

The Tata Power Company Ltd



OPEN TENDER NOTIFICATION

Tender Reference: CC26MSJ002

Document Date: 16th May 2025

OPEN TENDER NOTIFICATION

FOR

**SITC of 110kV, 40MVAr Capacitor Bank at Salsette R/S in
Mumbai**

**Tender Enquiry No: CC26MSJ002
(Please note this reference number must be quoted in all
submission pertaining to this tender)**

**The Tata Power Company Limited (Tata Power)
Corporate Contracts,**

**Smart Center of Procurement Excellence,
3rd Floor, Sahar Receiving Station, Near Hotel Leela,
Sahar Airport Road, Andheri (E), Mumbai 400 059**

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Procedure for Participating in Tender

Tender Enquiry No.	Work Description	EMD (Rs.)	Tender Participation Fee	Last date and time for Payment of Tender Participation Fee*	Last date and time for bid submission
CC26MSJ002	SITC of 110kV, 40MVAR Capacitor Bank at Salsette R/S in Mumbai	1,30,000/-	Rs. 2000/-	23 rd May 2025	06 th June 2025

*** Interested bidders are strongly advised not to wait by above time and purchase the tender immediately to get the link for bid submission. This will enable them to communicate/raise queries against the subject tender in time.**

Procedure for Participating in Tender. Following steps to be done before last date for purchase of tender,

1. Interested Vendors to refer to the Section C of the tender (Prequalification criteria).
2. Eligible and Interested Bidders to submit duly signed and stamped letter on Bidder's letterhead indicating
 - a. Tender Enquiry number
 - b. Name of authorized person
 - c. Contact number
 - d. e-mail id
 - e. Details of submission of Tender Participation Fee
3. Non-Refundable Tender Participation Fee, as indicated in table above, to be submitted in the form of Direct deposit in the following bank account and submit the receipt along with a covering letter clearly indicating the Tender Reference number –

Beneficiary Name – The Tata Power Co. Ltd.

Bank Name – HDFC Bank Ltd.

Branch Name – Fort Branch, Mumbai

Address – Maneckji Wadia Building, Nanik Motwani Marg, Fort, Mumbai 400023.

Branch Code – 60

Bank & Branch Code – 400240015

Account No – 00600110000763

Account type – CC

IFSC Code – HDFC0000060

E-mail with necessary attachment of 1 and 2 above to be send to munjalsingh.jhala@tatapower.com with copy to vaishali.Kachare@tatapower.com before “Last date and time for Payment of Tender Participation Fee”

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

Please note all future correspondence regarding the tender, bid submission, bid submission date extension, Pre-bid query etc will happen only through Tata Power E-Tender system (Ariba). User manual to guide the bidders to submit the bid through e-Tender system (Ariba) is also enclosed in the Section I of the Tender Document.

No e-mail or verbal correspondence will be responded. All communication will be done strictly with the bidder who have done the above steps (Payment of tender fee and submission of letter with requisite details) to participate in the Tender.

Also it may be strictly noted that once date of "Last date and time for Payment of Tender Participation Fee" is lapsed no Bidder will be sent link from Tata Power E-Tender System (Ariba). Without this link vendor will not be able to participate in the tender. Any last moment request to participate in tender will not be acknowledged.

Any payment of Tender Participation Fee / EMD by Bidder who have not done the pre-requisite within stipulated timeline will not be refunded.

Also all future corrigendum's to the said tender, if any, will be informed on Tender section on website <https://www.tatapower.com>

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*** To be submitted in editable excel format**

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Section A: Tender Notice including Instruction to Bidders

1. Tender Details

1.1 Key Tender Specific Details

Reference Number	CC26MSJ002
Description	SITC of 110kV, 40MVAR Capacitor Bank at Salsette R/S in Mumbai
Type of Tender	Firm Order
Period	Till the completion of work.
Tender Fee	Rs 2,000/-
Earnest Money Deposit (EMD)	Rs 1,30,000/- Rs One Lakh Thirty Thousand Only PLEASE NOTE THAT IT IS MANDATORY TO SUBMIT EMD IN BANK GUARANTEE FORMAT ONLY
Price Basis	Firm Price
Executive Handling this Tender*	Name: Mr. Munjal Singh Jhala Contact No.: 9549067763 E-Mail ID: munjalsingh.jhala@tatapower.com

*You may contact the above personnel from Monday to Friday during office hours only.

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1.2 Calendar of Events

(a)	Access to Tender Documents through Tata Power website	16 th May 2025
(b)	Date & Time of Pre-Bid Meeting (if applicable).	Shall be intimated in advance.
(c)	Last date and time for Payment of Tender Participation Fee to get e-tender link for bid submission*	By 23 rd May 2025
(d)	Last Date of receipt of pre-bid queries, if any.	By 27 th May 2025
(e)	Last Date of Posting Consolidated replies to all the pre-bid queries as received	By 30 th May 2025
(f)	Last date and time of receipt of Bids	By 06 th June 2025

Note: - * Interested bidders are strongly advised not to wait by above time and purchase the tender immediately to get the link for bid submission. This will enable them to communicate/raise queries against the subject tender in time.

These date and time in above calendar of events are as planned and tentative. In case of change the same shall be intimated to Authorized Person of Interested Bidder through E-Tender System.

Please note post submission of Bids relevant communication will be done with Authorized Person of Interested Bidder through E-Tender System.

1.3 Mandatory documents required along with the Bid

- 1.3.1 Bid Guarantee Fee (EMD) of requisite value and validity. PLEASE NOTE THAT BID GUARANTEE ONLY IN FORM OF BANK GUARANTEE WILL BE ACCEPTED.
- 1.3.2 Requisite Documents to ascertain fulfilling of Technical and Commercial Pre-Qualification Requirement as detailed in Tender Enquiry.
- 1.3.3 Technical Submission including Drawings, Type Test details etc. as detailed in Technical Specification.
- 1.3.4 Required Commercial Submission as detailed in Tender Document
- 1.3.5 Technical and Commercial Clarification and Deviations as per the format attached in the Tender Enquiry
- 1.3.6 Proper authorization letter to sign the tender and participate in Tata Power E-Tender system on the behalf of bidder.
- 1.3.7 **For vendor not registered with Tata Power, Duly filled Vendor Registration form with all supporting documents is mandatory to participate in the Tender.**

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

Also please note that whenever editable format are shared it is requested that data be filled in relevant cells. No formatting or addition / deletion of rows / columns to be done. Wherever editable Excel submission are requested the file should be free from references, macros etc.

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Checklist of Document Submission

Stage of Tendering	Document	Type of Format	Mode of submission
Before last date of Pre-Bid Query	Query / Clarification / Deviation (QCD) Format. (F1) Separate Excel sheet to be used for Technical and Commercial Pre-Bid Query	Editable Excel Format	Through message in E-tender system
Bid Submission Envelope 1 (First Part)	Earnest Money Deposit	Original Bank Guarantee	In Sealed Envelope
Bid Submission Envelope 2 (Second Part)	Documents to be uploaded in Ariba only. In case of multiple files, a zipped folder can be attached for the same (size limit of 100 MB per zipped file)		
To be submitted Under Tab 2 in Ariba	Duly filled PQR and supporting documents		
	Duly filled PQR format	Editable Excel Format	E-Tender System
	Backup documents for Technical PQR	Signed and Scanned documents	E-Tender System
To be submitted in Ariba	Duly Filled Vendor Registration Form (for unregistered vendor) and supporting documents. Registered vendor to submit letter indicating Vendor Code in Tata Power and factory/supply address to be used.		
	Duly filled Vendor Registration Form (if vendor is not registered with Tata Power)	Signed and Scanned documents	E-Tender System
	Backup document for Vendor Registration Form (if vendor is not registered with Tata Power)	Signed and Scanned documents	E-Tender System

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To be submitted in Ariba	Technical Submission and Supporting Documents		
	Duly filled Technical Submission Format	Editable Excel Format	E-Tender System
	Technical Submission as required for Technical Specifications	Signed and Scanned documents	E-Tender System
	Duly filled Technical Submission- Type test verification sheet Format	Editable Excel Format	E-Tender System
	Backup documents for Type Test verification	Signed and Scanned documents/ reports	E-Tender System
	Query / Clarification / Deviation (QCD) Format for Deviation if any	Editable Excel Format	E-Tender System
	Duly filled Unpriced Bid Format	Signed and scanned copy of document	E-Tender System
To be submitted in Ariba	Commercial Submission and supporting document		
	Letter of Undertaking (FOR VENDORS NOT REGISTERED WITH TATA POWER)	Scanned Copy of letter of undertaking duly filled, stamped and signed	E-Tender System
	E-auction Undertaking form	Scanned Copy of letter of undertaking duly filled, stamped and signed	E-Tender System
Bid Submission Envelope 3 (Third Part)	Duly filled Priced Bid Format	Duly signed and stamped scanned copy of document. To be entered in E-Tender System	E-Tender System

1.4 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 Query / Clarification / Deviation (QCD) Format. Deviations have to be mandatorily submitted in editable Excel sheet Technical and Commercial deviation have to be submitted separately.

