



NIT No.: TPCODL/P&S/100000496/2023-24

**Procedure to Participate in Tender**

**Tender Enquiry No- TPCODL/P&S/100000496/2023-24**

Tender Enquiry No.	Work Description	EMD* (Rs.)	Tender Fee** (Rs.)	Last Date for payment of Tender Fee
TPCODL/P&S/100000496/23-24	Rate Contract for Supply of 1.1KV LT Power Cable for 2 Years	Rs. 50,000	5,000	15.12.2023

\* EMD is exempted for Odisha Registered MSME Bidders. However, MSME Bidder shall be barred to participate in the tendering process for a period of 2 years in case it backs out post award of the contract. MSME BAs needs to submit Bid Security Declaration as per the attached format.

\*\* MSMEs registered in the State of Odisha shall pay tender fee of Rs. 1,000/- including GST.

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

**Procedure to Participate in Tender.**

Following steps are to be followed before “Last date for Payment of Tender Fee”:

1. Eligible and Interested Bidders to submit duly signed and stamped letter on Bidder's letter head indicating
  - a. Tender Enquiry number
  - b. Name of authorized person
  - c. Contact number
  - d. E-mail id
  - e. Details of submission of Tender Fee
  - f. GST Registration No
  - g. Details of submission of Tender Fee
  - h. MSME Certificate, wherever applicable
  - i. Details of Bank Account for refund of EMD
  - j. Postal Address for refund of EMD
2. Non-Refundable Tender 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/ Enquiry Number –

Beneficiary Name: TP Central Odisha Distribution Ltd.  
Bank Name: STATE BANK OF INDIA  
Branch Name: IDCO Towers, Bhubaneswar  
Address: P.O. - Sahidnagar, Janapath, Bhubaneswar.  
Branch Code: 7891  
Account No: 10835304915



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E-mail with necessary attachment of 1 and 2 above to be sent to [arijeet.choudhury@tpcentralodisha.com](mailto:arijeet.choudhury@tpcentralodisha.com) and cc to [sony.jha@tpcentralodisha.com](mailto:sony.jha@tpcentralodisha.com) before last date and time for payment of Tender Fee.

Interested bidders to submit Tender Fee and Authorization Letter before Last date and time as indicated above, after which link from TPCODL E-Tender system (Ariba) will be shared for further communication and bid submission.

Please note that all future correspondence regarding the tender, bid submission, due date extension, Pre-bid query, etc. will take place through TPCODL E-Tender system (Ariba) only. User manual to guide the bidders to submit the bid through E-Tender system (Ariba) is enclosed.

All communication shall be held only with the bidders who have carried out the above steps to participate in the Tender.

It is to be noted that once date of "Last date and time for Payment of Tender Participation Fee" is lapsed, no Bidder will be sent link from TPCODL E-Tender System (Ariba). Without this link, bidder will not be able to participate in the tender. Any last moment request to participate in tender will not be considered.

Further, all future corrigendum to the said tender will be uploaded in the Tender section on website <https://www.tpcentralodisha.com>.



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## **OPEN TENDER NOTIFICATION**

**FOR**

**RATE CONTRACT FOR SUPPLY OF 1.1KV LT  
POWER CABLE FOR 2 YEARS**

**Tender Enquiry No.: TPCODL/P&S/1000000496/23-24**

**Due Date for Bid Submission: 26.12.2023 [15:00 Hrs.]**

**TP Central Odisha Distribution Limited  
1st Floor, Anuj Building, Plot No.29, Satya Nagar,  
Bhubaneswar, Odisha 751007**



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## 1.0 Event Information

### 1.1. Scope of work

**Open Tenders** are invited from interested Bidders entering into a Rate Contract valid for two year for the following:

S. No.	Description	EMD Amount (Rs.)	Tender Fee (Rs.)
1.	Rate Contract for Supply of 1.1KV LT Power Cable for 2 Years	Rs. 50,000	5,000

Note: Tender Fee is inclusive of GST

### 1.2. Availability of Tender Documents

Please refer "Procedure to participate in the e-tender".

### 1.3. Calendar of Events

(a)	Date of sale/ availability of tender documents from TPCODL Website	From 06.12.2023 onwards
(b)	Date by which Interested and Eligible Bidder to pay Tender Fee and confirm participation as mentioned in "Procedure to Participate in Tender"	15.12.2023
(c)	Last Date of receipt of pre-bid queries, if any	18.12.2023
(d)	Pre-Bid Meeting*	-
(e)	Last Date of Posting Consolidated replies to all the pre-bid queries as received	20.12.2023
(f)	Last date and time of receipt of Bids	26.12.2023; 15:00 Hours
(g)	Date & Time of opening technical bids & EMD (Envelope-1 & 2)	Participating Bidders will get mail intimation from TPCODL E-Tender system (Ariba) when their Technical Bids are opened.
(h)	Date & Time of opening of Price bid of qualified bidders	Bidders will get mail intimation from TPCODL E-tender system (Ariba) when their Price Bids are opened

*\*Pre-Bid Meeting Time and Venue details shall be shared later*

**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 TPCODL'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.

### 1.4 Mandatory documents required along with the Bid

1.4.1 EMD of requisite value and validity

1.4.2 Tender Fee of requisite amount

1.4.3 Requisite Documents for compliance to Qualification Criteria mentioned in Clause 1.7.



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- 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')
- 1.4.9 Documents for safety bid evaluation as per Appendix 13: CSM-F-9 Safety Bid Evaluation Criteria

***Please note that in absence of any of the above documents, bid submitted by the 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

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

### **1.7 Qualification Requirement / Eligibility Criteria**

- a) The average annual turnover of the bidder shall be a minimum of Rs.1 Cr. for last three financial years. (FY 2020-2021, FY 2021-22 and FY 2022-2023) **Copy of audited Balance Sheet and P&L Account to be submitted in this regard.**
- b) Bidder should have supplied 25 km of each cable (CABLE 1.1KV AL 1CX95 and CABLE 1.1KV AL 1CX300) during last 3 years from the date of opening of technical bid. **Copy of work order / completion certificate to be submitted in this regard.**
- c) Bidder should have **Performance Certificates** for at least Two years' satisfactory performance from minimum 3 reputed Electricity Discoms/ Generation /Transmission companies of India for 1.1 KV or higher voltage cable of tendered size. Out of these, one Certificate should be of more than 50 Km of cable. The work against these issued certificates should be completed in last five years from the date of bid submission. In case the bidder has a previous association with Tata Power DDL, TPCODL, TPNODL.TPWODL, TPSODL. for similar products and services, the performance feedback for that bidder by Tata Power DDL's TPCODL, TPNODL.TPWODL, TPSODL

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User Group shall only be considered irrespective of performance certificates issued by any third organization .

- d) Bidder should have own manufacturing facility to manufacture the cable of same or higher voltage rating. **Bidder must submit undertaking in this regard.**
- e) Bidders must have full testing facilities for acceptance and routine test as per relevant IS/IEC. **Bidder must submit undertaking in this regard.**
- f) **Declaration on bidder's letterhead** for Non-blacklisting from any Government Department/ PSU/ SEB's/ Power Utility/OREDA.

### 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, TPCODL 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 TPCODL. This includes all bidding information submitted to TPCODL. All tender documents remain the property of TPCODL and all suppliers are required to return these documents to TPCODL upon request. Suppliers who do not honor these confidentiality provisions will be excluded from participating in future bidding events.

### 2.0 Evaluation Criteria

- The bids will be evaluated technically on the compliance to tender terms and conditions
- The bids will be evaluated commercially on all-inclusive lowest cost for overall tender BOQ as calculated in Schedule of Items [Annexure I]. TPCODL however, reserves right to split the order line item wise and/or quantity wise amongst more than one Bidder. Hence, all bidders are advised to quote their most competitive rates against each line item.
- Bidder has to mandatorily quote against each item of Schedule of Items [Annexure I]. Failing to do so, TPCODL may reject the bids.

**NOTE:** In case a new bidder is not registered with TPCODL, factory inspection and evaluation shall be carried out to ascertain bidder's manufacturing capability and quality procedures. However TPCODL 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 TPCODL 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.

### 3.0 Submission of Bid Documents

#### 3.1 Bid Submission



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Bidders are requested to submit their offer in line with this Tender document. TPCODL shall respond to the clarification raised by various bidders and the replies will be sent to all participating bidders through TPCODL e-tender system (Ariba).

Bids shall be submitted in 3 (three) parts:

**FIRST PART: “EMD”** as applicable shall be submitted. The EMD shall be valid for 210 days from the due date of bid submission in the form of BG / Bank Draft / Bankers Pay Order (issued from a Scheduled Bank) online NEFT/ RTGS transfer favoring ‘TP Central Odisha Distribution Limited’ payable at Bhubaneswar. The EMD has to be strictly in the format as mentioned in General Condition of Contract, failing which it shall not be accepted by TPCODL and the bid as submitted shall be liable for rejection. A separate non-refundable tender fee of stipulated amount also needs to be transferred online through NEFT/ RTGS in case the tender document is downloaded from our website.

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

**Account Name:** TP CENTRAL ODISHA DISTRIBUTION LIMITED  
**Bank Name:** SBI, IDCO Towers, Bhubaneswar  
**Bank Account No. :** 10835304915  
**IFSC Code:** SBIN0007891

For Tender Fee and EMD submitted via online transfer, bidder to ensure that the same are carried out through separate transactions.

The EMD in the form of Bank Draft / BG /Bankers Pay Order shall be delivered at the following address in sealed envelope clearly indicating the tender reference / enquiry number, name of tender and bidder name:

**Chief (Procurement & Stores)**

TP Central Odisha Distribution Limited

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

**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)
- h) Project Implementation Plan including Level 2 Schedule for the project
- i) Unpriced mentioning “Quoted/Not Quoted” against all line items (Prices should not be mentioned)

**The technical bid shall be properly indexed and is to be submitted through TPCODL E-tender platform (Ariba) only. Hard copy of Technical Bids need not be submitted.**

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





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THIRD 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 TPCODL E-Tendering system (Ariba) only. Hard copy of Price Bid not be submitted.

#### **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**

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

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

#### **Communication Details:**

##### **Package Owner**

Name: Mr. Arijeet Choudhury  
Designation: Team Lead Procurement  
Contact No.: 9871432126  
E-Mail ID: [arijeet.choudhury@tpcentralodisha.com](mailto:arijeet.choudhury@tpcentralodisha.com)

##### **Escalation Matrix**

Name: Mr. Sudhakar Behera  
Designation: Sr. General Manager (Procurement)  
Contact No.: 9437282663  
E-Mail ID: [sudhakar.behera@tpcentralodisha.com](mailto:sudhakar.behera@tpcentralodisha.com)

Bidders are strictly advised to communicate with Package Owner through TPCODL E-tender System (Ariba) only. They need to pay Tender Participation Fee to receive the Ariba log-in.

### 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 TPCODL. 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 TPCODL 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)

The bidder shall furnish, as part of its bid, an EMD amounting as specified in the tender. The EMD is required to protect TPCODL 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 Bhubaneswar.
- Online transfer of requisite amount through NEFT/ RTGS.
- Bank Guarantee valid for 210 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, or



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b) furnish the required Performance Security Bank Guarantee

#### **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 TPCODL'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 TPCODL Office, Bhubaneswar. All tender bids shall be opened internally by TPCODL. Presence of any bidder will not be allowed during bid opening process. Technical bid must not contain any cost information whatsoever.

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

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

##### **4.3. Preliminary Examination of Bids/Responsiveness**

TPCODL 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. TPCODL 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, TPCODL 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 TPCODL 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, TPCODL may, at its discretion, ask the Bidder for a clarification on its Bid with respect to the TPCODL 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 TPCODL.

##### **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 TPCODL without any further correspondence in this regard.

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#### **4.6. Reverse Auctions**

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

TPCODL 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 4.3 above. The decision to place purchase order/LOI solely depends on TPCODL on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that TPCODL may deem relevant.

TPCODL 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 TPCODL 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**

- a) Rate contract shall be valid for a period of 2 years from the placement of Contract. Release Order (RO) shall be placed as per the requirement of TPCODL. Rate shall remain FIRM till the validity of Rate Contract.
- b) Business Associate (BA) shall submit applicable Performance Bank, Guarantee as per GCC within 15 days of issuance of rate contract or release order. PBG applicable shall be 5% of Rate Contract Value or 10% of Release Order value. PBG against Release Order has to be submitted against each Release Order. In both cases BG shall be valid till the warranty expiry date plus one month of claim period.
- c) Any change in statutory taxes, duties and levies during the contract period shall be borne by TPCODL. However, in case of delay in work execution owing to reasons not attributable to TPCODL, 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 TPCODL.

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- d) Statutory Variations: Any changes in existing taxes/ Duties and levies, Introduction of new taxes and duties etc. during the period of the contract shall be paid at actuals to BA subject to BA shall submit the tax break up in details, however, where BA has quoted the all-inclusive prices and not shown the tax break-up, this clause will not be applicable. The date of issue of MDCC shall be used for this purpose.
- e) Quotation in all BOM items is mandatory, and bid shall be rejected if any line of found blank in un-price bid.
- f) There will be no price escalation given to bidder after issue the RO even if there is delayed the project due to ROW permission.
- g) Quotation in all BOM items is mandatory, and bid shall be rejected if any line of found blank in un price bid.
- h) In case any additional material is to be asked to supply after finalization of scope of work in the detailed Engineering, the Extra price and the extension of delivery time (if applicable) as the case may be mutually agreed between TPCODL and Successful Bidder.
- i) All other terms and conditions of TPCODL General Conditions of Contract shall be applicable.

## 7.2 Drawing Submission and Approval

The relevant drawings and GTPs need to be submitted by BA within two weeks of receipt of Rate Contract. In case, re-submission of drawings is required on request of TPCODL, same needs to be submitted back to TPCODL within 5 days of such request.

