical Safety Shoes if working on electrical network otherwise use safety shoes. 5. Use Safety helmet. 6. Use PPE as per the annexure 7 of this CSM document 7. Refer Work instruction related to Working at Height for other details 8. Use of metal scaffold to be ensured in height work (cup lock type) 9. Deploy competent workforce who are medically fit

Specific Task/Activity	Potential Hazards/Consequences	Class of Risk	Control Measures
Working on electrical equipment / network	Electric flash / electrocution	3	1. Mandatory usage of JSA checklist prior to start of work 2. Use Electrical Safety Shoes while working on electrical network. 3. Use Electrical Safety gloves of appropriate voltage rating. 4. Use face shield / visor attached with helmet. 5. Use Safety helmet. 6. Use PPE as per the annexure 7 of this CSM document 7. Mandatory usage of Insulated tools & tackles on electrical system 8. Mandatory compliance for Lock Out & Tag out system. Refer Work instruction related to Working on electrical equipment / network for other details
Excavation / Civil work	Collapse of soil, fall in excavated pit leading to Injury	2	1. Use safety shoes. 2. Use Safety helmet. 3. Use PPE as per the annexure 7 of this CSM document 4. Hard Barricading of the worksite. 5. Refer Work instruction related to excavation / civil work for other details

Specific Task/Activity	Potential Hazards/Consequences	Class of Risk	Control Measures
Material lifting & Mechanical Erection work	Fall of material/object, Topple of crane,	2	1. Mandatory compliance of crane checklist 2. Visual condition check of lifting tools and tackles such as wire rope sling, belt sling, chain, pulley block, D-shackles, etc. shall be ensured. 3. The operator's physical fitness and alertness should be judged by sup. / EIC. 4. Use PPE as per the annexure 7 of this CSM document 5. Refer Work instruction related to Material lifting & Mechanical Erection work
Road Safety	Road Accidents	3	1. Mandatory compliance of TPSODL Road Safety policy
Note: This information for the general indication purpose. The detailed risk assessment shall be conducted before start of the work by the authorized representative of the BA. The report of same shall be submitted to engineer in-charge along with annexure 4 of the CSM document.			

Guidelines for filling the Risk Assessment Form

- *Specific Task/Activity* - The documentation of each major task associated with the contract.
- *Potential Hazards* - The identification of hazards associated with each activity or task to be carried out.
- *Class of Risk* - Each hazard should be evaluated as a level of risk, described as Risk Class 1, 2 or 3 defined above.
- *Control Measure* - The identification and documentation of actions required to eliminate or reduce the hazards that could lead to accident or injury.

Hazard / Risks shall be classified according to the following schedule:

- Class 1: Potential to cause injury treatable with first aid
- Class 2: Potential to cause death or permanent injury
- Class 3: Potential to cause more than one or more lost time injuries.

Annexure 3.1 *(Refer Para 4.0)*

General Safety Conditions for the Maintenance of Distribution Network Contracts:

A BA awarded a contract (O&M) work of maintenance of distribution network will be required to fulfil the following conditions:

- BA shall provide Safety Policy and safety objectives of their company.
- BA shall comply with all statutory requirements like applicable acts, regulations, codes of practice, OHSAS Standards, etc.
- BA shall provide the filled safety management questionnaire as per Annexure 1
- BA shall conduct a job risk assessment and provide information as per Annexure 2
- BA shall abide by Safety manuals, guidelines of TPSODL.
- BA shall provide its organisation structure & responsibilities in terms of Safety Management to TPSODL.
- BA shall document the work practices and procedures in terms of Safety Management.
- BA shall ensure safety training and induction program for the employees
- BA shall conduct safety audits & inspections as per TPSODL procedures provided by SAFETY group.
- BA shall provide and ensure the proper usage of the safety equipment (PPE) as per the TPSODL approved list in *annexure 7.*
- BA shall ensure periodic inspection of PPE to ensure its serviceability as per the specification given by TPSODL.