Technical or Commercial Deviation should be mentioned in Deviation Format only. Deviation in any other document or Format will not be considered.

1.5 Right of Acceptance/Rejection

1.5.1 Bids are liable for rejection in absence of following: -

1.5.2 Mandatory Documents as listed in 1.3 above

1.5.3 Price Bid as per the Price Schedule mentioned in Tender Document

1.5.4 Receipt of Bid and Response to queries within the due date and time

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

1.6 Qualification Criteria

Qualification Requirement expectation and document are detailed in documents in Section C

1.7 Pre-Bid Queries

Pre-Bid Queries if any has to be sent through message in E-Tender System. Pre-Bid Query has to be sent only in the Query / Clarification / Deviation (QCD) Format. Technical Pre-Bid Query and Commercial Pre-Bid Query have to be submitted in Separate Editable Excel File in Prescribed Format. Pre-Bid Queries sent in any other format or send through any other communication channel will not be accepted and answered. Pre-Bid Query have to be sent in the stipulated timeline as defined in the Tender Document. No Pre-Bid Query will be accepted after the due time and date as specified as "Last Date of receipt of pre-bid queries, if any"

1.8 Marketing Integrity

We have a fair and competitive marketplace. The rules for bidders are outlined in the General Condition of Contracts and other parts of Tender Documents. Bidders must agree to these rules prior to participating. In addition to other remedies available, Tata Power 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 or other part of the Tender Documents. A bidder who violates the marketplace 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
- Submit irrelevant documents or frequently cases of missing documents as part of compliance to Qualifying, Technical or Commercial Requirements causing unnecessary delay in Tender Evaluation

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

2. Evaluation Criteria

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

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

2.1 Price Variation Clause and Cap:

The prices shall remain firm during the entire contract period and no price variation is applicable.

3. Submission of Bid Documents

3.1 Bid Submission

Bidders are requested to submit their offer in line with this Tender document. Bids shall be submitted in 3 (three) parts:

FIRST PART: "EMD – BANK GUARANTEE" of Value detailed in 1.1 valid for 180 days from the due date of bid submission in the form of Bank Guarantee favoring 'The Tata Power Company Limited'. The EMD must be strictly in the format as mentioned in Tender Document, failing which it shall not be accepted by Tata Power and the bid as submitted shall be liable for rejection.

Note: BG of 180 days validity and further claim period of 180 days is needed. In case the same cannot be issued by your bank then BG valid for 365 days can be provided.

Note: At times bidders have sought Tata Power bank details which is needed by them to make BG. Hence the same is reproduced below. These details are only provided to facilitate making of BG if needed

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Tata Power's Bank Details for submitting EMD BG:
Bank Name & Address – ICICI Bank, 163 HT Marg,
Backbay Reclamation, Churchgate, Mumbai 400 020.
A/c no. - 000451000293
IFSC Code – ICIC0000393

The hard copy of EMD in a sealed envelope should be sent on address mentioned in Tender document.

First Part must be submitted in Sealed Envelope.

SECOND PART: "TECHNICAL / UN-PRICED COMMERCIAL BID" shall contain the following documents:

- a) Documentary evidence in support of Technical, Commercial qualifying criteria
- b) Technical literature/GTP/Type test report/Details of Qualified Manpower Available/ Testing Facility available etc. *(complete in all respect as desired and detailed in Technical Specification and Technical Requirement Section)*
- c) Duly filled Technical and Commercial Deviation Sheets
- d) Duly filled formats like Authorization affidavit form
- e) *Unpriced Commercial Bid*

The technical / un-priced commercial bid shall be properly indexed and is to be submitted in Soft Copy though E-Tender system of Tata Power. Hard Copy of Technical Bids need not be submitted.

Second Part must be submitted through E-Tender System Only.

THIRD PART: "PRICE BID" shall contain only the price details and strictly in Price Bid format along with explicit break up of basic prices and applicable GST. Basic price should include packaging forwarding, freight, transit insurance and any other cost envisaged by the bidder.

Third part must be submitted through E-Tender System Only.

FOR BIDS INVITED THROUGH E-TENDER SYSTEM (TECHNICAL AND UN-PRICED COMMERCIAL BID):

In response to advertisement Bidder has to provide details of person authorized to Bid on behalf of the Bidder. An e-mail will be generated by E-Tender System and the authorized person can download the Tender Documents from the system.

Bidders have to mandatorily submit SECOND and THIRD PART (Technical and Price Bid) only through E-Tender system of Tata Power. Bids submitted through any other form (hard copy) / route shall not be admissible.

FOR BIDS INVITED IN SEALED ENVELOPE PROCESS (FIRST PART):

First Part of the bid shall be sealed in envelope which shall be clearly marked as below:

**EMD BID –
"Please mention Tender Reference No"**

Please mention our Tender Reference No on the Tender and drop the same in our Tender Box located at The Tata Power Company Limited (Tata Power), Corporate Contracts, Smart Center of Procurement Excellence, 2nd Floor, Sahar Receiving Station, Near Hotel Leela, Sahar Airport Road, Andheri (E), Mumbai 400 059.

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The bid shall be addressed to:

Head - Procurement
The Tata Power Company Limited (Tata Power),
Smart Center of Procurement Excellence, 2nd Floor, Sahar Receiving Station,
Near Hotel Leela, Sahar Airport Road, Andheri (E), Mumbai 400 059.

The envelope shall also bear the Name and Address of the Bidder along with our Tender No. and subject.

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

Bids submitted by Email/Telex/Telegram /Fax will be rejected. No request from any Bidder to Tata Power to collect the proposals from Courier/Airlines/Cargo Agents etc. shall be entertained.

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 the 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

Communication Details: Detailed in 1.1

3.3 Bid Prices

Bidders shall quote for the entire Scope of Supply/ work with a breakup 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 Tata Power. 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.

The quantity breakup 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

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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. It also may be noted that the denomination of Purchase Order / Outline Agreement / Rate Contract and associated Payment to Successful Bidder shall also be in Indian Rupees Only. In case Bidder intends to import any equipment, part etc and supply to Tata Power then all liability and costs related to import will rest with the Bidder. All statutory compliances, payments, expenditure etc. related to importing of equipment will be responsibility of the bidder.

3.5 Period of Validity of Bids

Bids shall remain valid for **180 days** from the due date of submission of the bid.
Price submitted as part of E-auction / Negotiation shall remain valid for **90 days** from date of E-auction / Negotiation.
Notwithstanding clause above, Tata Power 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 the Tata Power against the risk of bidder's conduct which would warrant forfeiture.

The EMD shall be in following form:

- Bank Guarantee valid for 180 days after due date of submission with an additional claim period of 180 days from the date of expiry of BG.

The EMD shall be forfeited in case of:

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

Or

- b) In case of a successful bidder, if the Bidder, within 15 days, does not
 - i) accept the purchase order, or
 - ii) furnish the required Contract Performance Bank Guarantee (CPBG)

Original Bank Guarantee submitted as EMD shall be returned only after completion of award process for unsuccessful bidders and issue of Contract Performance Bank Guarantee (CPBG) for successful bidder.

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

4.2 Technical Bid Opening

Bids will be opened at Corporate Office of Tata Power as per our standard Process. The bids shall be opened internally by Tata Power. Technical bid must not contain any cost information whatsoever.

First the envelope marked "EMD" will be opened. Bids without EMD 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 in E-Tender system.

4.3 Preliminary Examination of Bids/Responsiveness

Tata Power 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. Tata Power may ask for submission of original documents in order to verify the documents submitted in support of qualification criteria.

Prior to the detailed evaluation, Tata Power 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 Tata Power and/or the Tata Power 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, Tata Power may, at its discretion, ask the Bidder for a clarification on its Bid for any deviations with respect to the Tata Power 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 Tata Power.

4.5 Price Bid Opening

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 Tata Power without any further correspondence in this regard.

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

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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.

4.6 Reverse Auction and Price Matching Option

Tata Power reserves the right to conduct the reverse auction AND / OR Manual Negotiations for the products/ services being asked for in the tender. Only Technical Qualified Bids will be allowed to participate in e-auction. Date and time of e-auction will be intimated through E-Tender system to Authorized Person of Interested Bidder.

For case where more than one bidder has to be awarded (including Rate Contract / Outline Agreement) Price Matching Option will be exercised. Volume of job allocated to original competitive bidder will be more than bidder who is chosen through Price Matching Option. Tata Power decision regarding work sharing shall be final and no explanation OR clarification shall be given regarding the same.