Wherever TPCODL specifications are not available, relevant IS/IEC to be followed. All Drawings mentioned in the Tender Specification and other required for the completeness of the tender shall be submitted. Drawing submission process shall not be deemed complete of all the requirements are not complied during the submission of the same

## 7.3 Delivery Timelines

Release Orders shall be placed against the awarded Rate Contract by TPCODL as and when the requirements arise & Delivery within 60 Days from date of drawing approval and manufacturing clearance.

## 7.4 Warranty Period

As per technical specifications.

## 7.5 Payment Terms

100% payment shall be made within 45 days of submission of commercially clear invoice with full details and fulfilment of statutory compliances and other requirements, if any and verified by concerned TPCODL official after completion of work against progressive monthly bills.

## 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.



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## 7.7 Ethics

TPCODL is an ethical organization and as a policy TPCODL 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.

TPCODL 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:

- 1) Chief Ethics Counselor – [bharat.chhabra@tpcentralodisha.com](mailto:bharat.chhabra@tpcentralodisha.com)

## 8 Specification and standards

As per Annexure.

## 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.



NIT No.: TPCODL/P&S/100000496/2023-24

**ANNEXURE I**  
**SCHEDULE FOR ITEMS**

TP CENTRAL ODISHA DISTRIBUTION LIMITED								
TPCODL/P&S/100000469/2023-24- Rate Contract for Supply of 1.1KV LT Power Cable for 2 Years								
S. No.	Description	Unit	HSN Code	Quantity (Nos)	Unit Rate (Rs.)	Applicable Taxes (Rs.)	All-inclusive Unit rate (Rs.)	Total all-inclusive value (Rs.)
(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H=F+G)	(I=ExH)
1	CABLE 1.1KV AL 1CX95 SQMM UNARMORED XLPE	M		8,000		-	-	-
2	CABLE 1.1KV AL 1CX300 SQMM UNARMORED.	M		18,000		-	-	-
<b>TOTAL</b>								-

**Authorized Signatory**

**Note:**

1. The quantities as mentioned above are indicative and for evaluation purpose only.
2. The bids will be evaluated commercially on the overall lowest cost.
3. The unit price with GST in column no. (H), is landed price FOR TPCODL Bhubaneswar / Cuttack Locations. Exact delivery location shall be specified in the Release Order.
4. The bidders are advised to quote prices strictly in the above format. Failing to do so, bids are liable for rejection.
5. The bidder must fill each and every column of the above format. **Mentioning "extra/inclusive" in any of the column may lead for rejection of the price bid.**
6. No cutting/ overwriting in the prices is permissible.



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**ANNEXURE II**  
**TECHNICAL SPECIFICATIONS**

Technical Specification Attached

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**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 TPCODL'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:**



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**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 (180 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:**



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**ANNEXURE V**

**CHECKLIST OF ALL THE DOCUMENTS TO BE SUBMITTED WITH THE BID**

Bidder has to mandatorily fill in the checklist mentioned below:-

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

**Seal of the Bidder:**

**Signature:**

**Name**



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**ANNEXURE VI**

**ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT**

*(To be signed and stamped by the bidder)*

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

**Signature & Seal of the Bidder**



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**ANNEXURE VIIa**  
**SCOPE OF WORK AND SERVICE LEVEL AGREEMENT**

N/A

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## **ANNEXURE VIIa**

### **PREFERENTIAL NORMS FOR PROCUREMENT FROM MSMEs REGISTERED IN THE STATE OF ODISHA**

#### **1. Tender Fees**

To participate in the tender, MSMEs registered in the State of Odisha shall pay Rs.1,000/- including GST towards cost of tender paper.

#### **2. Earnest Money Deposit (EMD)**

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

#### **3. Qualification Requirement for Open Tenders**

Qualification Requirement of Financial Turnover for MSME registered in the State of Odisha shall be reduced to 20% of the existing criteria.

For past experience, instead of relying on the volumes / value of earlier Supplies / Projects, assessment of the Bidder shall be done on the basis of feedback from Customers. Past performance experience at Tata Power and its Group Companies shall supersede feedback from other Customers.

#### **4. Reservation for MSME**

It shall be mandatory to procure at least 20% of the total volume of the procurement from MSME registered in the State of Odisha (however, it shall not apply where goods/services are not available with the MSME), subject to matching L1 discovered prices and meeting technical specifications including quality requirements.

#### **5. Performance Bank Guarantees**

Performance Bank Guarantee for MSME registered in the State of Odisha shall be 25% of the value normally prescribed.



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**ANNEXURE VIII**  
**GENERAL CONDITIONS OF CONTRACT**

**Attached:** General Conditions of Contract for Composite Orders

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## ANNEXURE IX

### SAFETY POLICY AND SAFETY TERMS AND CONDITIONS

#### 1. Objective

The Tata Power engages contractor workforce to execute, run and maintain various operating sites and facilities across locations for various business verticals including Generation, Transmission, Distribution and Renewable. The activities range from project execution, operation, maintenance to facilities management.

The management of contractor safety represents a significant challenge for management. Tata Power has a responsibility to ensure that contractors are provided with enough information and support to enable them to conduct their roles safely and without endangering health and safety of their own workforce or that of our staff.

To ensure reduction in reportable injuries and achieve goal of zero accidents, first edition of contractor safety code of conduct was launched successfully in the year 2014. Since last four years after the launch of CSCC, Tata Power could achieve the objective of reduction in reportable injuries and fatalities.

Over the period, as the system was being matured, a need was felt to make second revision of the CSCC process. Objective of second revision is improve existing CSCC system and make it user friendly.

2. **Scope:** This procedure applies to all operating and project sites of The Tata Power Company Ltd and Group companies including new businesses like EV charging, Home Automation etc.

#### 3. Definitions

- 3.1. **Order Manager:** Order Manager is the Tata Power representative, who has the ownership of the given job.
- 3.2. **Site Safety Management Plan:** It is the safety plan agreed between Contractor and Tata Power. It will contain the entire job specific safety requirement and will be signed by the contractor.
- 3.3. **Contractor:** An individual or a company that provides services to Tata Power under a signed contract.
- 3.4. **Emergency:** a serious, unexpected or dangerous situation requiring immediate action, which may result in loss of revenue/property, business discontinuity. In case of Emergency\*, services may be procured by selecting the qualified vendor based on the vendor category without the safety bid evaluation. It must be approved by MB level and above.
- 3.5. **Expert Service jobs:** Jobs which needs expert services of contractor which does not involve direct exposure to the potential risk or work which involves only supervisory work such as expert for turbine overhaul, expert for boiler overhaul, expert for pump and motor, expert for compressor overhaul.



- 3.6. Head of the Division:** Business in charge of the division who is overall custodian of the generating station or transmission division or distribution division.
- 3.7. Category A Vendor:** Vendor eligible to carry out Very High & High risk (as per Tata Power Hazard Identification and Risk Analysis Procedure) and /or Long-Term Contract related to operation and maintenance (O&M) of plant. Vendors must fulfil the requirement specified for Category A in Appendix 12-CSMF-5 of this document.
- 3.8. Category B Vendor:** Vendors eligible to carry out technical jobs, that are classified under Medium /low risk. Vendors must fulfil the requirement specified for Category B in Appendix 12-CSMF-5 of this document.
- 3.9. Category C Vendor:** Vendors eligible for to carry out low or very low risk administrative and office jobs. For this he must fulfil the requirement specified for Category C in Appendix 12-CSMF-5 of this document.
- 3.10. Category D Vendor:** All Consultants, Medical Practitioners or vendors taking job from Tata Power and working from their own premises (e.g. motor rewinding at vendor's shop floor, equipment sent for repair to vendor's works etc.) are classified as Category D Vendor
- 3.11. High Risk Jobs:** A Job or its activities are considered as Very High or High Risk when Order manager apply the "Tata Power Hazard Identification and Risk Analysis" procedure and found safety risk associated with are under Very High or High category. Indicative lists of jobs are given in appendix 15 of this document.
- 3.12. Medium Risk Jobs:** Jobs or its activities are considered as medium risk when Order manager apply "Tata Power Hazard Identification and Risk Analysis" procedure and found the same as Medium Risk.
- 3.13. Low Risk Jobs:** Any job or its activities are considered as Low or Very low risk while Order manager, calculate it by applying "Tata Power Hazard Identification and Risk Analysis" procedure and found it under Low or Very Low category.
- 3.14. Long Duration Jobs:** When the duration of job is 12 months or more, it is considered as Long duration job
- 3.15. High Value Jobs:** When the value of the job contract is Rs. One Crore or more it will be considered as High value job.

## 4. Responsibilities

**4.1 Order Manager:** Order Manager is the Tata Power representative, who is responsible for:

- 4.1.1 Finalizing the Site Safety Management Plan along with Contractor, Safety Concurrences Group, Divisional Safety Head and Expert (External or Internal) if required.
- 4.1.2 Supervise and ensure work is carried out as per the Site Safety Management Plan including agreed Risk Assessment (HIRA/JSA) and Method Statement.
- 4.1.3 Conduct audit and evaluate Safety Performance of contractor.
- 4.1.4 Ensure contractors adhere to all statutory provisions.
- 4.1.5 In case any deviation is needed in agreed safety management plan or in CSCC process for execution of job, Management of Change procedure will be applicable, and approval may be obtained from divisional head /Cluster head.

**4.2 Contractor:** The person, entity or organisation who is executing the job for Tata Power under a contractual agreement and will be responsible for the following

- 4.2.1 To follow all Tata Power Critical Safety Procedure, Rules and guidelines given in Safety Terms and Conditions
- 4.2.2 Undertake job as per [Site Safety Management Plan CSM-F10](#) and method statements agreed with Tata Power.
- 4.2.3 Raise any concerns with regard to their work and its safety with the Tata Power Order Manager.
- 4.2.4 Report all injuries, near misses, unsafe acts/conditions, and occurrences to the Tata Power Order Manager immediately.
- 4.2.5 Ensure that all sub-contractors follow the Tata Power Safety Procedure and agreed [Site Safety Management Plan CSM-F10](#).
- 4.2.6 To follow all statutory requirements as per the laws of the land.
- 4.2.7 All vendors applying for A category jobs or submitting quote for high risk jobs shall obtain certificates of ISO 9001, ISO14001 and ISO45001 before submitting quote for high risk Jobs.

**4.3 Safety Concurrence Group:** It is Cross Functional Team constituted by Corporate Safety Team, which will have representatives from Execution department, Divisional safety and Corporate / Divisional contracts. SCG will be responsible for the following

- 4.3.1 Assessment of Safety Potential of new vendor before registration as per [CSM-F1-Safety Category Qualification Form](#).
- 4.3.2 Safety Evaluation of the bids as per evaluation format [CSM-F-9 Safety Bid Evaluation Criteria](#)
- 4.3.3 Finalization of the Site Safety Management Plan CSM-F-10 submitted by the contractor.
- 4.3.4 Corporate Safety Team / Cluster Safety Head will be part of SCG during Safety Bid Evaluation for following types of jobs
  - 4.3.4.1 High-Risk jobs to be carried out in Annual Overhaul / Major Shutdowns and Outages.
  - 4.3.4.2 Capex jobs of High-Risk Category



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### **5.1 Vendor Registration**

For Vendor Registration, Corporate Contract will issue following documents for evaluation of contractor's safety capability

- 1) [CSM-F1 –Safety Category Qualification Form](#)
- 2) [Safety Terms and Conditions](#)

The document [Safety Terms and Conditions](#) provides the information about Tata Power safety System to the contractor. Contractor will submit the [CSM-F1- Safety Category Qualification Form](#) with all relevant details and documents to Vendor Registration Initiator, which will in turn forward it to Safety Concurrence Group (SCG) for evaluation. The SCG will evaluate the details submitted by the contractor based on a predetermined criteria [CSM-F-5 Safety Potential Evaluation Criteria](#) for Vendor Registration and will determine the category (Category A/B/C/D) for which the contractor will be registered. As mentioned in the above criteria, a site visit may also be organized by SCG prior to registration under Category A and B. In case, the contractor does not qualify the safety criteria, the contractor will not be registered. However, he may apply afresh for registration after 6 months. Please refer [Appendix 1: Process Flow Chart for Vendor Registration](#).

### **5.2 Bid evaluation**

At the time of placing the Purchase Requisition (PR), Order Manager is required to declare the risk involved in the of the job (i.e. High Risk / Medium Risk / Low Risk jobs, based on the RPN in HIRA. If the Job is “High Risk” or “Long Duration”, then RFQ will be attached with following documents:

- 1) [CSM-F7- Blank Safety Competency Form](#)
- 2) [CSM-F8 PPE requirements](#)
- 3) [Safety Terms and Conditions](#)
- 4) [Job Specific Safety Requirement \(Educational and Professional Qualification, Skill & Experience Manpower, Tools and Tackles \(e.g. man lifter, use of drone, use & availability of rescue kit\), Work Methodology etc.\)](#)

Otherwise the RFQ will be attached only with [Safety Terms and Conditions](#). Long term and low value jobs (see definition) are exempted from the CSCC process.

Corporate Contracts will collect duly filled [CSM-F7 Safety Competency Form](#) along with the bid. All other stakeholders will also put their efforts to get all relevant safety data during meeting / discussions with the vendor. SCG will evaluate the document as per the [CSM-F9 Safety bid evaluation criteria](#). If any specific condition related to Contract is required to convey to contractor, Site safety team will attach the same as Annexure for specific conditions of job and submit it to contract team along with safety bid evaluation form. Commercial bid of contractor will be considered for evaluation by contract team only if contractor is qualified in safety bid. Site Safety Management Plan, defining the complete procedure of executing the job at site will be signed by the contractor and SCG after mutual agreement. CC will attach a copy of site safety Management Plan and any specific condition of contract along with PO to the successful bidder. Please refer [Appendix 6: Process Flow Chart for issuing RFQ and PO significant health and safety risk associated with it](#).