- BA shall ensure the adherence to standard operating procedures or guidelines laid down by TPSODL.
- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident or accident to engineer in-charge and SAFETY team of TPSODL.
- BA shall provide safety performance and Safety MIS (*annexure 9)* to engineer in-charge and SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- BA shall ensure to depute a Safety Supervisor for managing a complete safety management system in a district. In case the BA has been awarded work in more than one district, then the following safety structure will be adopted.

Annexure 3.2 ***(Refer Para 4.0)***

General Safety Conditions for the Distribution Projects Major Contracts:

A BA awarded a major contract work of TS&P in area of a circle will be required to fulfil the following conditions:

- BA shall provide Safety Policy and safety objectives of their company.
- BA shall comply with all statutory requirements like: applicable acts, regulations, codes of practice, OHSAS Standards, etc.
- BA shall provide the filled safety management questionnaire as per Annexure 1.
- BA shall conduct a job risk assessment and provide information as per Annexure 2
- BA shall abide by Safety manuals, guidelines of TPSODL.
- BA shall provide its organisation structure & responsibilities in terms of Safety Management to TPSODL.
- BA shall document the work practices and procedures in terms of Safety Management.
- BA shall ensure safety training and induction program for the employees

- BA shall conduct safety audits & inspections as per TPSODL procedures provided by SAFETY group.
- BA shall provide and ensure the proper usage of the safety equipment (PPE) as per the TPSODL approved list in annexure 7.
- BA shall ensure periodic inspection of PPE to ensure its serviceability as per the specification given by TPSODL.
- BA shall ensure the adherence to standard operating procedures or guidelines laid down by TPSODL.
- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident or accident to engineer in-charge and SAFETY team of TPSODL.
- BA shall provide safety performance and Safety MIS (*annexure 9)* to engineer in-charge and SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- BA shall ensure to depute a Safety Supervisor for managing a complete safety management system in the area. In case the BA has been awarded work in more than one circle, then the following safety structure will be adopted.

Annexure 3.3 ***(Refer Para 4.0)***

<u>General Safety Conditions for the major EHV Projects Contracts:</u>

A BA awarded a major contract work of EHV projects will be required to fulfil the following conditions:

- BA shall provide Safety Policy and safety objectives of their company.
- BA shall comply with all statutory requirements like applicable acts, regulations, codes of practice, OHSAS Standards, etc.

- BA shall provide the filled safety management questionnaire as per Annexure 1
- BA shall conduct a job risk assessment and provide information as per Annexure 2
- BA shall abide by Safety manuals, guidelines of TPSODL.
- BA shall provide its organisation structure & responsibilities in terms of Safety Management to TPSODL.
- BA shall document the work practices and procedures in terms of Safety Management.
- BA shall ensure safety training and induction program for the employees
- BA shall conduct safety audits & inspections as per TPSODL procedures provided by SAFETY group.
- BA shall provide and ensure the proper usage of the safety equipment (PPE) as per the TPSODL approved list in annexure 7.
- BA shall ensure periodic inspection of PPE to ensure its serviceability as per the specification given by TPSODL.
- BA shall ensure the adherence to standard operating procedures or guidelines laid down by TPSODL.
- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident or accident to engineer in-charge and SAFETY team of TPSODL.
- BA shall provide safety performance and Safety MIS (*annexure 9)* to engineer in-charge and SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- BA shall ensure to depute a Safety Supervisor for managing a complete safety management system in the area. In case the BA has been awarded work in more than one circle, then the following safety structure will be adopted.
- BA shall refer Construction Safety Manual in TPSODL Safety Manual for details.