Tata Power reserves the right to go for Reverse Auction (RA) for price negotiation and discover the most competitive price on ARIBA portal, Tata Power's official e-tendering platform. This will be decided after techno-commercial evaluation of the bids. Bidders need to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case Tata Power decides to go for RA.

Only those bidders who are techno-commercially qualified shall be eligible to participate further in RA process. However, the original H1 bidder (whose price bid is the highest post techno-commercial evaluation) shall not be allowed to participate in further RA process provided minimum three techno-commercially qualified bids are available.

5.0 Award Decision

Tata Power 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 Priced Bid Format subject to any corrections required in line with Clause 4.3 above. The decision to place purchase order/Outline Agreement/ Rate Contract solely depends on Tata Power on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that Tata Power may deem relevant.

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

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

5.1 Rate Contract / Outline Agreement

Rate Contract / Outline Agreement does not guarantee any assured business volume in Rupees or Quantity. Quantities are only indicative and specified for the purpose of readiness as per the request from Purchaser. Supplies shall be only against Firm Purchase Orders placed as per the agreed terms and conditions of Rate Contract / Outline Agreement. Purchaser shall be entitled at its discretion to place firm order for such supplies on "As and When Required Basis" without minimum take-off guarantee.

Rate Contract / Outline Agreement will have list of Items with Unit Rate and applicable Taxes and Duties. There will be a cap on value for which order which can be placed against the Rate Contract / Outline Agreement. Actual quantity ordered for each line item may differ significantly from the tentative quantity indicated in the Tender Document. One / few / all items of Rate Contract / Outline Agreement can be ordered till the Cap Value is reached.

6.0 Order of Preference/Contradiction:

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

1. Outline Agreement/Purchase Order (with Commercial conditions)
2. Special Terms and conditions (if applicable)
3. General Terms and conditions
4. Technical Specifications

In case there is a discrepancy in the BOQ mentioned in tender (to the extent modified through subsequent Corrigendum, if any) and the bid submitted by any bidder, the description as mentioned in the tender (to the extent modified through subsequent Corrigendum, if any) shall prevail.

7.0 Ethics

Tata Power is an ethical organization and as a policy Tata Power 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.

Tata Power work practices are governed by the Tata Code of Conduct. Bidder is requested to refer Tata Code of Conduct Clause in General Terms and Conditions.

8.0 General Condition of Contract and Special Condition of Contracts

Any condition not mentioned above shall be applicable as per General Terms and Conditions and Special Condition of Contracts attached along with this tender.

---XXX---



Technical and Commercial Pre bid Queries Format

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Pre-qualification Requirement and Submission Format

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FORMAT C.1

Technical Pre-Qualification Requirement and Submission Format

Tender No

CC26MSJ002

Package Name

CC26MSJ002 SITC of 110kV, 40MVAR Capacitor Bank at Tata Power Salsette Receiving Station.

Bidder :

Note : Vendor Submission / claim without suitable backup document will not be accepted and Bid is Liable for Rejection

This format duly filled in editable Excel format has to be uploaded as Bid Submission with all relevant Backup Document

To be filled by Tata Power				To be filled up be Vendor	
Sr No	Parameter	Tata Power Requirement	Documents to be submitted by vendor to ascertain meeting of Pre-Qualification Requirement	Vendor Submission against Tata Power PQR Requirement	Documents submitted by Vendor to ascertain meeting of Pre-Qualification Requirement
1	2	3	4	5	6
1	Infrastructure	Bidder must be an OEM of Capacitor units system, having manufacturing facility in India.	Self-undertaking to be submitted in this regard. Tata Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.		
2	Supply and Experience	<p>Bidder should have supplied minimum 02 nos. of Capacitor bank at 110 kV above voltage level. The system supplied should have been in satisfactory commercial operation for a minimum period of 02 years as on scheduled date of the bid opening.</p> <p>"In case the bidder has a previous association with Tata Power for similar products and services, the performance feedback for that bidder by Tata Power shall only be considered irrespective of performance certificates issued by any other organization. Technical performance, delivery timelines, service and support records of past executed projects in Tata Power will be considered for technical evaluation of bidder."</p> <p>Indian Subsidiaries of global companies having plant in India are also eligible to bid if the qualification requirements stated above are met independently or in combination with the parent company. Declaration from parent company needs to be submitted.</p>	<p>Supply List & Performance Certificates from the utilities / clients</p> <p>Self-undertaking to be submitted in this regard. TATA Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.</p>		
3	Type Test	<p>The bidder shall submit Type test reports obtained from NABL/ International Accredited Lab for the equipment / material offered. The type tests should have been conducted on the equipment / material of the same design.</p> <p>The type tests should have been conducted within 5 years prior to the date of bid opening. Time period for type test may be extended by another 5 years as a special case, if there is no change in design / material of construction (MOC). Full set type test reports shall be submitted without requirement of any non disclosure agreement.</p> <p>In case the type test reports furnished are not for the quoted equipment / material but for the equipment / material with higher voltage class and/or different capacity, then type test shall be carried out for the offered equipment / material from NABL / International Accredited Lab without any cost implication to the owner and the Type Test reports shall be submitted before despatch of the equipment / material.</p>	<p>Type Test Report.</p> <p>Undertaking that there is no change in design / material of construction (MOC) if Type Test Report older than 5 years but less than 10 years prior to date of bid opening has to be considered (if applicable)</p> <p>Undertaking that type test shall be carried out for the offered equipment / material from NABL / International Accredited Lab without any cost implication to the owner and the Type Test reports shall be submitted before despatch of the equipment / material, in case type test reports furnished are not for the quoted equipment / material but for the equipment / material with higher voltage class and/or different capacity, (if applicable)</p>		

4	Commercial Capability	Average Annual turnover of the bidder for last three years shall not be less than INR 200.00 Lakhs.	<p>Profit and Loss Statements, Balance Sheet, Cash Flow Statements for the Three (3) preceding financial years duly audited and approved by Authorized Audit Firm / CA.</p> <p>In case of JV, bidder to submit statement from Chartered Accountant (CA) certifying:- (a) Equity stake of the partners in the Joint Venture and (b) Sum of each partners turnover multiplied by their respective equity stake in JV for last 3 years should exceed the Tata Power requirement (c) JV to have positive networth for preceding year. In case JV does not have positive networth then all partners to have positive networth for preceding year.</p> <p>Backup guarantee document to be submitted by JV Partners to support the JV till execution of the project till completion of execution and completion of Latent Defect Liability Period.</p>		
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Note -

1) Tata Power reserves the right to review and approve / reject the Bidder based on Document Submission.

2) The Prequalification Criteria published along with the tender "In Section C.1 Pre Qualification Criteria" is the total & complete pre-qualification requirement for the tender and shall prevail over any other/additional pre-qualification requirement mentioned elsewhere in the tender.



Safety Bid Format

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

Name of the Vendor/Bidder : -

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

Description of the Job : -

Request for Quotation (RFQ) No. :-

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

1. Proposed Manpower Deployment Schedule : -

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

Instructions to Bidder to fill:

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

Direct bidder employee

Partly Direct / Partly sub-contracted

Sub-Contracted

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

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

Bidder/ Vendor to provide the list of tools, tackles, equipment **to be used during the job / project execution**. Bidder/Vendor to ensure that all the lifting tools and tackles, pressure vessels are duly certified by the competent person authorised by the Chief Inspector of Factories of the respective state prior to start of the job

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

3. Safety Records:

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

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

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

4. Job Safety Plan/ Method Statement:

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

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

5. Management System Certification: -

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

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

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.

The Tata Power Company Ltd		<i>Contractor's Safety Code of Conduct</i>
<i>Document No. TPSMS/GSP/CSM/015 REV 05</i>		<i>Date of Issue: 30/07/2020</i>

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

Site Safety Plan / Method Statement (Template)

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

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

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

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

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



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

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

6.1 Pre-Working Checks

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

Tools required for work:

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

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

Sr.No	Activity	Details of job sequence	Risk Involved	Control Checks
1.		1.		
2.				
3				
4				
5.				

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

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

Attachment: - Specific Risk Assessment

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

<p>Fall Protection Measures: (Where Work at height cannot be avoided)</p>							
<p>Control Measures for Electrical Hazards</p>							
<p>Others Hazard if any (please provide details)</p>							
<p>Hazardous Substances to be used in job : (Attach MSDS if required)</p>	 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.