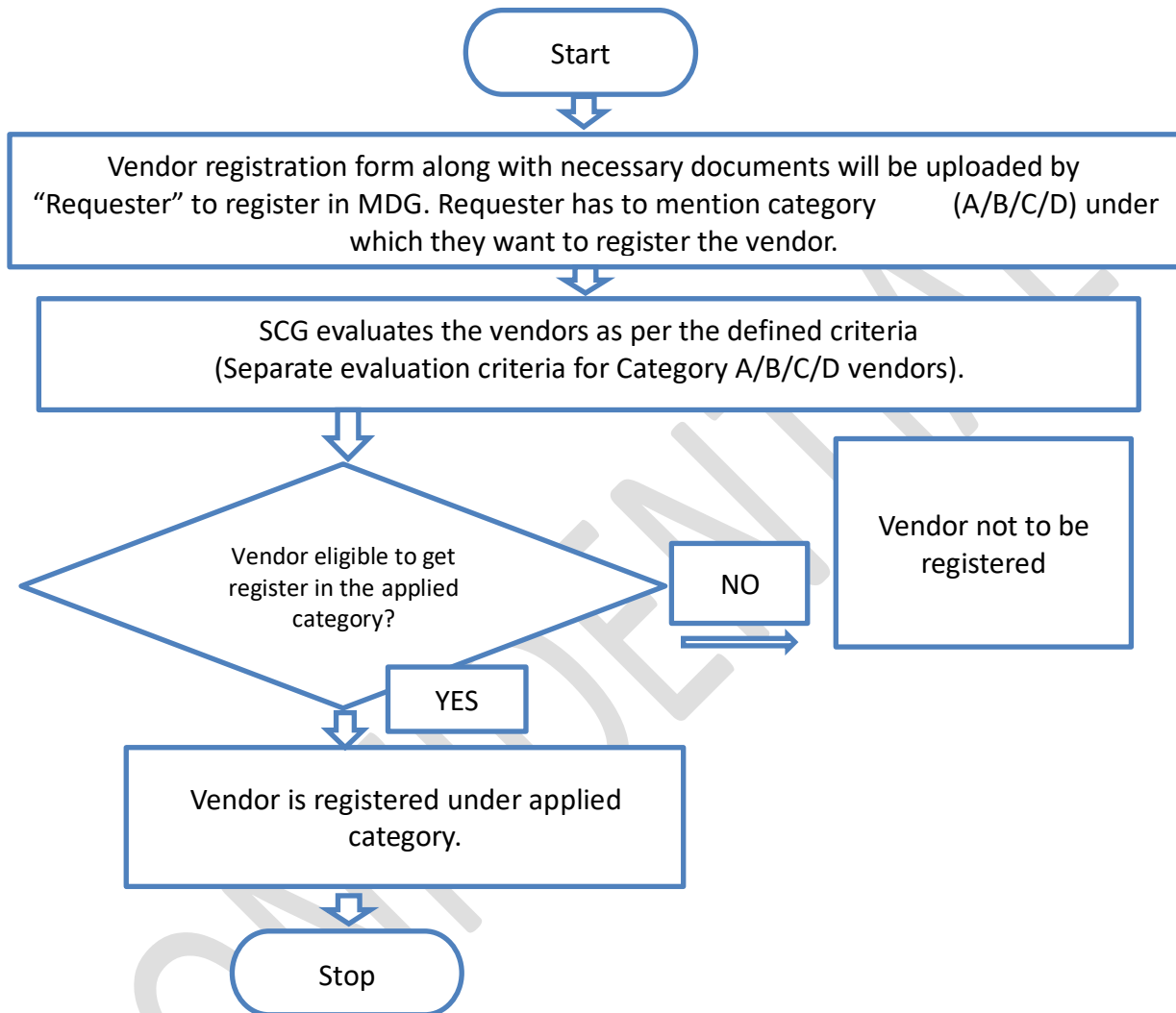
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### **5.3 Safety Performance Evaluation**

During the time of job execution, regular site inspection will be carried out by the Tata Power officials and violations will be dealt as per [CSM-F4 Safety Violation Penalty Criteria](#). Apart from this, monthly safety performance of the contractor will be evaluated based on the predetermined criteria as per [CSM-F11 safety Performance Score](#) and monthly score will be maintained by the Order Manager. Certain percentage of each running bill will be retained as Safety Retention amount and will be released on the basis of Safety Performance Score at certain intervals as defined in [CSM- F-3- Safety Performance Evaluation Criteria](#). Please refer [Appendix 10: Process Flow Chart for Safety Performance Evaluation](#). Percentage of retention amount is mentioned in safety terms and conditions.

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## Appendix 1: Process Flow Chart for Vendor Registration





## Appendix 2: CSM-F-1 Safety Category Qualification form

1. "Safety Category Qualification Form" is part of vendor registration form. It needs to be filled by the contractor at the time of Registration and should be submitted to Requester / order manager with all relevant documents.
2. The same will be evaluated by Safety Concurrence Group of the Division (SCG) as per the criteria given in CSM-F-5.
3. Information provided by contractor will be verified during site visit.

### Safety Category Qualification Form

**Please consider my application for**

**Category A Vendor: Vendor eligible to carry out Very High- and High-risk O&M jobs**

**Category B Vendor: Vendors eligible to carry out technical jobs, classified as Medium / low risk**

**Category C Vendor: Vendors eligible for to carry out low or very low risk administrative and office jobs**

**Category D vendor: All Consultants, Medical Practitioners or vendors taking job from Tata Power and working from their own premises.**

Name of the Vendor:						
Sr. No	Safety Information	Remarks	Attachment			
1	Certified for i. OHSAS 18001/ ISO 45001, ii. ISO: 14001 iii. ISO: 9001 (ISO certificates to be issued from reputed accreditation agencies specified by Tata Power)	i. Y/ N ii. Y/ N iii. Y/ N	Attach copy of the certification			
2	Safety Statistics for Last Three (3) Years - LTIFR - LTISR	Yes/No		Year 1 (Last FY)	Year 2	Year 3
			LTIFR			
			LTISR			
3	Do you have Safety Policy?	Yes/No	Attach copy of the safety policy.			
4	Do you have Safety training process?	Yes/No	Attach safety training process.			
5	Do you have Safety organization structure e.g. Safety Officers and Safety Committees?	Yes/No	Attach copy of the safety organization structure.			
6	Name and address of sites where work is in progress or worked earlier	Yes/No	Site details to be attached for inspection by Officials.			

Signature :

Name and Designation :

Stamp of Organization :

## Appendix 3: Safety Terms and Conditions

Please refer the attached document [Safety Terms and Conditions](#).

### Appendix 4: CSM- F-3- Safety Performance Evaluation Criteria

1. A certain percentage of the bill value will be retained against every running bill as safety performance retention. The amount will be released with the last invoice or every six-month based on Safety Performance Score of contractors. The retention amount will be calculated based on contract value as below.

Contract Value	Retention Amount (%)
Up to 10 Lakhs	2.5
10 – 50 lakhs	2
0.5 to 10 Cr	1.5
>10 Cr	1

2. The evaluation criteria include Lead Indicators such as CFSA (Contractor Field safety Audit) score, percentage of workers trained in TPSDI, inspection of critical equipment. Lag indicators such as Fatalities, LWDC and man days lost.
3. The retention amount saved will go to a separate Safety Improvement Fund.
4. For the contract value of more than Rs 1 Cr or contract duration more than 12 months, the retention amount shall be released half yearly based on safety performance. For all remaining contracts, the retention amount will be released with the final bill.
5. Long term jobs with low value (Less than Rs. 1 Cr.) are exempted from the safety retention. Invoice of these type of jobs can be cleared without safety retention.
6. In case of job stoppage due to safety violations / unsafe observations at the site, no time extension shall be given to the contractor, if such delays are attributable to contractor.
7. In case of fatality, limb loss or loss of property, vendor must pay for liability, legal, statutory and additional mutually agreed settlement charges imposed by the appointed committee. This charge is over and above the retention amount.
8. The committee will finalize an amount between 5 -50 lakhs based on factors such as advise by statutory authorities, contract value and impact of accident etc.
9. Safety performance bonus 1% (limiting to 50 lakhs) of the invoice value will be considered at the end of the job if the contractual safety performance score 100%.
10. During the progress of the work, concerned Supervisor/Engineer will visit and inspect the work site regularly and evaluate the safety performance of the contractor based on matrix attached herewith and apply the Consequence management policy as applicable.
11. Order Manager, divisional chief and SBU head have the authority to terminate the contract in case of three consecutive serious violations.

**Safety Performance Evaluation report- CSM-F-3**

	<b><u>Lead Indicators</u></b>	<b>Unit Of measurement</b>	<b>Target</b>	<b>weight age</b>
1	% of Employee certified in TPSDI/Authorized agency	%	50%	10
2	CFSA score (Annexure 6.1)	Average Severity of Violations	1.49	20
3	Monthly inspection completed by contractor for Critical Equipment, lifting Tools & Tackles and hand tools used at site as per Tata Power Checklist	%	80	5
4	Revalidation of Condition of tools, tackles and equipment by Order Manger.	%	100	15
	<b><u>Lag Indicators</u></b>			
1	Number of Fatalities	No.	0	30
2	Number of Lost workday case (LWDC)	No.	0	10
3	Man-days Lost	No.	0	10



## Appendix 5: CSM- F-4 Safety Violation Penalty Criteria

Penalty shall be imposed on the contractors under the following circumstances for breaching the contractual agreements:

S No	Description of violation	Severit	Penalty
1.	Working without Permit	5	5000/-
2.	Untrained (TPSDI) worker on high-risk jobs.	5	5000/-
3.	Unhygienic/Bad condition of PPE	2	250/-
4.	Not following Tata Power Procedure & Standard	4	2000/-
5.	Unsafe Act/Condition of Severity 4	4	2000/-
6.	Unsafe Act/Condition of Severity 5	5	5000/-
7.	No Earthling of Electrical equipment	5	5000/-
8.	Damaged welding cable	5	5000/
9.	Violation of Positive Isolation Procedure (LOTO Not followed)	5	5000/
10.	ELCB of more than 30 mA/ELCB not working	5	5000/
11.	On/Off switch of welding m/c not working	5	5000/
12.	Electric cable tied with metal wire	5	5000/
13.	Leakage found DA hose / cylinder	5	5000/
14.	Use of LPG	5	5000/
15.	Use of IC engine based Three-wheeler at the work site.	5	5000/
16.	Starting the job without Toolbox Talk	5	5000/
17.	Spatter falling on DA hose / Gas-line/ pathways / Equipment	5	5000/
18.	No safety latch in crane hook	5	5000/
19.	Load raised or swung over people or occupied areas of buildings	5	5000/
20.	Persons standing in swing area of construction equipment.	5	5000/
21.	Using damaged slings.	5	5000/
22.	Unstable scaffolding/nonstandard Scaffolding in use	5	5000/
23.	Handrails and mid-rails are missing	5	5000/
24.	Safety Harness not anchored with lifeline/fixed structure	5	5000/
25.	Fall arrestor not provided/ Not being used.	5	5000/
26.	Double lifeline not used for working at height	5	5000/
27.	No rubber mat in Electrical Distribution (DB) room	4	2000/-
28.	Water found accumulated in Electrical Distribution room/near welding machine.	4	2000/
29.	Inserting electric cables into socket, without using plug.	4	2000/
30.	Use of damaged electrical cable/two core cables.	4	2000/
31.	Inflammable material found in Distribution Room / welding areas.	4	2000/
32.	Loose material falling into excavated pit	4	2000/
33.	Water logging into excavated pit /trenches	4	2000/
34.	No / inadequate Barricade	4	2000/
35.	Undercut / cave-in found on sides of excavated pits	4	2000/

36.	Grinding wheel/ Coupling/ Piling winch/other rotating parts without guard	4	2000/
37.	The HMV/Mobile Crane operator does not have a valid HMV driving license.	4	2000/
38.	The loading area is not leveled properly.	4	2000/
39.	Ladder not anchored at top	4	2000/
40.	Opening found in working platform of scaffolding/floor	4	2000/
41.	Inadequate illumination at the working area	4	2000/
42.	Loose material lying on Gantry, platform	4	2000/
43.	Cleaning with Compressed Air.	3	500/-
44.	Gas Cylinders using without cap.	3	500/
45.	Gas Cylinders stored without securing	3	500/
46.	Bringing inside any other chemicals, apart from approved by Safety dept.	3	500/
47.	Using drum for sitting or accessing height.	3	500/
48.	Misusing emergency facilities like fire hydrant line/ hose box/ spray system/ eye wash etc.	3	500/
49.	No provision of Safety net where falling materials or tools may occurs	3	500/
50.	Taking electrical supply from non-designated outlet (other than socket).	3	500/
51.	Restricted gangways due to unwanted materials.	3	500/
52.	Not reporting incident.	3	500/
53.	Entering into restricted area like switch yard/ hazardous storage	3	500/
54.	Work without supervision	3	500/
55.	Parking of vehicle without applying wheel choke at right front-front and left rear-rear wheels other than passenger cars.	3	500/
56.	Heavy Vehicle without helper or co-driver.	3	500/
57.	Not wearing florescent safety jacket at site.	3	500/
58.	People travelling in load body of vehicle.	3	500/
59.	Parking of vehicles at non designated area.	3	500/
60.	Shifting heavy materials without guide ropes.	3	500/
61.	Using other than 24V lamp inside the confined space/Use of other than 24V lamps.	3	500/
62.	Angular loading/ lifting with Crane or hoist.	3	500/
63.	By passing the limit switch/ Safety Interlock.	3	500/
64.	Housekeeping activities on road without proper barricade.	3	500/
65.	Trying to board or alit from running vehicle.	3	500/
66.	Cylinder Valves of Gas cylinders not closed when not in use.	3	500/
67.	Flash-back arrester not used.	3	500/
68.	Hand Trolley wheel found damaged.	3	500/