Annexure 3.4 ***(Refer Para 4.0)***

General Safety Conditions for the Maintenance of Sub – Transmission Network Contracts:

A BA awarded a major contract work of maintenance of sub – transmission network in area of a power system will be required to fulfil the following conditions:

- BA shall provide Safety Policy and safety objectives of their company.
- BA shall comply with all statutory requirements like: applicable acts, regulations, codes of practice, OHSAS Standards, etc.
- BA shall provide the filled safety management questionnaire as per Annexure 1
- BA shall conduct a job risk assessment and provide information as per Annexure 2
- BA shall abide by Safety manuals, guidelines of TPSODL.
- BA shall provide its organisation structure & responsibilities in terms of Safety Management to TPSODL.
- BA shall document the work practices and procedures in terms of Safety Management.
- BA shall ensure safety training and induction program for the employees
- BA shall conduct safety audits & inspections as per TPSODL procedures provided by SAFETY group.
- BA shall provide and ensure the proper usage of the safety equipment (PPE) as per the TPSODL approved list in annexure 7.
- BA shall ensure periodic inspection of PPE to ensure its serviceability as per the specification given by TPSODL.
- BA shall ensure the adherence to standard operating procedures or guidelines laid down by TPSODL.
- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident or accident to engineer in-charge and SAFETY team of TPSODL.
- BA shall provide safety performance and Safety MIS (*annexure 9)* to engineer in-charge and SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- BA shall ensure to depute a Safety Coordinator for managing a complete safety management system in the area. In case the BA has been awarded work in more than one area power system, then the following safety structure will be adopted.

Annexure 3.5 ***(Refer Para 4.0)***

General Safety Conditions for the major contract work in Civil / Generation Projects:

A BA awarded a major contract work of / in civil or Generation project will be required to fulfil the following safety conditions:

- BA shall provide Safety Policy and safety objectives of their company.
- BA shall comply with all statutory requirements like: applicable acts, regulations, codes of practice, OHSAS Standards, etc.
- BA shall provide the filled safety management questionnaire as per Annexure 1
- BA shall conduct a job risk assessment and provide information as per Annexure 2
- BA shall abide by Safety manuals, guidelines of TPSODL.
- BA shall provide its organisation structure & responsibilities in terms of Safety Management to TPSODL.
- BA shall document the work practices and procedures in terms of Safety Management.
- BA shall ensure safety training and induction program for the employees
- BA shall conduct safety audits & inspections as per TPSODL procedures provided by SAFETY group.
- BA shall provide and ensure the proper usage of the safety equipment (PPE) as per the TPSODL approved list in annexure 7.
- BA shall ensure periodic inspection of PPE to ensure its serviceability as per the specification given by TPSODL.
- BA shall ensure the adherence to standard operating procedures or guidelines laid down by TPSODL.
- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident or accident to engineer in-charge and SAFETY team of TPSODL.
- BA shall provide safety performance and Safety MIS (*annexure 9)* to engineer in-charge and SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- BA shall ensure to depute a Safety Supervisor (for workforce up to 100 at site) / a safety engineer (for workforce up to 250 at site) / safety manager (for more than two safety engineers) for managing a complete safety management system at the project site. In case the BA has been awarded more than one major contracts, then the following safety structure will be adopted.
- BA shall refer Construction Safety Manual in TPSODL Safety Manual for details.

Annexure 3.6 ***(Refer Para 4.0)***

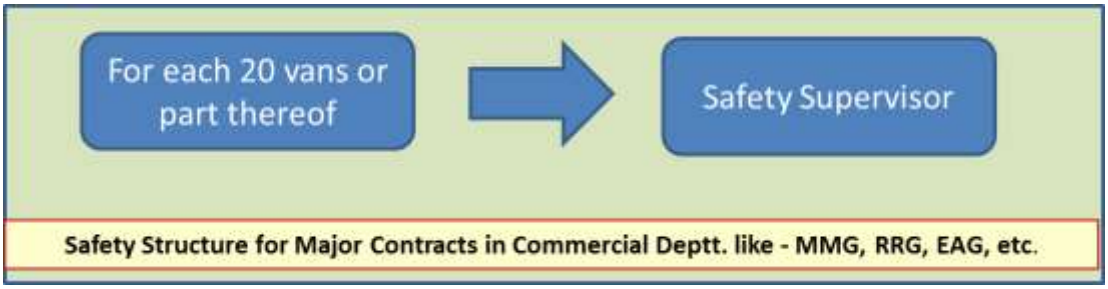
General Safety Conditions for the major contract work in Commercial Department like - MMG, RRG, EAG, etc.:

A BA awarded a major contract work in meter management group & energy auditing group will be required to fulfil the following safety conditions:

- BA shall provide Safety Policy and safety objectives of their company.
- BA shall comply with all statutory requirements like applicable acts, regulations, codes of practice, OHSAS Standards, etc.
- BA shall provide the filled safety management questionnaire as per Annexure 1
- BA shall conduct a job risk assessment and provide information as per Annexure 2
- BA shall abide by Safety manuals, guidelines of TPSODL.
- BA shall provide its organisation structure & responsibilities in terms of Safety Management to TPSODL.
- BA shall document the work practices and procedures in terms of Safety Management.
- BA shall ensure safety training and induction program for the employees
- BA shall conduct safety audits & inspections as per TPSODL procedures provided by SAFETY group.
- BA shall provide and ensure the proper usage of the safety equipment (PPE) as per the TPSODL approved list in annexure 7.
- BA shall ensure periodic inspection of PPE to ensure its serviceability as per the specification given by TPSODL.
- BA shall ensure the adherence to standard operating procedures or guidelines laid down by TPSODL.
- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident or accident to engineer in-charge and SAFETY team of TPSODL.
- BA shall provide safety performance and Safety MIS (*annexure 9)* to engineer in-charge and SAFETY group periodically. Based on any non-confirmation to the safety procedures and

guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.

- BA shall ensure to depute a Safety Supervisor for managing a complete safety management system for the work as per the following safety structure.
- The BA for the RRG work shall depute one Safety supervisor.



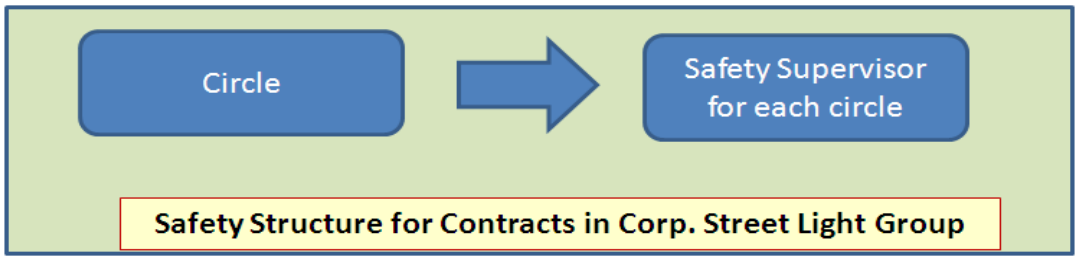
Annexure 3.7 ***(Refer Para 4.0)***

General Safety Conditions for the major contract work in O&M of street light group:

A BA awarded a major contract work in operation and maintenance of street light group will be required to fulfil the following safety conditions:

- BA shall provide Safety Policy and safety objectives of their company.
- BA shall comply with all statutory requirements like applicable acts, regulations, codes of practice, OHSAS Standards, etc.
- BA shall provide the filled safety management questionnaire as per Annexure 1
- BA shall conduct a job risk assessment and provide information as per Annexure 2
- BA shall abide by Safety manuals, guidelines of TPSODL.
- BA shall provide its organisation structure & responsibilities in terms of Safety Management to TPSODL.
- BA shall document the work practices and procedures in terms of Safety Management.
- BA shall ensure safety training and induction program for the employees
- BA shall conduct safety audits & inspections as per TPSODL procedures provided by SAFETY group.
- BA shall provide and ensure the proper usage of the safety equipment PPE as per the TPSODL approved list in annexure 7.
- BA shall ensure periodic inspection of PPE to ensure its serviceability as per the specification given by TPSODL.
- BA shall ensure the adherence to standard operating procedures or guidelines laid down by TPSODL.

- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident or accident to engineer in-charge and SAFETY team of TPSODL.
- BA shall provide safety performance and Safety MIS (*annexure 9)* to engineer in-charge and SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- Each BA shall ensure to depute a Safety Supervisor for managing a complete safety management system for the work awarded as per the below structure.



Annexure 4 *(Refer Para 3.3)*

Safety Undertaking by way of Affidavit

I_____ s/o_____R/o_____ (AUTHORIZED REPRESENTATIVE/PARTNER/DIRECTOR/PROPRIETOR) of M/S _____(name of company/firm)__ having its office at (Complete address of Company), authorized vide power of attorney dated ------/Board resolution dated----/letter of authority dated----, hereinafter referred to as **Contractor [or Business Associate (BA)]** which expression shall, unless it be repugnant to or inconsistent with the meaning or context thereof, be deemed to include its heirs, executors, administrators, and assigns do hereby affirm and undertake as under :

1. The present undertaking shall remain in force from the date of execution of contract awarded by TPSODL and shall be valid till the date of termination of the said contract by either parties. The undertaking is binding on me (contractor) as well as my sub-contractor and its employees, representatives etc.
2. That I(the contractor) will be responsible and liable to comply and abide by all the safety rules, instructions and regulations as may be specified and laid down by The TP Southern Odisha Distribution Limited (TPSODL) so as enable TPSODL to achieve its goal of Zero On site incidences.
3. That the Contractor shall be fully responsible for ensuring occupational health and safety of its employees, representatives, agents as well as of its subcontractor's employees, at all times during the discharge of their respective obligations under the contract including any methods adopted for performance of their tasks / work.
4. That Contractor shall ensure ,at its own expense to arrange for and procure, implement all requisite accident prevention tools, first aid boxes, personal protective equipment, fire extinguisher, safety training, Material Safety Data Sheet, pre-employment medical test, etc. for operations & activities including as & when so specified by TPSODL specifically. , failing which TPSODL shall be entitled, but not obliged, to provide the same and recover the actual cost thereof from the Contractor's payments.
5. That the Contractor shall engage adequate and competent Safety – Supervisor / Engineer / Manager / Skilled persons at site as per the Para 5 (Qualification and experience of safety personnel) and Annexure 3 of Contract Safety Management.

6. That the Contractor shall engage the competent Site – Supervisor with each group of workers for safe and correct workmanship, proper co-ordination of material and site work as per contract.
7. That the Contractor shall immediately replace supervisor in case it is found to be not up to the level of skill and experience required as in skill and experience required in *annexure 5* of this document, but any such replacement shall be only with the prior concurrence of TPSODL .
8. That the Contractor and its subcontractors shall abide by all the safety guidelines as per Safety Manual, Contract Safety Management and other guidelines issued from time to time by TPSODL during the contract period.
9. That in case the Contractor and/or any of its Subcontractor fail to ensure the compliance as required in terms of this undertaking the Contractor shall keep and hold TPSODL / its directors / officers / employees indemnified against any / all losses / damage / expense / liability / fines / compensation / claims / action / prosecutions or the like which might be suffered by TPSODL or to which TPSODL might get exposed to as a result of any breach /wilful negligence /deliberate default on the part of the Contractor /Subcontractor in complying with the same. Contractor shall also furnish any press release, clarification etc. if sought by TPSODL for any near miss or safety violations, accidents, which are attributable to fault of Contractor.

DEPONENT VERIFICATION

Verified at Berhampur on this _Day of _____20__ that the contents of the above affidavit are true and correct and nothing material has been concealed therefrom

DEPONENT

Annexure 5 *(Refer Para 5.4)*

SKILL / QUALIFICATION REQUIRED FOR ELECTRICIAN AND ELECTRICAL SUPERVISOR

Skill / Qualifications Required for Electrician *(Certificate of Competency Class-II)*:

1. Formal education in ITI – Wireman/ Electrician trade.

   OR

2. Working experience of minimum three years of practical wiring.

   OR

3. Have completed three years apprenticeship course through Apprenticeship Advisor, Govt. of Odisha / other state Govt. in the trade of Lineman / Wireman / Electrician.
4. A candidate must have attained the age of Eighteen years.