Safety Checklist

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Sign and submit all the documents mentioned below for Safety Bids

Sl.No		Criteria	Minimum Requirement
1	Manpower (As per the Clause No1)	Safety Officer (1 per 500 workers)	Qualification- Officer shall possess Advance Diploma In Safety by state technical board. Experience- Minimum 1 year experience in relevant field as mentioned in the job in PR.
		Supervisor (1 per work site upto max. 50 workers)	Qualification- Supervisor shall possess ITI/ Diploma in relevant field. Experience- Minimum 2 year experience in relevant field as mentioned in the job in Retraining – Trained and certified by TPDSI or equivalent institute in relevant safety procedures. Note: On request of the contractor/Users -TPDSI should vet & certify the skilled & experienced Technician if Technical Qualification is not adequate.
		Technician (Skilled workers as electrician, rigger, fitter, welder, cable jointer, line men etc)	Experience- Minimum 2 year experience in relevant field as mentioned in the job in Retraining – Trained and certified by TPDSI or equivalent institute in relevant safety procedures.
2	Tools & Tackles	To be evaluated as per approved tool list of concerned Departments	The list of all the tools and tackles 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
3	PPE Requirements	To be evaluated as per approved PPEs standard and PPEs Matrix specified in CSM	
4	Job Safety Plan /Method Statement	To be evaluated as per SOP/WI/HIRA	
5	Vehicle Deployment	Weightage will be given for CNG Vehicles with endorsement of CNG Kit on RC/Electrical Vehicles	
6	Crane and Mechanized Heavy Equipment Deployment	Date of Manufacturing or running Hours	
7	Training Records	Training records to be evaluated with evidence and scoring to be done as per availability of records	
8	Accredited Bodies Certificate	ISO-9001	ISO-9001
		ISO-14001	ISO-14001
		ISO 45001	ISO 45001
9	Safety Initiatives for learnings implemented in accidents in organization and workforce (Fatal/Non Fatal)	Maximum 15 marks will be awarded for visible evidence in terms of safety initiative deployed based on learning of accident in organization and workforce in case of accident	
10	Rewards and Recognition	Maximum 5 marks will be awarded for R&R process evidence	



General Terms and Conditions - Supply

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The Tata Power Company Limited is hereunder referred to as the "Purchaser" or "Company". The person, firm or company selling the goods, the subject of this purchase order is referred to as "Vendor" or "Contractor". The subject of this purchase order is hereinafter referred to as the "Material(s)" or "Goods".

The Contract shall mean the contract as derived from the following:

1. Purchase Order (with 'Commercial Notes' and Annexures to the Purchase Order referred thereon)
2. Technical Specifications.
3. General Terms & Conditions

The documents including all reference document (s) and Annexures forming the Contract are to be read together as a whole and are to be taken as mutually explanatory.

1. Price:

Unless otherwise specifically stipulated, the price shall be firm and shall not be subject to escalation for any reason till the validity of this Contract.

Unless otherwise specifically stipulated, the price shall be inclusive of road/ rail worthy water-proof packing & forwarding charges up to effecting delivery at FOT/ FOR despatch point, GST and shall also be inclusive of inland freight, terminal taxes and entry taxes as leviable on the transportation or entry of goods into any local area limits pursuant to the Contract.

2. Taxes and Duties:

- 2.1 The Contract Price shall be inclusive of all taxes, duties, including but not limited to GST or any local taxes, levies imposed by State/Central/Local governments
- 2.2 Taxes as mentioned in the Contract Price or Price Schedule shall be paid to the contractor subject to the Contractor complying with all the statutory requirements and furnishing the relevant documents including error free invoices containing detailed break-up of the taxes
- 2.3 However the payment of GST or local levies shall be restricted to the total amount as indicated in the price schedule.
- 2.4 Any duties, levies or taxes not mentioned in Contract Price or Price Schedule but applicable as per any statute (s) shall be deemed to be

Rev. date: 25 July 2017

included in the Contract price and shall be to the account of the Contractor.

- 2.5 Any statutory variation in duties, levies or taxes if applicable and specified in this Contract till the scheduled date for supply of Goods and limited to direct invoices of the Contractor shall be to the account of Purchaser. The Contractor shall have the obligation to provide the necessary documentary evidence / supporting by way of gazetted notifications etc. to prove the change in such levies or taxes between the due date of submission of the Bid and the scheduled date of supply of goods to claim the difference.
- 2.6 The Contractor shall pass on to the Purchaser all the benefits of either reduction in tax rates, exemptions, concessions, rebate, set off, credits etc. or introduction of new tax rates exemptions, concessions, rebate, set off, credits etc. pertaining to all taxes, duties, imposts, fees and levies in respect of the supplies of Goods or performance of obligations under the contract. This would specifically include reduction of tax rates as a result of statutory changes or judicial rulings.
- 2.7 Any other taxes, levies and duties not mentioned in Contract Price or Price Schedule but applicable as per any statute (s) or introduction (omission) of new taxes, levies and duties shall be deemed to be included in the Contract Price and shall be to the account of the Contractor.
- 2.8 For facilitating availment of a credit, set-off, rebate, drawback or like benefit available to the Purchaser, the Contractor will facilitate the Purchaser by providing the necessary documentary and/or procedural support. In any process of assessment or re-assessment, of taxes payable by the Purchaser. Wherever expressly agreed the purchaser would provide the statutory form 'C' to the seller for availing the concessional rate of Central sales tax.
- 2.9 The Contractor shall bear and pay all the costs, liabilities, levies, interest, penalties in respect of non-compliances of any legal requirements as per various statutory provisions. The contractor shall keep the owner indemnified at all times from any tax liability, interest, penalties or assessments that may be imposed by the statutory authorities for non-compliances or non-observation of any statutory requirements by the Contractor.
- 2.10 Purchaser shall pay the invoices to the Vendor after necessary deductions as prescribed under the applicable law, income - tax or other

deductions under the State Tax laws as may be applicable to the Contract.

3 Packing details:

Packing details: The material must be packed in suitable packing to suit the mode of transport and to ensure its safe receipt at point of delivery. Any damage to material noticed at the time of delivery at site, due to improper packing or any other reason whatsoever shall be the responsibility of the Vendor. Such damaged goods shall be replaced within 14 days from intimation from the Purchaser.

4 Transportation and Unloading at Site:

The Vendor shall deliver the Material(s) at site/ Stores as per the delivery address specified in the Purchase order. The unloading at delivery shall be organised by the Purchaser unless otherwise specified. The receipt of the material/ equipment is subject to inspection and rejection if Material(s) is found unsatisfactory or any of the clauses under this purchase order are violated.

5 Insurance:

Unless otherwise specified, Purchaser will be responsible to obtain transit insurance for the Material(s). The Vendor shall intimate the Order Manager (as mentioned in the Purchase Order) along with Invoice, packing list, the Railway Receipt/Truck or Lorry Receipt etc. immediately after the consignment is booked, at the e-mail id mentioned in the Purchase order.

6 Payment Terms:

100% payment shall be made within 60 days from the receipt and acceptance of the material at the Consignee Stores/ Site/ Location as per the Contractual terms and conditions herein.

7 Bills and invoice:

The tax invoices should contain the details to comply with the GST Law. The supplier shall:

- i) Furnish (electronically) and communicate to the Owner, the details of Goods or Services supplied by the 10th of the month succeeding the said tax period,
- ii) Upon discovery of any discrepancy, rectify it and shall pay the tax and interest thereof,
- iii) Furnish the returns (electronically), for the inward and outward supplies of

Goods and/or Services, before the specified dates as per the GST Law,

- iv) Communicate the tax paid, credits etc. as and when credited.

- v) The Invoice should clearly state the description of the goods, quantity, sale price, tax %, and tax amount;
- vi) The Invoice should be signed by an Authorized Signatory.

Bills/Invoices in the name of The Tata Power Company Ltd. with packing lists in triplicate shall be forwarded along with the equipment.

Contractor to furnish GST Registration no. in all invoices as well as Purchaser's (Tata Power's) GST no.

8 Transfer of Title and risk:

The transfer of property and risk of Material(s) shall be deemed to take place as follows:

- a. For delivery F.O.R. or F.O.T. despatch point: Transfer of property on handing over the Material(s) to the carrier against receipt of clean Railway Receipt/Truck or Lorry Receipt and such receipt having been handed over to Purchaser. However, the risk of loss shall pass to the Purchaser on delivery of goods at the specified destination.
- b. In case the Material(s) are procured by the Vendor from sub-vendors on receipt of duly endorsed documents of title to the goods.

9 Contract Performance Bank Guarantee (In case applicable):

9.1 The Vendor shall within 15 days of issue of this Purchase Order furnish an unconditional irrevocable bank guarantee duly stamped and strictly as per the prescribed format of the Purchaser from any nationalized bank or any scheduled bank having a branch in Mumbai and approved by the Purchaser for a sum equivalent to 10% of the Total value of Order valid for a period not less than 6 months from the expiry of the Warranty period.