69.	Guy ropes of required length on both sides of object are not used during movement with load.	3	5/ 00/
70.	Scotch block/wedge not provided, when the vehicle is parked.	3	500/
71.	Suitable Trolley not provided to hold the cylinders.	3	500/
72.	Locked First Aid box	3	500/
73.	Caution boards, danger signs (luminescent /red) along with emergency contact number are not found displayed.	3	500/
74.	Person found jumping barricading tape	3	500/
75.	Stacking of pipes, pile casing, drums without chock blocks/wedges	3	500/
76.	The terrain on which Heavy Equipment/Machinery moves is not reasonably hard.	3	500/
77.	Without Safety Helmet at working sites	4	250/-
78.	Without Crash Helmet (on bikes)	4	500/-
79.	Without Full body double lanyard Safety Harness (for work at height)	5	5000/-
80.	Without Hand gloves - Material Handling, Welding, Cutting,	4	100/-
81.	Without Safety goggles/ face shield - Welding/Cutting /Grinding	5	5000/-
82.	Handling Chemical without PVC Apron	5	5000/-
83.	Smoking in prohibited area (Closed Go-downs, Storage of flammable material, Storage of Gas cylinders)	5	1000/-
84.	Sleeping at Workplace	3	100/-
85.	Driving beyond speed limit	3	1000/-
86.	Seat Belt While Driving (for front seat passengers and driver)	3	500/-
87.	Driving without license	4	1000/-
88.	Heavy Commercial vehicles without reverse horn	3	500/-
89.	Nonfunctional Head light/ taillight and side indicators	3	100/-
90.	Using Mobile Phone During Driving	5	5000/-
91.	Poor visibility of registration number/ without registration number	3	100/-
92.	Broken/ without Side view mirror	3	100/-
93.	Over speeding above specified limit	3	500/-
94.	Broken/ Without Pressure gauge on Oxygen/ LPG / Acetylene cylinder.	3	500/-
95.	Without Flash back arrestor on Industrial Acetylene & Oxygen cylinders.	5	5000/-
96.	Spillage of hazardous material/chemicals during transportation	4	2000/-
97.	Electrical equipment without Earthing/ ELCB/ Double Insulation Cable.	5	5000/-
98.	Lifting Tools & Tackles used without/ expired Test Certificates.	5	5000/-
99.	Housekeeping repeatedly not maintained		

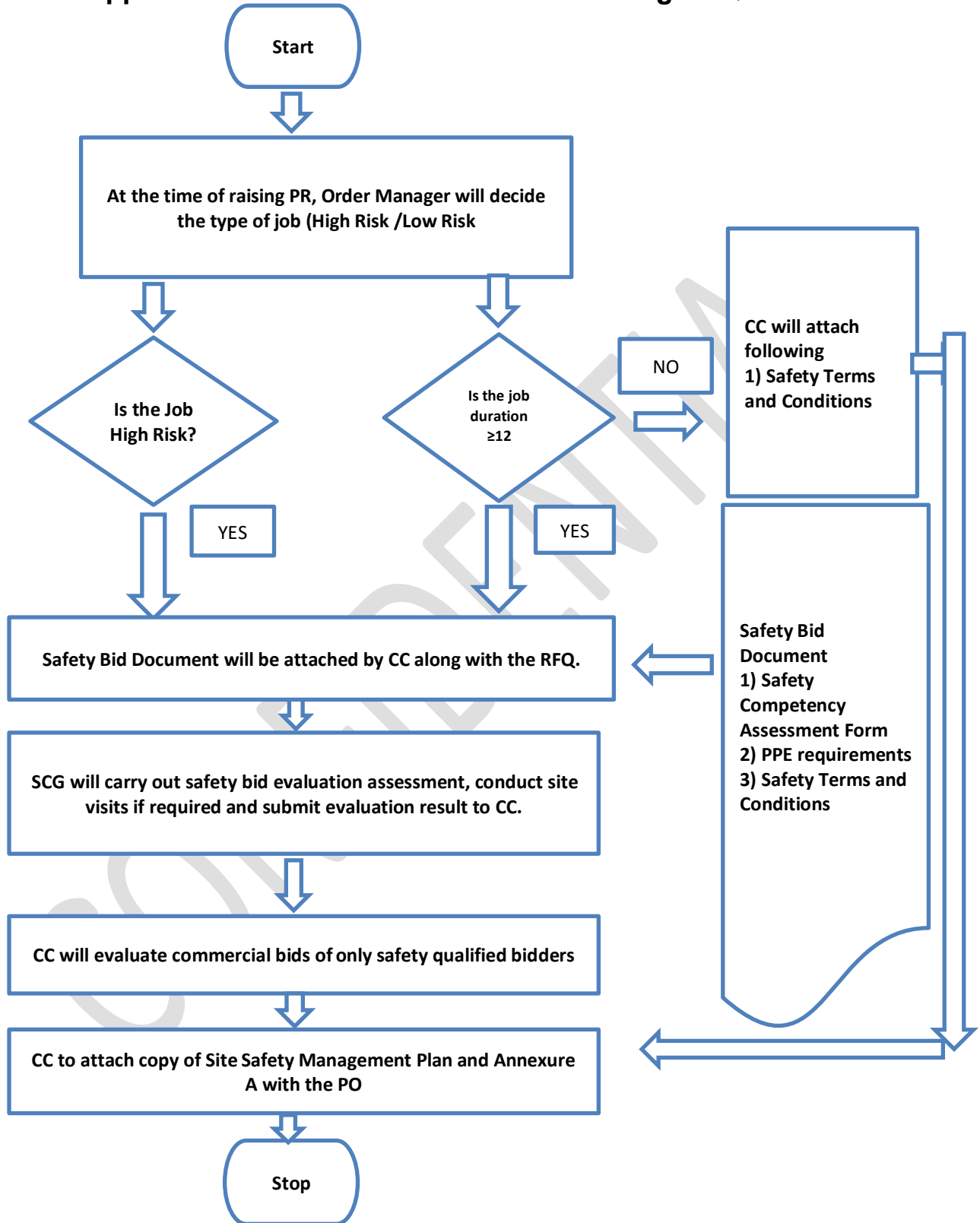


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100.	<ul style="list-style-type: none"><li>• First Time</li></ul>	3	Warning
101.	<ul style="list-style-type: none"><li>• Second Time</li></ul>	4	1000/-
102.	<ul style="list-style-type: none"><li>• Third Time</li></ul>	5	5000/-
103.	Serious Violation of House Keeping (after 1st or 2nd warning to be decided by Project Manager depending on the severity)	5	Rs.10000/- and above
104.	Repeat Violation of same nature	5	5 X Penalty for Violation
105.	Appointment of subcontractor without his Safety Bid Evaluation and/or without the permission of engineer in charge or Order manager.	5	5% of Contract Value

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## Appendix 6: Process Flow Chart for issuing RFQ and PO





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## Appendix 7: CSM-F-7 Safety Competency Form (Template)

Name of the Vendor/Bidder : -

Name of the Sub Vendor (If job is given to Sub Vendor) : -

Description of the Job : -

Request for Quotation (RFQ) No. :-

Vendor/Bidder to mandatorily provide the below safety competency related information.

### 1. Proposed Manpower Deployment Schedule : -

Category of Manpower Deployed	Minimum Qualification & Experience	Proposed Numbers against each category month-wise			
		Month 1	Month 2	...	Month n
Project Manager					
Site-In-Charge (Site Manager)					
Shift-in-Charge					
Safety Officers					
Supervisors					
Technicians					
a.....					
b.....					
Highly Skilled Workmen					
a.....					
b.....					
Skilled Workmen					
Semi-Skilled Workmen					
Unskilled Workmen					
<b>Total Manpower</b>					

#### Instructions to Bidder to fill:

1. Bidder to provide the overall site manpower deployment schedule as above.
2. Bidder to indicate (through colour code mentioned below ) their direct and sub-contracted employees

Direct bidder employee

Partly Direct / Partly sub-contracted

Sub-Contracted

3. Against each of the category, bidder to indicate the minimum qualification and experience of the proposed manpower.
4. Rows can be added to also identify other specialised manpower e.g. specific details to be included for high risk activities operators
5. Columns can be extended to the actual duration of Site activities.
6. Bidder to note that if operations is in shifts, then Shift-in-charge / safety officers are required for each shift of operation.

### 2. List of Tools, Tackles, Machines and Equipment: -

Bidder/ Vendor to provide the list of tools, tackles, equipment **to be used during the job / project execution**. Bidder/Vendor to ensure that all the lifting tools and tackles, pressure

vessels are duly certified by the competent person authorised by the Chief Inspector of Factories of the respective state prior to start of the job

Sr. No.	Description of Tools / Tackles	Capacity / Rating	Quantity	Make	Remarks
1					
2					
3					
4					
5					
6					
7					
...					

**3. Safety Records:**

Bidder to provide the details of fatalities and lost workday cases (LWDC), occurred in last three years (data to be provided for the last completed FY and preceding 2 years).

Description	Safety Data for Last 3 Years		
	Year 1 (Last FY)	Year 2	Year 3
	20__ - __	20__ - __	20__ - __
Fatalities (Nos.)			
Lost Workday Cases (Nos.)			

In case of no fatalities, LWDC during any year, the form may be filled stating NIL against the respective year. Bidders are encouraged to also submit the RCA / incident investigation reports and the learning's implemented out of the above reported incidents

**4. Job Safety Plan/ Method Statement:**

Bidder to provide / enclose a detailed Site/Job Safety Plan along with a Method statement detailing the execution philosophy (how the bidder intends to execute the Job/Project), identifying all key activities which are required to be performed by the contractor at Site. Bidder to also list down all high-risk activities and provide the Hazard Identification and Risk Assessment (HIRA) for all such high-risk activities involved in the site work.

(Use Method Statement template attached as annexure A and sample as attachment B)

**5. Management System Certification: -**

Sr.	Certification	Yes / No	If Yes, Year of Certification	If No, Next date for Certification
	ISO 9001			
	ISO 14001			
	OSHAS 18001 / ISO 45001			
	Any other (please specify.....)			

Note: Please attach certificates to support above. In case not accredited for above but applied for, application letters may be attached.

**Appendix 8: CSM-F-8 PPE requirements**

The Contractor shall ensure that the following PPE of Approved standards shall be available at all time and shall be used by his employees with no exception whatsoever.

1	All contractor's employees at site	Safety Florescent Jacket (orange color), Safety helmet & safety shoes with Composite or steel toe cap
2	Workers mixing asphalt, cement, lime / concrete	Safety goggle & protective Hand gloves and footwear, Nose mask.
3	Welders / Grinders	Welding screen/goggles, safety shoes, leather hand gloves, aprons, leg guard
4	Stone breaker	Protective goggle, hearing protection, anti-vibration hand gloves and Protective clothing.
5	Electricians	Rubber hand gloves & Electrical resistant shoes.
6	Workers engaged in insulation using glass wool etc.	Respiratory mask & leather Hand gloves, goggles.
	Workers engaged in coal handling plant, ash handling plant and working in high dust area.	Dust mask, Hand gloves, protective goggles.
7	Workers working at a height of 1.8 Meter or above.	Double lanyard full body harness, fall arrestor and safety net made of reinforced nylon fiber ropes firmly supported with steel structures

- PPE shall be conforming to BIS/DGMS/DIN specifications, in good condition and shall be comfortable to his employees, when used.





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## Appendix 9: CSM- F-10 Site Safety Management Plan / Method Statement

### Site Safety Plan / Method Statement (Template)

This Method Statement describes the specific safe working methods which will be used to carry out the described work. It gives details of work procedure with control measures to counter health and safety issues related to this work. The listed content of this Method Statement can be changed/modified subjected to job scope / specifications, but task specific method statement once finalized & approved, that should not be modified during work execution without permission from the approving authority.

Project/Job Name		
<b>Scope of work: -</b>		
Drawing References: -		
Detail of Sub contractors involved: -		
Method Statement Prepared By: - Designation: - (e.g. Site Manager)	<u>Signature</u>	<u>Date</u>

**1.0 Introduction** (*Describe purpose of the work, give details of type and scope of work being carried out*);

--

**2.0 Location of Work** (*Give site address and precise location on site where work is to be carried out.* )

--

**3.0 Safety Document /Specific Approval Required** (*Details of any safety documents or specific approval i.e. Client specific approval required to undertake the work*)

**5.0 Role & Responsibilities of Personnel/Parties Involved in activities:** -Clearly define role and responsibilities of all personnel involved in activity i.e. Site management staff including subcontractors' parties- Main contractor Project/Site Manager, Sub Contractor Site Manager, Project Engineer, Safety officer, Competent Supervisory Staff)

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**6.0 Working/Activity Description:** - It is important that all operatives should have clear idea of those operational sequences and responsible supervisor must verify their competency prior to their engagement in operation.

### 6.1 Pre-Working Checks

**6.2 Resources (Equipment, tools including manpower) Details** *i.e. Equipment and Tools, specific operational equipment, test kits, lifting resources, Details of materials to be used in operation, including any reference to COSHH assessments in case of use of any chemicals, Details of the manpower allocated to the task, e.g. titles, qualifications, competences, direct manpower, contractors. Details of plant, tools and equipment to be used for the work, including the availability of relevant statutory documents, checks or inspections etc. Details of fencing, barriers, cones, chains, dangers notices, warning signs etc.*

**Tools required for work:**

Sr.No	Tools /Equipment /Machine	UOM	Required Qty.	Remark
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

**6.4 Operational Sequence of work:** - *Full description of the work, setting out the methodology in a sequential manner, including any reference to any identified operational restraints. Also refer here sec. 5.0 responsibilities part for every step of work sequence).*

Sr.No	Activity	Details of job sequence	Risk Involved	Control Checks








1.				
2.				
3				
4				
5.				