Skill / Qualifications Required for Electrical Supervisor (*Certificate of Competency Class-I)*:

1. Have at least five years' experience of practical wiring after passing the certificate of competency class-II i.e. electrician.

   OR

2. Recognized Degree or Diploma or equivalent qualification in Electrical Engineering from any Technical institute / College or University recognized by the Board.

   AND

   Must have completed the training/job in rectifying the common defects in electrical line and power installation for a period of one and three years after passing Degree or Diploma respectively

   OR

3. Possessing the valid certificate of certificate of competency class – 1 (Electrical Supervisor)

Annexure 6 (*Refer Para 5.6)*

Training Module for BAs Worker & Supervisor

Training for BA Supervisor **Duration – 02 Hrs / Month**

Methodology: **Lecture and Practical Demonstration of Safety Zone Creation**

Session: 1

Topic: **Electrical Safety Aspects**

Sub Topics:

1. Learning specifics of HT & LT Network of zone
2. Major type of HT / LT / service lines / street light maintenance works
3. Understanding the need of Safety
4. Understanding the safe process of maintenance:
    - Planning of the maintenance job
    - Availability of men, material & machine, PPEs, Safety gear and approved PTW
    - Briefing of the job by the supervisor of the TPSODL
    - Identification of Risks associated with the maintenance work and planning for controlling measures by TPSODL supervisor
    - Creation of safety zone by TPSODL supervisor and satisfying that the network is dead – Use of Neon Tester, Shorting Chain and Safety Tagging
    - Start of the work – Right person for the right job
    - Alert supervision
    - Completion of the job – Check points
    - Energization of network
    - Actions to be taken in case of some accident

Session: 2

Topic: **Use of Electrical Testing Equipment**

Methodology: **Lecture and Practical Demonstration**

Sub Topics:

1. Meggar, Hi Pot, Clamp On Meter, Neon Tester, Discharge Rod, Line tester etc.

Session: 3

Topic: **Awareness of Electrical Safety Aspects**

A. Understanding the need of this Training and Safety
B. Learning specifics of HT & LT Network
C. Major type of work to be carried out in zones
D. Switching Operations (Do's & Don'ts) including Street Light Switching
E. Working on Height *(practical demo also)*
F. Understanding the Safe Process of Maintenance / Working:
    - Planning of the job

- Availability of men, material & machine, PPEs, Safety gear and approved PTW
- Briefing of the job by the supervisor
- Permit to Work
- Safety Tagging and Lock Out Tag out
- Identification of Risks associated with the work to be carried out and planning for controlling measures by proper supervision
- Concept of "***Safety Zone***"
- Identification and use of Neon Tester, Shorting Chain, Clamp on Meter, Hi Pot, Meggar etc.
- Completion of the job – Check points
- Accident Theory & Incident Reporting
- Actions to be taken in case of some accident

Session: 4

Topic: Identification, Demonstration and Usages of Tools, PPEs and other Safety Gears and demonstration of working on HT pole

Session: 5

Topic: Practical demonstration of Safety Zone creation

FREQUENCY

Regular Safety Training Program

- It will be conducted for all field & supervisor staff of BA in such a manner that all BA Personnel attend at least two hours safety training during every month.

One Day Induction Safety Training Programs:

- This training will be for the new BA's personnel, who have been cleared by the Cross Functional Panel to undergo Safety training and who are likely to be deployed at various work sites of TPSODL by the BA, as a part of AMC / Work Contract.

Duration / Periodicity:

- Duration and periodicity has been defined above. However, this is subject to change at the discretion of TPSODL.