9.2 Irrespective of the performance demonstrated as part of the Factory Acceptance Tests Take-over tests / Performance Tests etc, the Purchaser may call for re-validation of performance of the system during the performance guarantee period by conducting fresh performance tests if in its opinion, the

system is not able to deliver the designed performances based on its operational performance results. If the equipment fails to prove the performance during such performance tests, the Purchaser may allow the Vendor to either rectify the system by addition / modification of equipment etc at the Vendor's costs & risk to restore the performance levels. Failure to rectify the system to achieve the designed performance levels may result in imposition of penalties including revocation of the Performance Bank Guarantee and forfeiture of the entire amount under the Performance Guarantee.

- 9.3 In case the Vendor fails to furnish the requisite Bank Guarantee as stipulated above, then the Company shall have the option to terminate the contract besides other contractual remedies.

10 Price reduction:

- 10.1 The Vendor agrees that time of supply of Material(s) is of prime importance. If the Vendor fails to supply Material(s) before the respective scheduled / fixed date for supply. Company may without prejudice to any other right or remedy available to the Company: -

10.1.1 Recover from the Vendor ascertained and agreed, genuine pre-estimate liquidated damages, and not by way of penalty, a sum equivalent to 1% (of total value of order) per week or part thereof for each week's delay, beyond the scheduled supply date each subject to maximum of 10% of the total order value, even though the Company may accept delay in supply after the expiry of the scheduled supply date. The Company may, at its discretion, set off the aforesaid amounts from any other amounts owed by the Company to the Vendor or recover such amounts in other manner as may be permissible under applicable laws.

10.1.2 Arrange to get supply from elsewhere on account and at the sole risk of the Vendor, such decision of the Company being final and binding on the Vendor; or

10.1.3 Terminate the contract or a portion of supply of the supply work thereof, and if so desired, arrange for the supply in default by the Vendor to be attained from elsewhere at the sole risks and costs of the Vendor.

10.2 Liquidated damages for performance shortfall (if applicable) shall be specified in the Technical Specifications.

10.3 The Liquidated Damages referred in this clause 10 may be recovered by the Company from the Vendor as set off against any monies owed by the Company to the Vendor or in any other manner permissible under applicable laws.

11 Warranties:

11.1 Materials and Workmanship: Vendor shall fully warrant that all the stores, equipment and component supplied under the order shall be new and of first class quality according to the specifications and shall be free from defects (even concealed fault, deficiency in design, materials and workmanship).

11.2 Should any defects be noticed in design, material and/or workmanship within 12 months after the Material(s) or any portion thereof as the case may be have been commissioned or for 24 months from the date of delivery, whichever period concludes earlier. Purchaser shall inform Vendor and Vendor shall immediately on receipt of such intimation, depute their personnel within 7 days to investigate the causes of defects and arrange rectification/ replacement/modification of the defective equipment at site, without any cost to Purchaser within a reasonable period. If the Vendor fails to take proper corrective action to repair/replace defects satisfactorily within a reasonable period, Purchaser shall be free to take such corrective action as may be deemed necessary at Vendor's risk and cost after giving notice to the Vendor, including arranging supply of the Goods from elsewhere at the sole risk and cost of the Vendor.

11.3 In case defects are of such nature that equipment shall have to be taken to Vendor's work for rectification etc., Vendor shall take the equipment at his costs after giving necessary undertaking or security as may be required by Purchaser. After repair Vendor shall deliver the equipment at site on freight paid basis. Any taxes applicable in relation to this repair shall be to the Vendor's account. All risks in transit to and fro shall be borne by the Vendor.

11.4 Equipment or spare parts thereof replaced shall have further warranty for a period of 12 months from the date of acceptance.

12 Quality, Testing, inspection, installation:

12.1 All Material(s) supplied under this Contract shall be new and unused.

- 12.2 Wherever a specific Quality Assurance Plan is provided with the Request for Quotation (RFQ) or agreed as part of the commercial/ technical discussions, the same shall be binding on the Vendor.
- 12.3 The material shall be inspected
- a. At consignee end by Purchaser.
 - b. At factory premise of the Vendor/ sub-vendor by Purchaser or third party duly nominated by Purchaser. The Vendor shall extend all necessary co-operation to Purchaser/ third party inspector carrying out the inspection. The Inspector(s) shall have the right to carry out the inspection or testing, which will include inspection and testing of the raw materials at manufacturers shop, at fabricators shop and at the time of actual despatch before and/or after completion of packing.
- 12.4 The Vendor will inform Purchaser at least eight (8) days in advance of the exact place, date and time of tendering the Material(s) for required inspection and provide free access to the Inspector(s) during normal working hours at Vendor's or his/ its sub-Suppliers works, and place at the disposal of the Inspector(s) all useful means for undertaking the Inspection, checking the results of tests performed, marking the Material(s), getting additional tests conducted and final stamping of the Material(s).
- 12.5 Even if the inspection and tests are fully carried out, the Vendor shall not be absolved from its responsibilities to ensure that the Material(s), raw materials, components and other inputs are supplied strictly to conform and comply with all the requirements of the Contract at all stages, whether during manufacture and fabrication, or at the time of Delivery as on arrival at site and after its erection or start up or consumption, and during the defect liability period. The inspections and tests are merely intended to prima facie satisfy Purchaser that the Material(s) and the parts and components comply with the requirements of the Contract.
- 12.6 *All costs associated with the inspection shall be included in cost of Material(s).*
- 12.7 Original material test certificate/ performance test certificate/ fitment certificate/ test reports etc. relevant/ applicable as per the specifications/ standards shall be dispatched along with the material supply failing which the material may be rejected.
- 13 Rejection:**
- 13.1 Rejected goods shall be removed and replaced within 14 days of the date of communication of rejection.
- 13.2 Claim in respect of breakage/shortages in any cases shall be referred on the Vendor within ninety (90) days from the date of receipt of Goods by the Purchaser which shall be replaced/made good by the Vendor at his own cost. All risk of loss or damage to the material shall be upon the Vendor till it is delivered to the purchaser/consignee.
- 14 General Indemnity:**
- The Vendor shall indemnify and keep the Purchaser indemnified from and against any and all claims, costs, liabilities (financial), litigations, compensations, judgments, expenses or damages (including attorney's fees and other related expenses) arising out of any breach or alleged breach of any of the conditions of this Contract, performance of the obligations hereunder, or any representation or misrepresentation made by the Vendor or any third party with regard to the subject of this Contract.
- 15 Indemnity against IPR:**
- The equipment, system, drawings, and other materials that shall be supplied against the order will become the Purchaser's property. Without limitation of any liability of whatsoever nature, the Purchaser shall be indemnified and kept indemnified against any claim for infringement or breach of any of the statues, rules & regulations by the use of or sale of any article or material supplied by the Vendor. The indemnity shall include any infringement of patent, trade mark, design, copyright or other property rights whether in Country of Origin, or elsewhere resulting from the Vendor's design, manufacture, use, supply or re-supply & would also cover use or sale of any article or material supplied by the Vendor to the Purchaser under the Purchase Order. The Indemnity shall cover any claim/action taken by a third party either directly against the Purchaser or any claim/action made against the Vendor & where under the Purchaser is made liable. The

Indemnity shall be for losses, damages, and costs including litigation costs, attorney fees etc incurred by the Purchaser in relation to the Purchase Order.

16 Latent Defects Liability period (if applicable):

Notwithstanding the inspections, acceptance tests, quality checks etc carried out by the Vendor and witnessed/accepted by the Purchaser, the Vendor shall further warrant the equipment for any latent defects in its design, material or workmanship against the specifications set forth and shall make good any such defects by way of repair or replacement of the part or whole of the defective product at its own cost & risks as and when such latent defects are observed and intimated by the Purchaser and intimated to the Vendor within 36 months of completion of warranty period.

17 Force Majeure:

- 17.1 In the event of either party being rendered unable by force majeure to perform any obligation required to be performed by it under this Contract the relative obligation of the party affected by such force majeure shall, after notice under this articles be suspended for the period during which such cause lasts. The term 'Force Majeure' as employed herein shall mean acts of God, wars (declared or undeclared), riots or civil commotion, fire, floods, and acts and regulations of the Government of India or State Government or any of the statutory agencies. Both the party shall pay to the other party, the amount payable upon the date of the occurrence of such force majeure.
- 17.2 Upon the occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid, thereby shall notify the other party in writing immediately but not later than twenty four (24) hours of the alleged beginning and ending thereof giving full particulars and satisfactory evidence in support of the claims.
- 17.3 During the period, the obligations of the parties are suspended by force majeure, the contractor shall not be entitled to payment of any rate.
- 17.4 In the event of the force majeure conditions continuing or reasonably expected to continue for a period more than thirty (30) days, Purchaser shall have the option of terminating the contract by giving seven (7) days notice thereof to the contractor.