**6.7 Final Checks & restoration of work area after completion of work :-** *Those checks to be carried out by responsible supervisor in witness of his line hierarchy by use of specific checklist of certain operational checks and once those completed satisfactory, PTW (if applicable) to be closed and isolation arrangements to be restored by removing barricades/cautionary tags.*

**7.0 Task Specific Hazards:** - *Refer to Task Specific Risk Assessment and attach in appendix*

**Attachment: - Specific Risk Assessment**

**In addition, please provide below control measures in risk assessment (as applicable).**

<b>Fall Protection Measures: (Where Work at height cannot be avoided)</b>							
<b>Control Measures for Electrical Hazards</b>							
<b>Others Hazard if any (please provide details)</b>							
<b>Hazardous Substances to be used in job : (Attach MSDS if required)</b>	 Acute Toxic	 Health Hazard	 Corrosive	 Dangerous For the environment	 Oxidising	 Highly flammable	 Explosives
	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No	Yes /No


**7.0 Emergency Provisions:** *-Relevant operational possibility of a programme in the case of emergency situation i.e. electrical supply restoration. In addition emergency response provisions i.e. first aiders, fire fighting, and first aid arrangements, nearest onsite/offsite emergency response also to be considered during emergency planning.*

**8.0 "5S issues" / Waste Disposal/ Housekeeping and Environmental issues:** *-Details waste disposal processes and or housekeeping activities, Details of environmental impacts and control measures.*

**9.0 Personal Protective Equipment (PPE):-** *( Tick on PPE requirements for the task/Job*

Required Personnel Protective Equipment:	 Safety Boots	 Hard Hats	 Safety Gloves	 Hearing Protection	 Eye Protection	 Respiratory Protection	Other: 1. Hi-Viz 2. Coveralls 3.
--	---	--	--	--	---	---	---

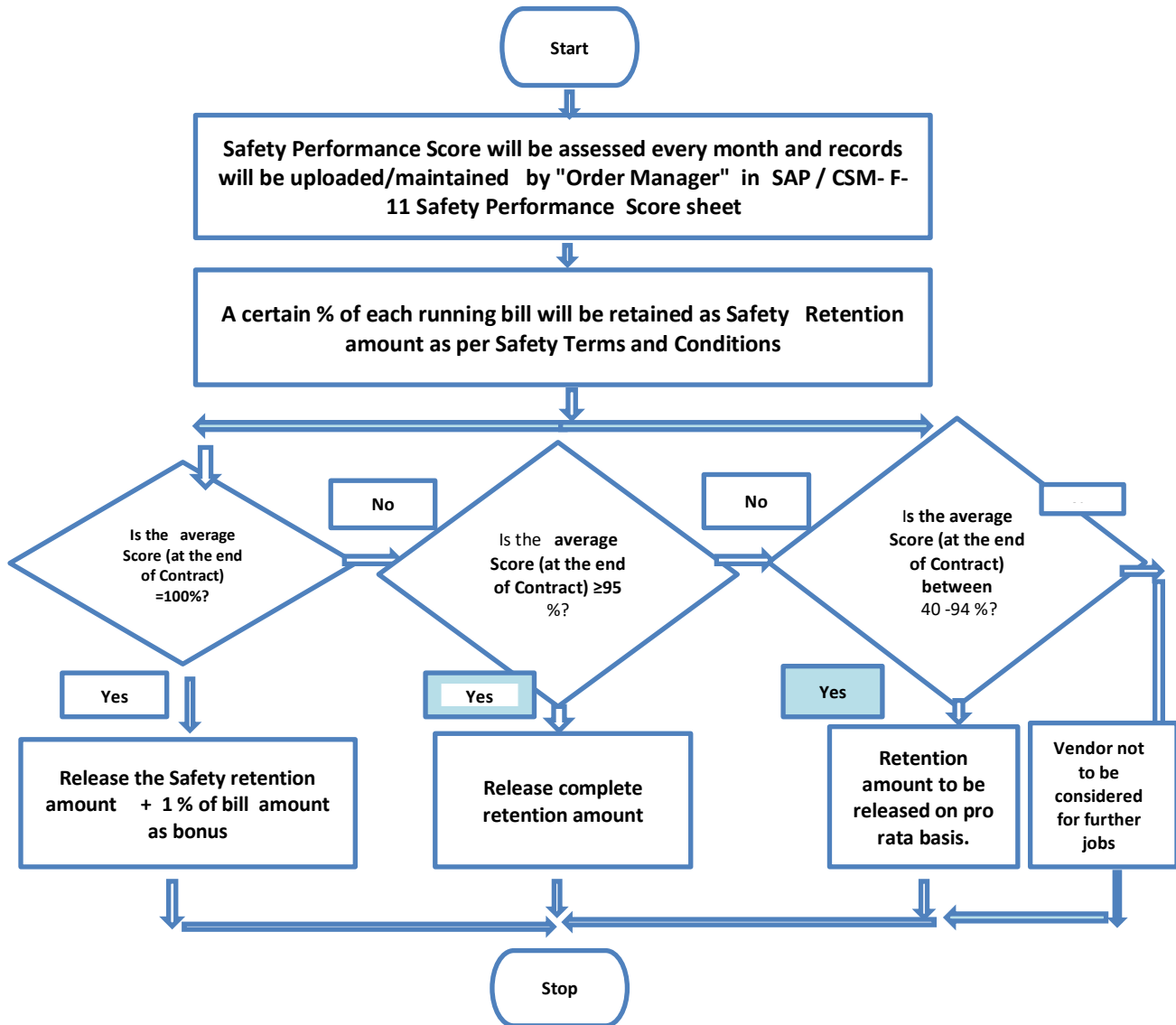
## 10.0 First Aid facilities and Nearby Hospitals Details

	Name of On-Site First Aider:	
	First Aid Box Location:	
	Location of Nearest Hospital:	

## 11.0 Occupational Health, Fitness and COVID-19 related Preparedness:

1. Please give a brief writeup / methodology of your organization planned to avoid impact of the COVID-19 pandemic at Tata Power working site.
2. Please give brief details of occupational health and hygiene related interventions planned by your organisation to ensure good health and fitness of workforce at Tata Power site.

## Appendix 10: Process Flow Chart for Safety Performance Evaluation





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### Appendix 11: CSM- F-11 Safety Performance Score

S. No	Parameter	Unit of Measurement	Target	Weight age	Actual Performance	Actual Score
<b>Lead Indicator</b>						
1	% of Employee certified in TPSDI/Authorized agency	Number	50%	10		
2	CFSA score (Annexure 6.1)	Average Severity of Violations	1.49	20		
3	Monthly inspection completed for Critical Equipment, lifting Tools & Tackles and hand tools used at site	Number	80%	10		
4	Condition of critical tools, tackles and equipment	Number	100%	10		
<b>Lag Indicator</b>						
1	Number of Fatalities	No	0	30		
2	Number of Lost workday case (LWDC) (reportable)	No	0	10		
3	Man-days Lost	Man-days	0	10		
					<b>Final Score</b>	
					<b>Invoice Value</b>	
					<b>Amount to be released</b>	





## Safety Performance Evaluation Criteria

### Lead Indicators

	<b>Target</b>			
% of Employee certified in TPSDI/Authorized agency	50%	100%	Less than 100%	
Score		10	5	
	<b>Target</b>			
CFSA score	<=1.49	1.5 to 2.5	2.51 to 3.5	>=3.51
Score	20	15	10	0
	<b>Target</b>			
Monthly inspection completed for Critical Equipment, lifting Tools & Tackles and hand tools used at site	>=80%	79 to 50%	<50%	
Score	10	7	0	
	<b>Target</b>			
Condition of critical tools, tackles and equipment	100%	<100%		
Score	10	0		

### Lag Indicators

Number of Fatalities	0	>0	
Score	30		0
Number of LWDC (reportable)	0	>0	
Score	10		0
Number of man days lost	0	1 to 5	>5
Score	10	5	0

## Appendix 12: CSM-F-5 Safety Potential Evaluation Criteria for Vendor Registration

At the time of vendor registration, vendor will be registered under 3 categories

- 1) **Category A-** Vendors eligible to carry out High risk Jobs
- 2) **Category B-** Vendors eligible to carry out technical jobs that are low risk
- 3) **Category C-** Vendors eligible to carry out administrative and office jobs
- 4) **Category D-** Outsourced Jobs / Consultants /Medical Practitioners / Suppliers etc

For vendors to be registered under **Category A**, a safety potential evaluation will be carried out based on following parameters.

Sr. No	Description	Weight age (%)	Actual Score	Remarks
1	Does the contractor have a valid ISO 45001/ OHSAS 18001/ Certification?	30		
2	During site visit check for safety adequacy at site	30		Annexure - 12.1
3	Check the Safety statistics of Contractor	10		Annexure - 12.2
4	Check the Safety orientation & training process of Contractor	15		Annexure 12.3
5	Check the organizational structure for safety professionals & engineers / supervisors.	10		Annexure - 12.4
6	Certified/skilled workers as a percentage of overall workforce	5		
	Total	100		

### Evaluation Criteria for Category B

Sr. No	Description	Weight age (%)	Actual Score	Remarks
1	Does the contractor have a valid ISO 9001 certification?	30		
2	During site visit check for safety adequacy at site	30		Annexure -12.1
3	Check the Safety statistics of Contractor	10		Annexure -12.2
4	Check the Safety orientation & training process of Contractor	15		Annexure -12.3

5	Check the organizational structure for safety professionals & engineers / supervisors.	10		Annexure -12.4
6	Certified/skilled workers as a percentage of overall workforce	5		
	<b>Total</b>	<b>100</b>		

### Evaluation Criteria for Category C

Sr. No	Description	Weight age (%)	Actual Score	Remarks
1	Does the contractor have a valid ISO 9001 certification?	40		
2	Check the Safety statistics of Contractor	40		Annexure - 12.2
3	Check the Safety orientation & training process of Contractor	20		Annexure - 12.3
	<b>Total</b>	<b>100</b>		

### Annexure 12.1: Evaluation Criteria for Category D:

Category D does not require any evaluation as it is for outsourced job outside the Tata Power company premise.

### Annexure 12.2

Check List – Adequacy of Safety Statistics of Service Provider				Actual Marks obtained	Remarks
1	Check the safety statistics for last 3 years (LTIFR and LTISR)	Statistics available	Marks 5		
		Statistics not available	0		
2	Check the trend LTIFR for last 3 years	LTIFR value	Marks		
		0 to 0.2	5		
		0.21 to 0.3	2.5		
		>0.3	0		
3	Check the trend of LTISR last 3 years	LTISR value	Marks		
		0 to 2	5		
		2 to 3	2.5		
		>3	0		
4	Has there been any Prosecution/Conviction for any contravention with regard to Safety & Health provisions under the Factories Act /Electricity Act/ BOCW Act and Rules framed there under?	No Prosecution	Marks 10		
		Prosecution	0		
		To be provided in written on letter head			
<b>Total</b>			<b>25</b>		

### Annexure 12.3

Check List – Adequacy of Safety orientation & training process of Service provider			Actual Marks obtained	
1	Records of safety trainings provided to safety officer/supervisor/workmen during last 1 year as percentage(%) of total employed by service provider	<b>Safety Officer</b>	Marks	
		≥80% of employees	5	
		50 to 79 % of employee	2.5	
		<50%	0	
		<b>Safety Supervisor</b>	Marks	
		≥80% of employees	10	
		50 to 79 % of employee	6	
		<50%	0	
		<b>Workmen</b>	Marks	
		≥80% of employees	10	
		50 to 79 % of employee	6	
		<50%	0	
<b>Total</b>			<b>25</b>	

### Annexure 12.4

Check List – Adequacy of organizational structure for safety professionals & engineers / supervisors.			Actual Marks obtained	
1	Check availability of number of safety officers from government recognized institute as per workforce strength.		Marks	
		1 in 50 employees	10	
		1 in 100 employee	6	
		Any other	0	
3	Check availability of qualified workforce from government recognized institute/TPSDI.		Marks	
		100% of safety officers qualified	5	
		50 – 99% of safety officers qualified	3	
		<50	0	
<b>Total</b>			<b>15</b>	

### Appendix 13: CSM-F-9 Safety Bid Evaluation Criteria

The User has to select whether the job is high risk/ long duration at time of raising the PR.

- 1) The decision whether job is “**high risk**” or not has to be made by order manager on the basis of Risk involved (Risk Priority Number in HIRA) of the Jobs. An indicative list of high-risk jobs is attached as annexure
- 2) If a technical job is of low risk with estimated duration of the contract is 1 year or more the job should be treated as “**long duration**”.
- 3) All Safety bids will be evaluated by Safety Concurrence Group. Structure of SCG will be declared by Corporate safety. Corporate safety team will audit bid evaluation process of a few selected jobs and Quality of evaluated safety Bids.
- 4) Records of jobs sent by for Safety Bid evaluation shall be maintained by Corporate Contract team in existing tracing sheet along with other jobs.
- 5) For Safety Bid Evaluation will be based on following parameters.