Annexure 7 *(Refer Para 5.7)*

LIST OF PERSONAL PROTECTIVE EQUIPMENT AND TESTING FREQUENCY

Sl. No.	Name of PPE	IS / EN Standard	Testing Frequency	Remarks	Ref Brand & Model
01	Leather Safety Shoes (Color – Black) with PU toe cap.	IS:15298 (Part-2)	Monthly and visual check every day for any crack or damage in the leather or sole.		BATA (Model No.- Endura L/C) Liberty (Model No. – 7198-01 HT Barton Black – Warrior)
02	HDPE Safety helmet with chin strap and ratchet type for adjustment.	IS:2925-1984	Monthly and visual check every day for any crack in shell.		Karam (PN Safetech) Joseph Leslie Accent Industries Honeywell
03	Full body harness (Safety belt)	EN 361	Monthly and visual check every day of the bends and the harness.		Karam (PN Safetech) Joseph Leslie Accent Industries
04	Electrical Safety Gloves	EN: 60903 CE marked	Weekly and visual check for any crack and blow test before every work.	Manufactured not beyond 12 months.	Make Sparian / Sumitech / CATU supplied with inner cotton glove with over glove of split leather.
05	Full face visor with safety helmet	EN: 166 CE marked (Visor)	Monthly and visual check every day for any crack in shell.	Clear acrylic visor attached with safety helmet.	Karam (PN Safetech) Joseph Leslie Accent Industries Honeywell
06	Fireproof jacket for chest protection		Monthly and visual check every day.		
07	Safety Chain for shorting cum earthing.	As per TPSODL standard	Weekly and visual check before every work.	Made of brass, Total length – 5.5 meters and made of 12 SWG.	

Note:

1. *Any other Personal Protection Equipment required beyond above list will be according to BIS or EN Standards.*
2. *All Personal Protection Equipment will be checked by the engineer in-charge or SAFETY group of TPSODL.*
3. *Safety Representative of the BA has to maintain the record of the availability, condition and checking of the PPEs.*
4. *All tools required as per the contract must be according to respective IS / EN standards.*
5. *TPSODL may revise or add the above list of PPE and their specifications as and when feel necessary. The information about new specifications /models will be circulated by the Engineer In-charge (EIC), which shall adhere by the business associated in the shortest possible time. The EIC shall issue a memo / instruction to BA with timeline for implementation. Any delay will be treated as non- compliance / safety violations. Refer picture of each PPE given in next page.*

Pictures of PPE for reference purpose.

Sl. No.	Name of PPE	IS / EN Standard	Picture
01	Leather Safety Shoes (Color – Black) with PU toe cap.	IS:15298(Part-2) and with test report of electrical resistance.	
02	HDPE Safety helmet with chin strap and ratchet type for adjustment.	IS:2925-1984	
03	Full body harness (Safety belt) The straps at shoulder and thigh shall have full pad for comfort. The back shall be so designed that harness straps do	EN 361:2002 EN 358: 2000 IS: 3521:1991/2002	

	not tangle with each other.		
04	Electrical Safety Gloves – Composite type Soft electrical gloves as per size of individual.	EN: 60903 CE marked	
05	Full face visor with safety helmet	EN: 166 CE marked (Visor)	
06	Fireproof jacket for chest protection		
07	Safety Chain for shorting cum earthing.	As per TPSODL standard	 

08	Reflective jacket to each workman	As per TPSODL standard	

Note: Picture shown are for indicative purpose only. Actual product may differ.

Annexure 8 *(Refer Para 5.8)* LIST OF AUDITS TO BE CONDUCTED

Audits	Responsibility	Freq.	Ref. Doc.
Permit to Work & Field Audit	BA Safety Representative	Weekly	F04 (COR P - 12)
Tool Bag & PPE's Audit		Weekly	F06 (COR P - 12)
First Aid Box Maintenance Record		Fortnightly	F08 (COR P - 12)
Fire Extinguisher Record ***(Applicable for the BA involved in major construction works and have storage of flammable material at worksite)***		Monthly	F09 (COR P - 12)
Safety Talk Register		Weekly	F18 (COR P - 12)
Site Safety Audit		Daily	F29A (COR P - 12)

Note:

1. *(BA Safety Representative has to use the formats as per Safety process COR – P – 12 of TPSODL)*

Annexure 9 (*Refer Para 5.9)*

PERFORMANCE REPORT – SAFETY

FOR THE MONTH OF……

Name of BA: ……..