18 Variation:

Except for any provisions in this Purchase Order, any change /modification to the terms and conditions of this Order can be issued only by Purchaser or with the prior written approval from Purchaser.

19 Termination

- 19.1 The Contract shall be deemed to be terminated on completion of delivery of Material(s)
- 19.2 Termination of Default by Vendor:
Purchaser may terminate the contract at any time if the Vendor fails to carry out any of his obligations including timely delivery under this Contract. Prior to termination, the Vendor shall be advised in writing of the causes of unsatisfactory performance to be improved upon 15 days of the receipt of notice. In case, if the Vendor fails to bring about the improvement to the satisfaction of the Purchaser, then the order shall be terminated.
- 19.3 Without prejudice to the rights and remedies available to Purchaser, Purchaser may terminate the Contract or part thereof with immediate effect with written notice to the Vendor if,:
- 19.3.1 The Vendor becomes bankrupt or goes into liquidation.
- 19.3.2 The Vendor makes a general assignment for the benefit of creditors.
- 19.3.3 A receiver is appointed for any substantial property owned by the Vendor.
- 19.3.4 The Vendor has misrepresented to Purchaser, acting on which misrepresentation Purchaser has placed the Purchase Order on the Vendor.

The Vendor/ Contractor shall not be entitled to any further payment under the Contract if the Contract is terminated. If the order is terminated under clause 19.2 and 19.3, the Vendor shall not be entitled to any further payment, except that, if Purchaser completes the supply of Material(s) and the costs of completion are less than the Total Order value, the Purchaser shall pay Vendor an amount properly allocable to supply of Material(s) fully performed by Vendor prior to termination for which payment was not made to Vendor. In case, the cost of completion of Material(s) exceed the total Order value, the additional cost incurred by Purchaser for such completion shall be paid by the Vendor.

19.4 Purchaser shall be entitled to terminate the Contract at its convenience, at any time by giving thirty (30) Days prior notice to the Contractor. Such notice of termination shall specify that termination is for Companies convenience and the date upon which such termination becomes effective. Upon receipt of such notice, the Contractor shall proceed as follows:

- 19.4.1 cease all further work, except for such work as may be necessary and instructed by the Company/ Company's representative for the purpose of protecting those parts of the supplies already manufactured;
- 19.4.2 stop all further sub-contracting or purchasing activity, and terminate Sub-contracts;
- 19.4.3 handover all Documents, equipment, materials and spares relating to the supply of goods prepared by the Contractor or procured from other sources up to the date of termination for which the Contractor has received payment equivalent to the value thereof; and
- 19.4.4 handover those parts of the supplies manufactured by the Contractor up to the date of termination.

Upon termination pursuant to clause 19.4, the Vendor shall be entitled to be paid the full value on the Material(s) delivered in accordance with the Contract.

19.5 The Contractor shall not be released from any of his obligations or liabilities accrued under the Contract on termination. For the avoidance of doubt, the termination of the Contract in accordance with this clause shall neither relieve the Contractor of his accrued obligations for Warranty or his accrued liability to pay (liquidated) damages for Delay nor shall entitle him to reduce the value of Performance Security.

20 Sub letting and assignment:

The contractor shall not without prior consent in writing of the Purchaser, sublet, transfer or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever, provided nevertheless that any such consent shall not relieve the contractor from any obligation, duty or responsibility under the contract.

21 Dispute Resolution:

Dispute or differences arising out or relating to this Order shall be resolved amicably by the parties. Failing such amicable resolution of dispute / differences either party may refer the matter to arbitration of a Sole Arbitrator to be appointed jointly by both the parties. The award of the Arbitrator shall be final, binding and conclusive on the parties. The venue for arbitration shall be Mumbai. The Arbitration proceedings will be governed and regulated by the provisions of Indian Arbitration and Conciliation Act, 1996 as amended from time to time and the rules framed there under.

22 Governing laws

This Contract shall be construed in accordance with and governed by the Laws of India without giving effect to any principle of conflict of law.

23 Jurisdiction

This Contract and the transaction contemplated herein shall be subject to the exclusive jurisdiction of the competent Courts in Mumbai only.

24 Limitation of Liability

Notwithstanding anything contained in the Contract, the Contractor's aggregate liability under this Contract shall be limited 100% of the Total order value. This shall however, exclude liability arising pursuant to clause 2.8- tax indemnity, clause 14- General Indemnity, clause 15- Indemnity against IPR, clause 25 – Confidentiality and liabilities arising due to wilful misconduct, gross negligence, third party claims and corrupt acts attributable to the Vendor.

25 Confidentiality:

The Vendor shall use the Confidential Information of the Purchaser only in furtherance of this Contract and shall not transfer or otherwise disclose the Confidential Information to any third party. The Vendor shall (i) give access to such Confidential Information solely to those employees with a need to have access thereto; and (ii) take the same security precautions to protect against disclosure or unauthorized use of such Confidential Information that the party takes with its own confidential information but, in no

event, shall a party apply less than a reasonable standard of care to prevent such disclosure or unauthorized use.

26 Consequential Damages:

Unless otherwise specified, neither Party shall be responsible for and nor shall be liable to the other Party for indirect/consequential losses and damages suffered by such Party including for loss of use, loss of profit whether such liability or claims are based upon any negligence on the part of the other Party or its employees in connection with the performance of the Purchase Order.

27 New Legislation (The Micro, Small and Medium Enterprise Development Act 2006)

- a. This Act has been enacted and made effective from 2nd October 2006. The Interest on Delayed Payments to Small Scale and Ancillary Industrial Undertaking Act, 1993 is repealed.
- b. Vendor is requested to inform the purchaser if vendor fall under The Micro, Small and Medium Enterprises Development Act, 2006 legislation and provide the purchaser, registration number and date to enable purchaser to take necessary care. The vendors are also requested to mention the same on their invoice / bill.

28 Relation between parties:

The Purchase Order shall be entered into on a principal-to-principal basis only. The Purchase order shall not be construed as a partnership or an association of persons. There is no agent and principal relationship between the parties. Each party shall be responsible for its own conduct. The Vendor shall ensure at all times that all the work carried out under this contract either by its own person or through any of its sub-Vendors shall be always done under its own direct supervision.

29 Environment / ISO 14001 Certification:

The Vendor to confirm whether their organization is ISO 14001 certified. If not, the Vendor must certify that the handling, use and disposal of their product / by-products conform to practices consistent with sound environmental management and local statutes. The Vendor shall ensure that all the wastes are disposed in environmental friendly way with strict compliance to applicable laws including

adherence to MoEF guidelines with respect to disposal of batteries, lead waste, copper cables, ash, waste oil, e-waste etc which shall be disposed through MoEF approved parties only. The Vendor shall also be responsible to collect and recycle all the e-waste generated at the end of the product life cycle at its own costs and risks as per the MoEF guidelines/ orders.

30 Tata Code of Conduct

The Purchaser abides by the Tata Code of Conduct in all its dealing with stake holders and the same shall be binding on the Purchaser and the Vendor for dealings under this Purchase Order. A copy of the Tata Code of Conduct is available at our website: <http://www.tatapower.com/aboutus/code-of-conduct.aspx>. The Vendor is requested to bring any concerns regarding this to the notice of our Chief Ethics Officer on the e-mail ID: cecounsellor@tatapower.com.

31 Responsible Supply Chain Management:

The Purchaser is committed for a cleaner environment and respect of Human rights through its Responsible Supply Chain Management policy. The Vendor is required to comply with all the environment & Human rights related laws, including emission norms, Labour and environmental regulations. The Purchaser encourages its Vendors/ Contractors/ Business partners to pay more attention to green design, green supply, green production, green logistics and green packaging in performing their business obligations.

The Vendor is required to abide by the Tata Power Corporate Environment policy, Energy Conservation and Corporate Sustainability Policy.

A copy of the Responsible Supply Chain Management Policy along with Environment policy, Energy Conservation policy, Sustainability policy, Health & Safety policy and Human Rights policy is available at website: <http://www.tatapower.com/sustainability/policies.aspx>.

Vendor/Bidder is required to completely fill the attached "Supplier Sustainability Questionnaire" in support of their Green Supply Chain Management initiatives and submit the same with their offer.

The Owner recognizes that diversity in the workplace positively impacts business. The Owner is committed to help people from SC/ST background either by helping them to become entrepreneurs or by engaging workforce from SC/ST community under the contracts agreed herein. To encourage engaging SC/ST community, the owner may consider on the merit to incentivize the Contractor by paying additional 1% of the service contract portion if the number of SC/ST workforce engaged in the contract exceeds 30% of the total deployed strength and 2%, if the strength goes beyond 50%. While the Contractor will assist the workforce so engaged to become self-reliant in meeting the work expectation, the Owner may also volunteer its training resources to the extent possible to improve their employability. The Contractor shall maintain the proper documentation of such category of the workforce engaged and the owner may consider to pay the incentive after its verification.