		Minimum Requirement	Weight age (%)	Score Obtained
<b>Manpower</b>	<b>Safety Officer (1 per 500 workers)</b>	<b>Qualification-</b> Officer shall possess Advance Diploma In Industrial Safety by state technical board. <b>Experience-</b> Minimum 1-year experience in relevant field as mentioned in the job in PR.	5	
	<b>Safety Supervisor (1 per work site up to max. 50 workers)</b>	<b>Qualification-</b> Supervisor shall possess ITI/ Diploma in relevant field. <b>Experience-</b> Minimum 2-year experience in relevant field as mentioned in the job in PR. <b>Training</b> – Trained and certified by TPDSI or equivalent institute in relevant safety procedures. <b>Note:</b> On request of the contractor/Users -TPDSI should vet & certify the skilled & experienced Technician if Technical Qualification is not adequate.	5	
	<b>Technician (Skilled workers as electrician, rigger, fitter, welder, cable jointer, line men etc)</b>	<b>Experience-</b> Minimum 2 year experience in relevant field as mentioned in the job in PR. <b>Training</b> – Trained and certified by TPDSI or equivalent institute in relevant safety procedures.	5	

<b>Tools &amp; Tackles</b>	Equipment / Machines/ Tools & Tackles(lifting and shifting tools)	The list of Equipment /Machines / Tools and tackles to be used for job to be submitted by the contractor. Evaluation of the list will be carried out based on 1) Suitability as per the relevant job 2) Make and age of the tools from authorized agencies defined by the user. 3) Certification by the competent authority of respective state.	<b>30</b>	
<b>Safety Records</b>	Safety Records	Safety Records for last 3 years (as per vendor or as per our knowledge) – Recommendation?	15	
<b>Safety Plan</b>	HIRA/Contract Job Safety Plan	Adequacy of HIRA and Job Safety Plan with respect to relevant job. More weight age will be given to vendor for using mechanized work and advanced tools and equipment	20	
<b>Accredited Bodies certificate</b>	ISO-9001	ISO-9001	2	
	ISO-14001	ISO-14001	3	
	OHSAS 18001 ISO 45000	OHSAS 18001/ISO 45000	15	
		<b>Total Score</b>		

- 6) Vendor entitled to carry out the job only when qualified for the safety evaluation as follows:  
Contractor is qualified in safety bid only if his total score is more than 70% in all category 1 jobs such as high risk/long duration.
- 7) The Corporate Contract has to ensure that the vendor provides the filled “Safety Competency Form” along with the quotation.
- 8) Corporate Contract will forward the Safety Competency Form received from the contractor to the Safety Concurrence Group for evaluation.
- 9) In case SCG wants to visit the site, the Safety Competency will be based on evaluation at the time of site visit Annexure 13.1

**Annexure -13.1:**

<b>Checklist to be used:</b> During site visit to check the adequacy Safety systems.			
		Observation	Score* (1-5)
1	Check the adequacy of safety policy and Safety Management system of the contractor.		
2	Does the contractor have written down safety procedures?		



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3	Check the records of Near miss, unsafe act, unsafe conditions and incidents.		
4	Check the organization setup to implement the safety systems at site (safety officer, safety supervisor)		
5	Check whether safety meeting and toolbox talk carried out regularly and records maintained or not.		
6	Is the process of incident investigation adequate or not?		
7	Verify incident reporting and recording system		
8	Check the usage of equipment/tools and tackles.		
9	Check for housekeeping at site		
10	Check the use of PPEs and general behavior of workforce towards safety		
<b>Total Score</b>			
<b>Site Visit Score</b>			

Score\* - rating on the scale of 1-5 to be given based on the observations on site. Score of 1 is the lowest and core of 5 is the highest.

### Appendix 14: CSM-F-11.1 CFSA Format

CONTRACTOR FIELD SAFETY AUDIT						
Project Name :						
Date:						
Description of Severity rating:			Audit Team:			
	1 = Untidy area, minor issues, sets poor example					
	2 = Restricted access, unacceptable trash, disorderly					
	3 = Rule or procedure violation, potential injury					
	4 = Unsafe condition, serious injury potential					
	5 = Immediate serious injury potential, stop activity immediately and correct		Audit Time:		10:00hrs - 11:30 hrs	
			Weather:		cloudy	
	Description	Responsible	Number Personnel Observed	Violations	Remarks	Leading Indicators



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		Engineer	Contractors	Good Citizens	Violators	Number of Violations	Severity	Violations x Severity	4 & 5	PPE	Unsafe Act	Unsafe Condition
Are												
a												
1												
	Sub Totals			0	0	0	0	0	0	0	0	0
	% of Observed People Working Safely											
	Number of Violations											
	Average Severity of Violations											
	Number of Severity 4 & 5 Violations											
	% of 4 & 5 Violations											
	Approximate Number of Workers Observed											
	Number of People on Site											
	% of Workers Observed											



## Appendix 15: Indicative List of High-Risk Jobs

To access the exhaustive list of High-risk jobs, please refer the following documents

- 1) [High Risk Jobs- Generation](#)
- 2) [High Risk Jobs- T&D](#)
- 3) [High Risk Jobs- Renewable](#)

Indicative List of High-Risk Jobs -Generation Cluster				
Sl. No.	Jobs			
1	Demolition / Painting of Chimney			
2	Survey Sounding Jobs in Sea			
3	Dredging at Coal Birth Jetty			
4	Maintenance / Testing and Replacement of Extra High Voltage (132 KV etc.) Switchyard equipment			
5	Maintenance of EOT Cranes			
6	Deep excavation (5 feet or more) near existing buildings /Structure s			
7	Working inside confined spaces (entry through manhole)			
8	Operation Maintenance of elevators			
9	Working on Live control Circuits for identification of faults			
10	Cable laying and termination Jobs			

Indicative List of High-Risk Jobs - T&D Cluster				
Sl. No.	Jobs			
1	Transmission Line Tower Erection on columns, near live lines, In congested areas, In creeks, In the Sea			
2	Conductor Stringing on Tower Using Tensioner & Puller in the area such as Line Crossing, Near Live lines, Congested Areas, Road Crossing, Bridge Crossing, Railway line Crossing, In creeks ,In the Sea			
3	Cable Pulling by Using winch Machine in City and Rural Areas			
4	Hot Washing of HT and Extra HT lines, Towers and switchyards equipment			
5	Installation of Lifts			
6	Installation of EOT Cranes			
7	Tower Dismantling			
8	Working on H Frame /Pole mounted Transformers			
9	Excavation in operational Area heaving power cables in receiving station			
10	Identification and spiking of cable / disconnection of cables from poles			



NIT No.: TPCODL/P&S/100000496/2023-24

## Indicative List of High-Risk Jobs - Renewable Cluster

Sl. No.	Jobs				
1	Working on Electrical Panels				
2	Hi Potting of Equipment				
3	Battery commissioning and maintenance				
4	Working on the nasal of Wind Turbine				
5	Working on live electrical switchyard, material Handling and Equipment installation				
6	Roof Top Solar Panels Installation and maintenance				
7	Working in live Electrical Switchyard, Material Handling, equipment installation				
8	All maintenance activities that requires climbing on Towers /Structures / Transformer/ GODs				
9	Loading and Unloading of Solar Panels on trucks				
10	Structural Repair /Dismantling work at height.				



NIT No.: TPCODL/P&S/100000496/2023-24

**ANNEXURE X**  
**TATA CODE OF CONDUCT**

The Owner abides by the Tata Code of Conduct in all its dealing with stake holders and the same shall be binding on the Owner and the Contractor for dealings under this Order/ Contract. A copy of the Tata Code of Conduct is available a tour website:

**<https://www.tatapower.com/pdf/aboutus/Tata-Code-of-Conduct.pdf>**

The Contractor is requested to bring any concerns regarding this to the notice of our Chief Procurement & Stores e-mail ID: [pkjain@tatapower.com](mailto:pkjain@tatapower.com).

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**ANNEXURE XI**  
**ENVIRONMENT & SUSTAINABILITY POLICY**



**CORPORATE ENVIRONMENT POLICY**

**Tata Power is committed to a clean, safe and healthy environment, and we shall operate our facilities in an environmentally sensitive and responsible manner. Our commitment to environmental protection and stewardship will be achieved by:**

- Complying with the requirements and spirit of applicable environmental laws and striving to exceed required levels of compliance wherever feasible
- Ensuring that our employees are trained to acquire the necessary skills to meet environmental standards
- Conserving natural resources by improving efficiency and reducing wastage
- Making business decisions that aim towards sustainable development
- Engaging with stakeholders to create awareness on sustainability

A handwritten signature in blue ink, appearing to read 'Praveer Sinha', with a horizontal line underneath.

(Praveer Sinha)  
CEO & Managing Director

Date: 15<sup>th</sup> June, 2018

**TATA POWER**  
Lighting up Lives!





## CORPORATE SUSTAINABILITY POLICY

At Tata Power, our Sustainability Policy integrates economic progress, social responsibility and environmental concerns with the objective of improving quality of life. We believe in integrating our business values and operations to meet the expectations of our customers, employees, partners, investors, communities and public at large

- We will uphold the values of honesty, partnership and fairness in our relationship with stakeholders
- We shall provide and maintain a clean, healthy and safe working environment for employees, customers, partners and the community
- We will strive to consistently enhance our value proposition to the customers and adhere to our promised standards of service delivery
- We will respect the universal declaration of human rights, International Labour Organization's fundamental conventions on core labour standards and operate as an equal opportunities employer
- We shall encourage and support our partners to adopt responsible business policies, Business Ethics and our Code of Conduct Standards
- We will continue to serve our communities:
  - By implementing sustainable Community Development Programmes including through public/private partnerships in and around our area of operations
  - By constantly protecting ecology, maintaining and renewing bio-diversity and wherever necessary conserving and protecting wild life, particularly endangered species
  - By encouraging our employees to serve communities by volunteering and by sharing their skills and expertise
  - By striving to deploy sustainable technologies and processes in all our operations and use scarce natural resources efficiently in our facilities
  - We will also help communities that are affected by natural calamities or untoward incidence, or that are physically challenged in line with the Tata Group's efforts

The management will commit all the necessary resources required to meet the goals of Corporate Sustainability.

(Praveer Sinha)  
CEO & Managing Director

Date: 15<sup>th</sup> June, 2018

**TATA POWER**  
Lighting up Lives!



# **STANDARD TECHNICAL SPECIFICATION COVER SHEET**

**Specification No. : ENG-LV-3001**

**Specification Name : ENG-ELC-034- TECHNICAL SPECIFICATION FOR 1.1 KV  
POWER CABLES- R1**

<b>JYOTIPRAKASH MOHANTY</b>	<b>Ranjan Kumar Sahoo</b>	<b>SHANTAPRIYA JENA</b>	<b>SATYA PRASAD NAYAK</b>	<b>VARUN BHATNAGAR</b>	<b>VARUN BHATNAGAR</b>
Prepared by	Reviewed by	Reviewed by	Reviewed by	Approved by	Released by
TPWODL	TPSODL	TPNODL	TPCODL	TPWODL	TPWODL
16-01-2023	16-01-2023	16-01-2023	17-01-2023	17-01-2023	17-01-2023

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TPWODL*

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**1. SCOPE:**

This specification covers the technical requirements of design, manufacture, testing at manufacturer's work, packing, forwarding, supply and unloading at site/store of 1.1 kV LT XLPE Power Cable for trouble free and efficient operation.

Applicable for 1.1 kV LT XLPE insulated Power Cable of following sizes:

<b>Four Core Cables</b>	<b>Two Core Cables</b>	<b>Single Core Cable</b>
4C X 300 sq.mm.	2C X 50 sq. mm.	1C X 630 sq. mm.
4C X 240 sq. mm.	2C X 25 sq. mm.	1C X 300 sq. mm.
4C X 150 sq.mm.	2C X 16 sq. mm.	1C X 185 sq. mm.
4C X 95 sq.mm.	2C X 10 sq. mm.	1C X 150 sq. mm.
4C X 50 sq.mm.	2C X 6 Sq. mm.	1C X 95 sq. mm.
4C X 35 sq.mm.	2C X 4 Sq. mm.	1C X 25 sq. mm.
4C X 25 sq.mm.		1C X16 sq. mm.
4C X 16 sq.mm.		1C X 4 sq. mm.
4C X 10 Sq.mm.		1C X 2.5 sq. mm.

**2. APPLICABLE STANDARDS:**

LT 1.1 kV Cable covered by this specification shall unless otherwise stated, be designed, manufactured, and tested in accordance with latest revisions of relevant Indian Standards/ IEC/ International Standards and shall conform to the regulations of local statutory authorities.

<b>Standards</b>	<b>Title</b>
IS-7098 (Part-I)	Specifications for Cross Linked Polyethylene PVC Sheathed Cables: Part 1-For Working Voltages up to and including 1100 Volts
IS-8130	Conductor for insulated electric cables & flexible cords.
IS-5831	PVC insulation and sheath of electric cables.
IEC-60228/3-	Conductor of insulated cables
IS 10810	Methods of tests for Cables
IEC-60502-1	Specification for power cables with extruded solid insulation with a rated voltage rating between 1 kV and 3 kV
IS-3975	Low carbon galvanized steel wires, formed wires & tapes for armouring of cables
IS 10418	Specification for Drums of Electric cables
IS 3961 Part 6	Recommended Current Ratings for Cables – XLPE insulated PVC sheathed cables
IS 4826	Hot-dipped galvanized coatings on round steel wires
IS 1554 (Part-1)	PVC insulated (heavy duty) electric cables
IEC 332-1	Test on electric cables on fire conditions
IS 10462-1	Fictitious calculation method for determination of dimensions of protective coverings of cables
ICEA T-31-610	Test method for conducting longitudinal water penetration resistance tests on blocked conductors
ASTM 2863	Oxygen Index Test
IEC 60754	Test on gases evolved during combustion of materials from cables - Part 1: Determination of the halogen acid gas content

*\*In case of any conflict on any technical particular in the specification, the stricter requirement*



*mentioned in the relevant standard shall be valid.*

**3. CLIMATIC CONDITIONS:**

SL.NO.	CONDITONS	VALUES
1	Max. altitude above sea level	1200m
2	Max. Ambient Temperature	50 °C
3	Max. Daily average ambient temp	35 °C
4	Min Ambient Temp	0 °C
5	Maximum temperature attainable by an object exposed to sun	60 °C
6	Maximum Humidity	95%
7	Minimum Humidity	10%
8	Average No. of thunderstorm days per annum	70
9	Average Annual Rainfall	150 cm
10	Average No. of rainy days per annum	120
11	Thermal Resistivity of soil	150 Deg. Ccm/W
12	Wind Pressure	126 kg/sq. m up to an elevation of 10 meter.
14	Earthquakes of intensity in horizontal direction	equivalent to seismic acceleration of 0.3g
15	Earthquakes of intensity in vertical direction	equivalent to seismic acceleration of 0.15g
16	Wind velocity	300 km/hr.