Name of the Project and Purchase order No: ……

Date of commencement of work: ……

Man Hour Worked in this month (No. of employees X 8 Hrs + Overtime): ……

Cumulative Man Hour worked: ……

Total Number of Minor Injury (this month): …… Minor Injury (Total) ……..

Major Injury (this month): …….. Major Injury (Total): ……

Detail of the Incident / Sub Standard Acts and Condition

Activity	This Month	Cumulative (Total)	Day Lost (this month)	Days Lost (Cumulative)
No. of the Incident				
No. of lost time injuries				
No. of dangerous occurrences				
No. of near miss reported				
Substandard Act/Conditions observed			Attach details of observation of this month	
Safety Violation Notice received (from TPSODL) (both in numbers and in Rs.)	No.	No.	No. of violation letter received and compliance report for the TPSODL.	
	Rs.	Rs.		

Note: Cumulative means total from date of commencement of work according to the contract.

Detail of the Accident / Near Miss Incidents:

Date and Time	Type of the incident	Name of Employee	Brief Description	Corrective and Preventive actions recommended

Details of the Safety Violations:

Date and Location	Brief Description	Name of employee involved	Action Taken

Detail of the Safety Talk / Toolbox Talk / Safety Training

Date and Location	Topic (s)	Total Number of employees (Worker / Supervisor)	Number of participants (Worker / Supervisor)

Detail of the Safety Meeting

Date and Location	Number of participants	Topics discussed	Major Observations / Innovation

Detail of the Safety Inspection /Audit: (as per TPSODL site audit checklist F29A(COR-P-12)

Date	Area / Location	Major Observations	Recommendations	Action Taken

Any other Safety, Occupational Health, Environment & Disaster Management Promotional Activity (During this month):

Date	Location	Activity	Level of Participation	Number of participations

Signature of the BA Safety Representative Signature of ZM / HoG

Name, E. No. and Date Name, E. No. Date.

Note: The original form to be deposited with Engineer in-charge and a copy to SAFETY group on or before 5th of every month along with bill. List of training of the current month and status of PPE to be also mentioned individual wise.

BA may include additional lines if required. The TPSODL may revise the format as and when deemed required.

ANNEXURE-M

BA APPRAISAL FORM

TO BE SUBMITTED BY BA (To be filled as applicable)			
BA:			
1.0	**DETAILS OF THE FIRM**		
	1.1	NAME (IN CAPITAL LETTERS)	:
	1.2	TYPE OF CONCERN (PROPRIETORY) Partnership, Pvt. Ltd., Public Ltd. etc.	:
	1.3	YEAR OF ESTABLISHMENT	:
	1.4	LOCATION OF OFFICE POSTAL ADRESS 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 DRAUGHTSMEN	:
	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 COLLABORATORS	:
		8.3.5 DURATION OF AGREEMENT	:
	8.4	AVAILABILITY OF STANDARDS / DESIGN PROCEDURES / COLLABORA-TOR'S / 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 BA'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	:
		UTILISED	:
		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	:
	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-BA APPROVAL SYSTEM AND QUALITY CONTROL	:
	10.15	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	:
11.0	**EXPERIENCE (INCLUDING CONSTRUCTION / ERECTION / COMMISSIONING) TO BE FURNISHED IN THE FORMAT INDICATED IN APPENDIX)**		:
12.0	**SALES, SERVICE AND SITE ORANISATIONAL 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:** 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. GST Registration No	

*** 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.

ANNEXURE-N

MANUFACTURER AUTHORIZATION FORM

(To be submitted on OEM's Letter Head)

Date: ……

Tender Enquiry No.: ……..

To,

Chief (Procurement & Stores)

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