The Owner may also consider extending price preference of 5% in the bid evaluation for an order value up to Rs.50 Lacs, provided the company is owned by a person from SC/ST community having minimum 50% holding in the company.

32 Vendor rating

You are requested to ensure compliance to the terms of the individual orders with regards to timely delivery, provision of all applicable documents / challans / test certificate, quality of the material etc. Your performance with respect to the said factors will be taken into consideration for future business.

33 Vendor Feedback:

- 33.1 In this dealing Vendors feedback is important for the purchaser to improve its processes. If vendor have to report any grievance, problem or require any clarification, information, vendor is requested to contact purchaser at email ID: CC_CUSTOMERFEEDBACK@tatapower.com
- 33.2 Vendor is requested to ensure compliance to the terms of the individual orders with regards to timely delivery, provision of all applicable documents / challans / test certificate, quality of the material etc. Vendor performance with

respect to the said factors will be taken into consideration for future business.

34 Non-Waiver:

Failure of Purchaser or its representatives to insist upon adherence to any of the terms or conditions incorporated in the Contract or failure or delay to exercise any right or remedies herein or by law accruing, or failure to promptly notify the Vendor in the event of breach or the acceptance of or the payment of any Material(s) hereunder or approval of any design or Material(s) shall not release the Vendor and shall not be deemed a waiver of any right of Purchaser to insist upon the strict performance thereof or of any of its rights or remedies as to any such Material(s) regardless of when the Material(s) are shipped, received or accepted not shall any purported oral modification or revisions of the Contract by Purchaser or its representative(s) act as waiver of the terms hereof.

35 Repeat Order:

Purchaser may place the repeat order for 100% of ordered quantities within a span of 6 months from the date of issue of this Purchase Order & Vendor shall execute it at same rates, terms and conditions.

36 Severability

If any provision of this Contract is invalid, unenforceable or prohibited by law, this Contract shall be considered divisible as to such provision and such provision shall be inoperative and shall not be part of the consideration moving from any Party hereto to the others, and the remainder of this Contract shall be valid, binding and of like effect as though such provision was not included herein.

ESG FRAMEWORK FOR BUSINESS ASSOCIATES

Tata Power's Sustainability philosophy sits at the core of its Business Strategy. Tata Power Sustainability Model has an overarching objective of 'Leadership with care' with key elements of 'Care for the Environment'; 'Care for the Community'; 'Care for our Customers / Partners' and 'Care for our People'. These sustainability objectives encompass the Environmental, Social and Governance objectives driven as integrated elements.

Tata Power, together with its stakeholders is determined to achieve sustainable growth while creating shared value for all.

As a part of future ready roadmap, Tata Power has targeted following as our Environment, Social and Governance priorities:

- Being Carbon Net Zero before 2045
- Growing Clean capacity (80% by 2030)
- Customer centricity
- Becoming water neutral before 2030
- Achieving zero waste to landfill before 2030
- No net loss of biodiversity before 2030
- Positively impacting 80 million lives by 2027

In order to create a sustainable business ecosystem, Tata Power expects that all its Business Associates (BA) which includes its suppliers, vendors, consultants and service providers to align to its ESG and sustainability commitments.

Tata Power encourages improved efficiencies and scaling up of green initiatives through technology and innovation taking us farther on the journey of reducing carbon emissions and preparing the entire eco-system towards products and services that would have net positive impact on the environment and communities that we operate in.

The Vendors/ bidders wishing to associate with Tata Power are expected to share their own sustainability and ESG journey. We at Tata Power promote all Business Associates to have a sustainable procurement policy for their supplier and service providers to contribute to our integrated approach in achieving a sustainable supply chain. The BA is encouraged to carry out the assessment of their sub-contractors and sub-vendors on sustainability readiness so that they are aware of the expectation/ business requirement.

The Vendor/ Bidder shall fill-in the 'Environment, Social and Governance Compliance Screening Questionnaire for Business Associates' attached at Annexure-I and submit the same along with the Bid in Ariba online platform.

Responsible Supply Chain Management:

Tata Power is committed for a cleaner environment and respect of Human rights through its Responsible Supply Chain Management policy.

Tata Power Business Associate (BA) shall comply with all the environment & Human rights related laws, including emission norms, Labour and environmental regulations.

Tata Power encourages its BA to focus on green design, green supply, green production, green logistics and green packaging in performing their business obligations. The BA is expected to abide by the Tata Power Corporate Environment policy, Energy Conservation and Corporate Sustainability Policy (enclosed with this document as Annexure-II).

The BA is expected to:

- Strive towards Conservation of Energy, Water, Resources and optimize transportation of Men & Materials to minimize environmental impact and reduce carbon footprint.
- Carry out the assessment of materials used for construction, operation & maintenance, consumables and accordingly phase out those materials which are environmentally hazardous.
- Be cognizant that diversity in the workplace positively impacts business.
- Promote affirmative action by supporting people from SC/ ST background by engaging workforce from SC/ ST community under the contracts agreed herein.
- Share the commitment of 'No child labour', 'No forced labour', Non-discrimination on the basis of caste, colour, religion, gender, disability, maternity or pregnancy or any other factor unrelated to the requirements of the job
- Pay the wages or remuneration to the workforce, personnel deployed in compliance to all applicable laws and regulations.
- Provide its employees/ deployed labor with an employment environment that is free of physical or psychological harassment.
- Carry out the assessment of their Sub-contractors on their Sustainability Readiness so that they are aware of the above expectation/ standards
- To ensure usage of suitable package material which is more environmentally sustainable. Further the packing material shall be recycled to the extent possible. The material used for packing is expected to suit the mode of transport and to ensure its safe receipt at point of delivery.

Waste Disposal:

The BA is expected to follow best practices for disposal of waste, few of which are listed below:

- Have a detailed project plan that includes the waste management, segregation of all designated waste material (Recyclable/ Non-Recyclable), collecting, storing, disposing and transferring the same to pre-arranged facility/ destination in timely and safe manner as per environmental legislations. The project plan shall also include the innovative construction practice to eliminate or minimize waste, protect surface/ground water, control dust and other emissions to air and control noise.
- Have purchase policy to encourage the procurement of material with recycled and minimum packaging of goods during delivery and appropriate means for site-to-site transportation of materials to avoid damage and litter generation.
- Ensure that the residents living near the site are kept informed about proposed working schedule and timings/ duration of any abnormal noise full activity that is likely to happen.
- Ensure the regular maintenance and monitoring of vehicles and equipment for efficient fuel use so that emissions and noise are within acceptable limits to avoid air pollution.

Water Management:

The BA is expected to follow best practices for water management, few of which include a management and monitoring system for water withdrawals and consumption, procedures to reduce water usage or reuse/recycle water, and pretreatment of wastewater before disposal.

Compliance to Law:

The BA shall adhere to responsible business practices and comply with the provision of all the Statutory Acts Applicable. Special attention of the BA is drawn towards the compliance of provision of the following statutes: (along with the latest amendments/additions, as applicable):

- The Child Labour (Prohibition and Regulation) ACT, 1986.
- The Contract Labour (Regulation and Abolition) ACT, 1970.
- The Employee's Pension Scheme, 1995.
- The Employee's Provident Funds and miscellaneous provisions Act, 1952.
- The Employees State Insurance Act, 1948.
- The Equal Remuneration Act, 1976.
- The Industrial Disputes Act, 1947.
- The Maternity Benefit Act, 1961.
- The Minimum Wages Act, 1948.
- The Payment of Bonus Act, 1965
- The Payment of Gratuity Act, 1972.
- The Payment of Wages Act, 1936.
- The Shops & Establishment Act, 1954.
- The Workmen's Compensation Act, 1923.
- The Employer's Liability Act, 1938.
- and any other applicable statutory act

Social Accountability (SA 8000):

Tata Power expects its BAs to follow guidelines of SA 8000:2014 on the following aspects

- Child Labour
- Forced or Compulsory Labour
- Health & Safety
- Freedom of Association & Right to Collective Bargaining
- Discrimination
- Disciplinary Practices
- Working Hours
- Remuneration
- Management System

Health and Safety

The BA is expected to ensure the health and safety of his and his Sub-contractor's staff and labour. The BA shall, in collaboration with and according to the requirements of the local health authorities, ensure that medical staff, first aid facilities, sick bay and ambulance service are available at the accommodation and on the Site at all times, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics. The BA shall maintain records and make reports concerning health, safety and welfare of persons deployed, and damage to property, as the Owner's Representative may reasonably require. The BA shall be responsible for the medical treatment / hospitalization of his and his Sub-contractor's staff/ labour.