Environmentally, some of the regions where the work will take place include coastal areas, subject to high relative humidity, which can give rise to condensation. Onshore winds will frequently be salt laden. On occasions, the combination of salt and condensation may create pollution conditions for outdoor insulators. Some places are in heavily industrial polluted areas. Therefore, outdoor material and equipment shall be designed and protected for use in exposed, heavily polluted, salty, corrosive and humid coastal atmospheres.

The atmosphere is generally laden with mild acid and dust in suspension during the dry months and is subjected to fog in cold months. The design of equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration as mentioned in above table.

**4. GENERAL TECHNICAL REQUIREMENTS:**

S. No.	Parameter	Requirement		
1	Voltage level	1.1 kV (Earthed System)		
2	Nominal System voltage	415 V- 433V		
3	Supply frequency	50 Hz		
4	Variation in supply frequency	± 5%		
5	Types of Cables	4 core (3 phase + 100% neutral), 2 core (1 phase + 100% neutral), 1 core (1 phase)		
6	<b>Cable components</b>	<b>4 CORE CABLE</b>	<b>2 CORE CABLE</b>	<b>1 CORE CABLE</b>
	<b>Conductor</b>	Less than 150 sq.mm.		Stranded Aluminium
		150 sq.mm. and above		Watertight Stranded Aluminum
	<b>Insulation</b>	XLPE		
	<b>Core identificationn strip</b>	As per Clause No. 5. III of ENG-LV-3001	NA	
	<b>Inner sheath</b>	Extruded PVC ST-2 type	NA	
	<b>Armour</b>	Annealed low carbon heavily coated galvanized steel round wires	NA	
<b>Outer sheath</b>	PVC FRLSH ST-2 type			

**5. GENERAL CONSTRUCTION:**

The cross-linked polyethylene insulated (XLPE) 1.1 kV cable (Sioplas/ self-cured) shall be manufactured and tested strictly in accordance with the Indian Standard IS 7098 (Part – 1)/ relevant IEC/International standards and their latest amendments. All material used in the manufacturing of cables shall be virgin and shall be selected as the best available for the intended use. The rating factors for variation in ground and air temperature, depth of laying, thermal resistivity of soil and for different laying configuration of cables shall be provided by the bidder

**I. CONDUCTOR:**

S. No.	Parameter	Requirement			
1	Material	Plain Aluminium, grade H2/H4 as per IS 8130			
2	Class	Class II			
3	Shape	<b>No. of Cores</b>		<b>Size of cable</b>	<b>Shape</b>
		Single Core Cable		2.5 sq.mm. 4 sq.mm.	Stranded Non-Compacted Circular
				16 sq.mm. and above	Stranded Compacted Circular
		Two Core Cable		10 sq.mm.	Stranded Non-Compacted Circular
				16 sq.mm. and above	Stranded Compacted Shaped
		Four Core Cable		10 sq.mm.	Stranded Non-Compacted Circular
16 sq.mm. and above	Stranded Compacted Shaped				
4	No. of strands & electrical parameters	Nominal size of conductor mm <sup>2</sup>	Min. number of strands	Max. DC resistance  @ 20 deg C  (Ohm/km)	Conductor Short circuit current rating for  1 second(kA)
		2.5	3	12.1	0.235
		4	3	7.41	0.376
		6	3	4.61	0.564
		10	7	3.08	0.94
		16	6	1.91	1.50
		25	6	1.20	2.35
		35	6	0.868	3.31
		50	6	0.641	4.70
		95	15	0.320	8.93
		150	15	0.206	14.2
		185	30	0.164	17.39
		240	30	0.125	22.6

		300	30	0.10	28.20
		630	53	0.0469	59.22
6	Longitudinal water sealing of conductor  (For 150 sq.mm.and above only)	<p>a) Non-conductive water swellable yarn/tape/ combination of both shall be provided in between interstices of the conductor.</p> <p>b) Water swellable tape and yarn shall be compatible to withstand conductor continuous temperature of 90 deg C and short circuit temperature of 250 deg C without any decay.</p> <p>c) It shall not affect the electrical conductivity of the conductor.</p>			
7	Cleanliness and uniformity	<p>a) Before stranding, the cross-section of the Aluminium conductor shall be circular, and shall have uniform smooth surface, free from sharp edges and free from any defects.</p> <p>b) Stranded Conductor shall be free from oil traces &amp; aluminum dust. Conductor (after stranding) shall be super cleaned.</p> <p>c) Traces of aluminum dust on conductor shall not be acceptable.</p>			
8	Raw material supplier	Conductor raw material shall be procured from reputed suppliers viz., BALCO/ HINDALCO/ NALCO/ Vedanta only.			
9	Diameter of conductor  (For single core cable only)	To be specified by bidder			
10	Weight of conductor/km (approx.)	Nominal size of conductor		Min. weight of conductor	
		mm <sup>2</sup>		(kg/km/core)	
		2.5		6.5	
		4		10.4	
		6		15.6	
		10		26	
		16		42	
		25		65	
		35		91	
		50		130	
		95		247	
150		390			
185		482			

		240	625
		300	780
		630	1640

**II. INSULATION:**

S. No.	Parameter	Requirement
1	Material and extrusion process	XLPE insulation shall be applied through extrusion process.
2	Curing process	Curing shall be done by Sioplas/ self-curing method.
3	Min. thickness of Insulation	As per Table no. 3 of IS 7098 part 1. Tolerance on thickness shall be as per Clause no. 9.3 of IS 7098—Part 1
4	Raw material supplier	(i) XLPE compound shall be super cleaned and procured from reputed raw material suppliers viz., Dow, Borealis, Hanwa Kalpana, KLJ only. (ii) XLPE compound from cable manufacturer may be considered only after evaluation of the compound manufacturing process.
5	Thermal stability	The insulation properties shall be stable under thermal conditions arising out of continuous operation at conductor temperature of 90 deg. C rising momentarily to 250 deg. C under short circuit conditions.
6	Insulation fitting to the conductor	(i) Insulation shall fit tightly to the conductor and shall be applied concentrically about the conductor in thickness consistent with the voltage classification. (ii) The insulation shall be so applied that it shall be possible to remove it without damaging the conductor.
7	Weight of core	To be specified by bidder

**III. CORE IDENTIFICATION**

<b>4C Cable</b>	Core color: 'red' for R phase, 'blue' for B phase, 'yellow' for Y phase & 'Black' for Neutral.
<b>2C Cable</b>	Core color: 'red' for phase, & 'Black' for Neutral.
<b>1C Cable</b>	For single core cable, XLPE insulation shall be black in colour.

#### IV. LAYING UP OF CORES

<b>Laying up</b>	(i) Cores shall be laid up together as per table-4 of Clause 11.2 of IS 7098, Part-1. (ii) Where necessary, the interstices shall be filled with non-hygroscopic material.
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#### V. INNER SHEATH (For Multi core cables only)

S. No.	Parameter	Requirement
1	Material	Black coloured Polyvinyl chloride (PVC) type ST-2 compound.
2	Thickness	(i) The sheath shall have adequate thickness, mechanical strength and elasticity, as per IS 5831. (ii) Min. thickness of inner sheath shall be as per Table no.5 of IS 7098 part 1. (iii) For 2 Core: Inner sheath shall be applied by pressure extrusion method. For 4 Core: Inner sheath shall be applied by normal extrusion process.
3	Raw material supplier	<b>PVC compound shall be procured from reputed raw material suppliers viz., Shakun, Kalpana, KLJ, DCM ShriRam, PVC compound from cable manufacturer may be considered only after evaluation of the compound manufacturing process.</b>

#### VI. ARMOUR (For Multi core cables only)

S. No.	Parameter	Requirement	
1	Material	Annealed (soft) low carbon hot dipped heavily coated galvanized round steel wires.	
2	Compliance to Standard	It shall comply with the requirements of IS 3975 along with the latest amendments. Hot dipped galvanizing layer shall be uniform on low carbon annealed steel wires. Zinc coating shall be heavily coated as per IS 4826:1979.	
4	Approx. Armour Short circuit rating of armour for 1 sec (kA)	Area of Conductor (sq.mm.)	Short circuit rating of Armour for 1 sec (kA)
		4	1.37
		6	1.53
		10	1.88
		16	2.54
		25	3.17

		35	4.30
		50	5.22
		95	6.97
		150	10.98
		240	13.92
		300	16.18
5	Jointing in the armour wires	Not acceptable in any armour wire	
6	Laying of armour	The armor wires shall be applied as closely as practicable. Shall not be less than 90% of total circumference.	
7	Binding	Rubberized cotton binding tape shall be applied to bind the armor wires such that it shall not affect the electrical properties of the armor wires and the overall cable.	
8	Weight of armor Kg/km	To be furnished by Bidder	
9	Raw material supplier	Armour steel shall be procured from reputed raw material suppliers viz., TATA Steel, Jindal Steel, SAIL, Bansal (BWIL)	

## VII. Outer Sheath

S. No.	Parameter	Requirement
1	Material	Polyvinyl chloride (PVC) ST-2 <b>FRLSH</b> type compound (as per IS 5831) with ' <b>lead naphthenate</b> ' additive.
2	Configuration	Polyvinyl chloride (PVC) ST-2 <b>FRLSH</b> type compound with ' <b>lead naphthenate</b> ' additive as 'termite & rodent repellent' shall be applied by extrusion process. The outer sheath shall have adequate thickness, mechanical strength and elasticity, as per IS 5831. Thickness of outer sheath shall be as per Table no. 8 of IS 7098 part 1.
3	Colour	Blue, colour code: 103 as per IS 5:2007.
4	Surface uniformity	(i) The outer sheath shall be ultraviolet protected for operation in direct sunlight. (ii) Surface of outer sheath shall be free from cavity/ nicks/ other visible defects.

5	Raw material supplier	<b>PVC compound shall be procured from reputed raw material suppliers viz., Shakun, Kalpana, KLJ, DCM ShriRam</b>
		PVC compound from cable manufacturer may be considered only after compound manufacturing process evaluation.
6	Weight of outer sheath kg/km	To be provided by bidder
7	Weight of complete cable Kg/km	To be provided by bidder
8	Overall diameter of cable	To be provided by bidder

#### VIII. Other Requirements

Parameter	Requirement
End seal	Adhesive coated polyolefin heat shrinkable end caps shall be provided on both ends of cable.

#### 6. MARKING:

Wooden drums shall be free from sharp edges and visual defects.

Cable length on one drum shall be:

- (a) 4 Core Cable – 95 sq.mm. to 300 sq.mm. – 500 meters with + 5% tolerance
- (b) 4 Core Cable – 16 sq.mm. to 50 sq.mm. – 1000 meters with + 5% tolerance
- (c) 2 Core & 1 Core Cables – 1000 meters with + 5% tolerance (as per PO terms and conditions)

i. Following details shall be provided on flanges of **drum**:

- a) Manufacturer's name
- b) Type of Cable
- c) Size of Cable
- d) Voltage Grade
- e) Length of the cable on the drum (as per PO terms)
- f) Direction of the rotation of the drum
- g) Gross mass
- h) Country of manufacture
- i) Year and month of manufacture
- j) Purchase Order no.
- k) Drum No.



- ii. The following details shall be **embossed** on the **outer PVC sheath**.

Embossing shall be clearly visible. **At interval of every 1 meter, following details to be embossed:**

- a) Sequential meter marking (**shall be marked through printing**)
- b) Property of TPCODL/TPNODL/TPSODL/TPWODL
- c) Manufacturer name
- d) Month & Year of Manufacture
- e) Voltage grade
- f) Size of the cable
- g) Purchase Order no.
- h) Cable code

## 7. TESTS:

All routine, acceptance & type tests shall be carried out in accordance with the relevant IS/IEC. All routine/acceptance tests shall be witnessed by TPCODL/TPNODL/TPSODL/TPWODL's authorized representative. All the components should also be type tested as per the relevant standards. The following tests shall be necessarily conducted on the 1.1 kV cables in addition to others specified in IS/IEC standards.

### 7.1 ACCEPTANCE TESTS

All acceptance tests mentioned below shall be witnessed by TPCODL/TPNODL/TPSODL/TPWODL's representative during the inspection stage.

S.No.	Test name	Specific value		Test method	
		ClauseNo.	Reference Standard	Clause No.	Reference Standard
<b>(I) Test on Conductor</b>					
1	Conductor resistance test	ClauseNo. 5(A.4)	<a href="#">ENG-LV-3001</a>	10	IS 10810-part 5
2	Test for non-conductivity of water swellable tape/yarn of conductor  (For conductor size: 150 sq.mm. and above)	ClauseNo. 5(A.6)	<a href="#">ENG-LV-3001</a>	Through multimeter	
3	Visual inspection for conductor cleanliness	ClauseNo. 5(A.7)	<a href="#">ENG-LV-3001</a>	Check for presence of any Aluminium dust	

4	Tensile test (non-compacted conductor only)	Clause No.3.1	IS 8130	8	IS 10810-part 2
5	Wrapping test (non-compacted conductor only)	Clause No.6.2.2	IS 8130	8	IS 10810-part 3
6	Conductor water penetration test	ICEA T-31-610			
<b>(II) Test on Insulation</b>					
7	Tensile strength & Elongation at break (before ageing)	Table 1	IS 7098 parts 1	8	IS 10810-part 7
8	Insulation thickness	Table 3	IS 7098 parts 1	8	IS 10810-part 6
9	Depth of embedded, extruded colourline (For multi-core cable only)	Max depth 50% of insulation thickness	<a href="#">ENG-LV-3001</a>	Through profile projector/ magnifying optical scale	
10	Brightness of embedded, extruded colourline (For multi-core cable only)	Clause No. 5.C	<a href="#">ENG-LV-3001</a>	Visual check from a distance of 1 meter	
11	Hot set test	Table 1	IS 7098-part 1	8	IS 10810-part 30
12	Surface smoothness of insulation	Clause No. 5(B.7)	<a href="#">ENG-LV-3001</a>	To be checked by inspector	
<b>(V) Test on Inner sheath</b>					
13	PVC thickness	Table 5	IS 7098 parts 1	8	IS 10810-part 6
14	Colour of inner sheath	Clause No. 5 (D.1)	<a href="#">ENG-LV-3001</a>	To be checked by inspector	

**(VI) Test on Armour (for multicore cables only)**

15	Tensile test	8	IS 3975	IS 1608
16	Mass of zinc coating	Table 1 Heavily coated soft wire	IS 4826	IS 6745
17	Uniformity of zinc coating	9	IS 3975	IS 2633
18	Adhesion test	9	IS 3975	IS 3975
19	Diameter	Table 6	IS 7098 parts 1	Value to be measured by inspector
20	No. of wires & Coverage %	ClauseNo. 5(E.6)	<a href="#">ENG-LV-3001</a>	Value to be measured by inspector

**(VII) Test on PVC Outer Sheath**

21	Thickness		IS 7098 parts 1	IS 10810 Part 6
22	Tensile strength and Elongation at break (before ageing)	Table 2	IS 5831	8 IS 10810 part 7
23	Colour of outer sheath	ClauseNo. 5 (F.3)	ENG-LV-3001	To be checked by inspector
24	Surface uniformity of outer sheath (onfull drum)/ shall befree from any damage-void, nick, cavity.	ClauseNo. 5 (F.4)	ENG-LV-3001	Through rewinding of drum (As per TPCODL/TPNODL/TPSODL /TPWODL specification)
25	Anti-termite and rodent property test in PVC outersheath	Chemicaltest	As per manufacturer Process/ Method	To be checked by inspector

26	Flammability test	IS 10810-part 61			
27	Oxygen index	IS 10810-part 58			
28	Temperature Index test	IS 10810-part 64			
29	Acid gas generation	IS 10810-part 59			
30	Smoke density	IS 10810-part 63			
<b>(VIII) Tests for complete cable</b>					
31	High voltage test	7.2 kVfor 5 minutes As per Clauseno. 16.2.1	IS 7098 parts 1	8	IS 10810 part 45
<b>(IX) Additional tests</b>					
32	Raw material consumption	Clause No. A.8, B.4, D.3, E.9, F.5	Document verification as proof to be submitted		
		Invoice to be shown from procurement to consumption			
33	Sequential marking check	Clause no. 6.ii	<a href="#">ENG-LV-3001</a>	To be checked by inspector	
34	Cable drumlength verification	Clause no. 6	<a href="#">ENG-LV-3001</a>	To be checked by inspector	
35	Packaging of cable-on-cabledrum	By recyclable PVC sheet- As per Clauseno.12	<a href="#">ENG-LV-3001</a>	To be checked by inspector	
36	End caps	Clause No. G	<a href="#">ENG-LV-3001</a>	To be checked by inspector	

37	Weight of conductor Kg/km	To be checked by inspector
38	Weight of core Kg/km	To be checked by inspector
39	Weight of armour Kg/km	To be checked by inspector
40	Weight of complete cable Kg/km	To be checked by inspector
41	Overall approx. diameter of complete cable	To be checked by inspector

## 7.2 ROUTINE TESTS

Test	Clause No.	Reference Standard
Conductor resistance test	15.3	IS 7098-part 1
High voltage test with power frequency	15.3	IS 7098-part 1

## 7.3 TYPE TESTS

S.No.	Test	Specific value		Test method	
		Clause No.	Reference Standard	Clause No.	Reference Standard
<b>Tests on Conductor</b>					
1	Conductor resistance test	Table 2	IS 8130	10	IS 10810 part 5

2	Conductor water penetration test (For conductor size - 150 sq.mm. and above)	ICEA T-31-610	ICEA T-31-610	4	ICEA T-31-610
3	Tensile strength (For non-compacted conductor)	6.2.1	IS 8130	8	IS 10810 part 2
4	Wrapping test (For non-compacted conductor)	6.2.2	IS 8130	8	IS 10810 part 3
<b>Tests on Insulation</b>					
5	Tensile strength & Elongation at break (Before ageing)	Table 1	IS 7098 part 1	8	IS 10810 part 7
6	Ageing in air oven	Table 1	IS 7098 part 1	8	IS 10810 part 11
7	Tensile strength & Elongation at break (After ageing)	Table 1	IS 7098 part 1	8	IS 10810 part 7
8	Tests for thickness of insulation	Table 3	IS 7098 part 1	8	IS 10810 part 6
9	Hot set test	Table 1	IS 7098- part 1	8	IS 10810 Part 30
10	Shrinkage test	Table 1	IS 7098 part 1	8	IS 10810 part 12
11	Gravimetric test (Water absorption)	Table 1	IS 7098 part 1	8	IS 10810 part 33
12	Volume resistivity/ Insulation Resistance	Table 1	IS 7098 part 1	8	IS 10810 part 43
<b>Tests on Inner Sheath</b>					

13	PVC thickness	Table 5	IS 7098 part 1	8	IS 10810 part 6
<b>Tests on Outer Sheath (PVC)</b>					
14	Flammability test for outer sheath	Clause No. 16.3	IS 7098 Part 1	As per IEC 332-part 1	
15	Tensile strength and Elongation at break (Before ageing)	Table 2	IS 5831	8	IS 10810 part 7
16	Tensile strength and Elongation at break (After ageing)	Table 2	IS 5831	8	IS 10810 part 7
17	Variation due to ageing	Table 2	IS 5831	8	IS 10810 part 7
18	Loss of mass test	Table 2	IS 5831	8	IS 10810 part 10
19	Shrinkage test	Table 2	IS 5831	8	IS 10810 part 12
20	Hot deformation test	Table 2	IS 5831	8	IS 10810 part 15
21	Heat shock test	Table 2	IS 5831	8	IS 10810 part 14
22	Thermal stability test	Table 2	IS 5831	Append ix B	IS 5831:1984
23	Oxygen index	As per ASTM 2863			
24	Temperature index	ASTM 2863			
25	Acid gas generation	IEC 60754			
26	Smoke density	ASTM 2843			
<b>Tests on Armour for multi-core Cable</b>					

27	Tensile test	8	IS 3975	6	IS 1608
28	Torsion test	8	IS 3975	7	IS 1717
29	Wrapping test	8	IS 3975	5	IS 1755
30	Resistance test	8	IS 3975	8	IS 10810 Part 42
31	Mass of zinc coating	Table 1	IS 4826	6	IS 6745
32	Uniformity of zinc coating	9	IS 3975	4	IS 2633
33	Adhesion test	9	IS 3975	9.3	IS 3975
<b>Tests on complete cable</b>					
34	High voltage test	7.2 kV for 5 minutes  As per Clause no. 16.2	IS 7098 part 1	8	IS 10810  Part 45

#### 8. TYPE TEST CERTIFICATES:

The bidder shall furnish the type test report of **1.1 kV** cable for the tests as mentioned in Clause no. 7 of this specification and as per reference standards.

Complete set of Type Tests shall be conducted at certified test laboratories, which are CPRI / ERDA/ Approved labs by TATA ODISHA DISCOMs only. Type test report shall be submitted for the type, size and rating of the cable mentioned in the bid/ OR for any size higher (than required) of similar type and similar voltage grade. Conductor Water penetration test as per ICEA T 31-610 shall be conducted at CPRI/ERDA Approved labs by TATA ODISHA DISCOMs only.

Type test should have been conducted in certified test laboratories during the period not exceeding from the date of 10 years from the date of opening of bid. **In the event of any** discrepancy in the test reports i.e. any test report not acceptable or any/all type tests (including additional type tests, if any) not carried out, same shall be carried out without any cost implication to TPCODL/TPNODL/TPSODL/TPWODL.

In case the type test certificates are dated beyond 5 years and up to 10 years, though the basic component design of cable is same, then acceptance for '*no change in design*' shall be submitted by bidder on their organization's letter head.

TPCODL/TPNODL/TPSODL/TPWODL will have the rights to accept/reject these type test reports.





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## 9. PRE-DISPATCH INSPECTION:

Inspection shall be carried out by duly authorized representative of TPCODL/ TPNODL/ TPSODL/ TPWODL.

The bidder shall grant free access to the places of manufacture to TPCODL/ TPNODL/ TPSODL/ TPWODL's representatives at all times when the work is in progress.

Inspection may be made at any stage of manufacturing at the discretion of TPCODL/TPNODL/TPSODL/TPWODL and the equipment, if found unsatisfactory as to workmanship or material, the same is liable to rejection.

Inspection by TPCODL/TPNODL/TPSODL/TPWODL or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance with the specification.

**Dispatch of material:** Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by TPCODL/TPNODL/TPSODL/TPWODL.

Following documents shall be sent along with the supplied material:

- a) Test reports
- b) MDCC issued by TPCODL/TPNODL/TPSODL/TPWODL
- c) Invoice in duplicate
- d) Packing list
- e) Delivery Challan

## 10. INSPECTION AFTER RECEIPT AT STORE:

The material received at TPCODL/TPNODL/TPSODL/TPWODL, Odisha store will be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection.

## 11. GUARANTEE:

The bidder shall confirm for guarantee towards design, material, workmanship & quality of process / manufacturing for integrated product delivered under the contract.

In the event any defect is found by TPCODL/TPNODL/TPSODL/TPWODL, up to a period of at least 60 months from the date of commissioning or 72 months from the date of last supplies made under the contract whichever is later, bidder shall be liable to undertake to replace/rectify such defects at their own costs, within mutually agreed time frame, and to the entire satisfaction of TPCODL/TPNODL/TPSODL/TPWODL, failing which TPCODL/TPNODL/TPSODL/TPWODL will be at liberty to get it replaced/rectified at Bidder's risks and costs and recover all such expenses plus the TPCODL/TPNODL/TPSODL/TPWODL's own charges (@ 20% of expenses incurred), from the Bidder or from 'Security cum Performance Deposit' as the case may be.

Free replacement: Bidder 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 TPCODL/TPNODL/TPSODL/TPWODL.

## 12. PACKING AND TRANSPORT:

- a) **Standard length of Cable:** The cable shall be supplied in continuous **standard length** as per Clause no.6 of this specification.
- b) **Filling condition:** Drum shall not be overfilled.
- c) **Cable drum:** The cable shall be wound on non-returnable drums without any extra cost to TPCODL/TPNODL/TPSODL/TPWODL as per IS 10418 and its latest amendments.
- d) **Sealing of cable ends:** The ends of the cable shall be sealed by means of heat shrinkable polyolefin end caps.
- e) **Requirements for Cable drums:** Cable drums shall be so constructed as to have required mechanical strength so that the drum flanges and other components do not break during transport, in actual use or in storage. The flanges and the outside surface of the barrel shall be free from protruding materials/projections/ unevenness/ sharp edges that can damage the cable or hands of the operator during rotation of drums.
- Material preservation shall be applied to the entire drum.
- f) The bottom end of cable should be clamped on drum by jute or nylon rope.
- g) **Rail/ Road transportation:** The bidder shall ensure that the equipment covered under this specification shall be prepared for rail/road transport in a manner so as to protect the equipment from damage in transit. The drums shall withstand normal handling and transport.
- h) **Packaging shall be as per climate change perspective.**

**The cable wound on cable drum shall be covered by recyclable PVC sheet for dustproof.**

*TPCODL/TPNODL/TPSODL/TPWODL encourages the use of environmentally friendly packaging.*

## 13. TENDER SAMPLE:

Not Applicable

## 14. QUALITY CONTROL:

The bidder shall submit a 'Quality Assurance Plan' followed by him in respect of bought out items, items manufactured by him, Raw materials in process, Final inspection Packaging & Marking. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. TPCODL/TPNODL/TPSODL/TPWODL reserves the sole rights for the type test of random sample from the lot and in case of any discrepancy or deviation from the Type test certificates submitted along with the bid, the complete Lot shall be rejected.

TPCODL/TPNODL/TPSODL/TPWODL's nominated representative shall have free access to the bidder's works to carry out inspections

**15. TESTING FACILITIES:**

Supplier/ Manufacturer shall have adequate in-house testing facilities for carrying out all routine tests & acceptance tests as per relevant International / Indian standards.

**16. MANUFACTURING FACILITIES:**

The successful bidder will have to submit (after placement of RC) technical compliance document and drawing of cable as per RC line items for getting approval before mass manufacturing. Bidder shall start manufacturing of mass quantity only after getting CAT-A approved drawings and technical compliances or as per intimation from TPCODL/TPNODL/TPSODL/TPWODL.

**17. SPARES, ACCESSORIES AND TOOLS**

Not applicable.

**18. DRAWINGS AND DOCUMENTS:**

Following documents shall be submitted along with the bid for approval after award of RC/PO:

- a) Completely filled-in clause wise compliance of this specification
- b) Type test Certificates for each specified test
- c) Cross sectional drawing of the cable
- d) Rating factors for variation in ground and air temperature, depth of laying, thermal resistivity of soil and different laying configuration of cables.

Following documents shall be submitted after award of contract for approval before manufacturing:

- a) Completely filled-in clause wise compliance of this specification
- b) Cross sectional drawing of the cable

All the Documents and Drawings shall be in English Language.

**19. SCHEDULE- "A" GUARANTEED TECHNICAL PARTICULARS:**

Bidder to submit clause wise compliance.



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**20. SCHEDULE “B” DEVIATIONS:**

**(TO BE ENCLOSED WITH TECHNICAL BID)**

All deviations from this specification shall be set out by the Bidders, clause by Clause in this schedule. Unless specifically mentioned in this Schedule, the tender shall be deemed to confirm the purchaser's specifications:

SL. No	Clause No.	Details of deviation with justifications

We confirm that there are no deviations apart from those detailed above.

Seal of the Company:

Signature

Designation