The BA shall appoint a qualified Safety officer at the Site to be responsible for maintaining the safety, and protection against accidents, of all personnel on the Site. Such Safety officer shall have the authority to issue instructions and take protective measures to prevent accidents.

The BA shall comply in toto with the Tata Power's Contractor Safety Terms & Conditions, Health Safety & Environment Manual while working on Tata Power Site/ Services/ Contracts.

Grievance Mechanism

The BA is expected to have grievance procedures that allow stakeholders to anonymously bring environmental and/or work-related violations and/or concerns to the attention of management. In addition, the BA is expected to have procedures for examining reports of environmental and/or work-related violations or concerns and/or privacy complaints.

Data Protection

The BA is expected to have a formal process to address data security or privacy issues.

ANNEXURE-I



Sr. No.	Question Description	Response (Y/N)	Remarks
Organization			
1	Does your Company have Sustainability Policy at Organization Level? If Yes, Please attach		
2	Do you have sustainable procurement policy in place for your own suppliers? If Yes, Please attach		
3	Does your company do regular assessment of its suppliers on ESG parameters?		
4	Are there ESG risks, or negative impacts identified in your supply chain		
Governance			
1	Is diversity taken into consideration when appointing board members/ senior management? Do you have an independent director/s?		
2	Has your company taken initiatives to ensure ethical practices at workplace? Please share the details, Policies etc.		
3	Does your company have a formal process to address data security or privacy issues? Please share the details, Policies etc.		
4	Does your company have grievance mechanism for stakeholder issues and track resolution?		
Environment/ Planet			
1	Does your company have Environmental Policy? If Yes, Please attach		
2	Do you have a formal process for waste management including solid wastes, liquid wastes and hazardous waste?		
3	Does your company track greenhouse gas emission? Also, what percentage of own consumption comes from the renewable energy?		
4	Does your company have a formal process for water management including monitoring of water consumption and withdrawals, and if applicable, pretreatment of wastewater?		
Green Technology/ Innovation			
1	Are your facility/ Product/ Services provided by you is based on green design, green production, green packaging or green logistics considerations? Please elaborate.		
2	Do your products or services have any environmental or social features or benefits (e.g. environmental/energy certification, ecolabels, fair trade certification, etc.)?		
Social/ People			
1	Does you facility/ Company have written personnel policies in place Are you an equal opportunity employer?		
2	Please describe any formal programme / campaign in place to promote company involvement with the community (volunteering, etc.). What is the percentage of profit spend on community activities?		
3	Does your company have a written Health & Safety Policy or Program? If Yes, Please attach		
Certifications: Does your company have following certifications (valid till date-please mention validity)			
1	ISO9001 accreditation		
2	SA8000 or equivalent		
3	ISO 14001 certification		
4	ISO 18001/45001 or equivalent		
5	ISO/IEC 27001 or equivalent		
6	Any Other (Please specify)		

Signature

Business Associate Name

ANNEXURE-II

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 Sinhal
CEO & Managing Director

Date: 15th June 2018



Supplier Code of Conduct

Tata Power follows the Tata Code of Conduct (TCoC) and the Whistle blower Policy and expect all its Suppliers to adhere to the same principles. **“Supplier”** here means any business, company, corporation, person or other entity that provides, sells or seeks to sell, any kind of goods or services to Tata Power, including the Supplier’s employees, agents and other representatives. The suppliers are expected to adhere to the following Do’s and Don’ts:

Do’s

1. The Suppliers shall be committed to supplying products and services of high quality that meet all applicable standards and laws, including product packaging, labelling and after-sales service obligations.
2. Comply with all applicable laws and regulations, both in letter and in spirit, in all the territories in which it operates.
3. Strive to provide a safe, healthy and clean working environment for its employees.
4. Strive for environmental sustainability, particularly with regard to the emission of greenhouse gases, consumption of water and energy and the management of waste and hazardous materials.
5. The Supplier shall represent our company (including Tata brand) only with duly authorised written permission from our company.
6. Safeguard the confidentiality on the use of intellectual property, information and data of the Company.
7. Gifts and hospitality given or received should be modest in value and appropriate as per Company Policy.
8. The assets of Tata Power shall be employed primarily and judiciously for the purpose of conducting the business for which they are duly authorised.
9. All actual or potential conflicts due to financial or any other relationship with a Tata Power employee shall be disclosed.

Don’ts

1. The Supplier shall not make unfair or misleading statements about the products and services of competitors.
2. Children shall not be employed at workplaces.
3. Forced labour shall not be used in any form.
4. The Suppliers shall neither receive nor offer or make, directly or indirectly, any illegal payments, remunerations, gifts, donations or comparable benefits that are intended, or perceived, to obtain uncompetitive favours for the conduct of its business with Tata Power.

Reporting Violations

The Supplier shall notify the Company regarding any known or suspected improper behaviour of other suppliers or employees relating to its dealings with Tata Power, by email to: cecounsellor@tatapower.com.

The same can also be raised through our 3rd party ethics helpline facility:

1. Email id: tatapower@ethics-line.com ; Website: www.tip-offs.com
2. Helpline numbers: Toll free - 0008001004382 and 0008001008277. Also accessible at normal domestic call rates within India: +91-11-71279005
3. Postal address: Deloitte Touche Tohmatsu India LLP
c/o Arjun Rajagopalan, Partner (Ethics Helpline Services)
19th Floor, 46 - Prestige Trade Tower, Palace Road,
High Grounds, Bengaluru, Karnataka – 560001

workmanlike manner and shall be free from faults and defects. Said warranties shall be in addition to any warranties of additional scope given by Contractor to Owner. None of said warranties and no other implied or express warranties shall be deemed is claimed or excluded unless evidenced by a change notice or revision issued and signed by Owner's authorized representative.

3. Compliance of Local Laws:

Contractor shall be responsible and shall comply with the provision of all the Statutory Acts Applicable. Special attention of the Contractor is drawn towards the compliance of provision of the following statues: (along with the latest amendments/additions, as applicable):

- a) The Child Labour (Prohibition and Regulation) ACT, 1986.
- b) The Contract Labour (Regulation and Abolition) ACT, 1970.
- c) The Employee's Pension Scheme, 1995.
- d) The Employee's Provident Funds and miscellaneous provisions Act, 1952.
- e) The Employees State Insurance Act, 1948.
- f) The Equal Remuneration Act, 1976.
- g) The Industrial Disputes Act, 1947.
- h) The Maternity Benefit Act, 1961.
- i) The Minimum Wages Act, 1948.
- j) The Payment of Bonus Act, 1965
- k) The Payment of Gratuity Act, 1972.
- l) The Payment of Wages Act, 1936.
- m) The Shops & Establishment Act, 1954.
- n) The Workmen's Compensation Act, 1923.
- o) The Employer's Liability Act, 1938.
- p) and any other applicable statutory act

Site Specific requirements shall be as Annexure at I. The compliance to these Site Specific requirements shall not absolve the Contractor of its obligation to comply with the Owner's Contractor Safety Management Policy.

4. Owner's Obligation:

- 4.1 The order manager (As specified in the 'Commercial Notes') shall have the authority to represent Owner on all day-to-day matters relating to the Contract or arising from the Contract. All notices, instructions, orders, certificates, approvals, and all other communications under the Contract shall be given by the order manager, except as otherwise provided for in this Contract. The order manager may appoint the Engineer-In-Charges for different areas for monitoring the work progress, inspections and signing of bills.

- 4.2 Owner shall ensure the availability of site access, all information and/or data to be arranged/ supplied by Owner to the Contractor for execution of the Work . The terms on which the Contractor shall be allowed access to the site shall be specified by the Owner prior to commencement of the execution of the Work and thereafter shall be governed in accordance with such policies as the Owner may provide in writing to the Contractor from time to time.

5. Contractor's/ Sub-contractor's employees:

- 5.1 The Contractor shall engage appropriately qualified persons to provide the services with the prior approval of Owner. Owner may withhold such approval for any reason whatsoever.
- 5.2 The Contractor hereby represents and warrants that:
 - i) the personnel are duly qualified, and are, and will remain, sufficiently qualified, careful, skilful, diligent and efficient to provide the services to Owner; and
 - ii) the Services will be rendered carefully, skilfully, diligently and efficiently, and to the professional standard reasonably expected by Owner of a contractor qualified and experienced in providing services substantially the same as the Services.
- 5.3 The Contractor must ensure that the Contractor's personnel conduct themselves in a proper manner and comply with the procedures and all policies, regulations and directives of Owner including any occupational, health and safety policies and the relevant prevailing laws and regulations in the Country of operations and specifically in the area where Work is being executed.
- 5.4 Owner may inform the Contractor to immediately remove Contractor's personnel from the relevant premises in the event of misconduct or incompetence on the part of the Personnel. The Contractor shall at all times remain liable for all acts and/or omissions of its Personnel.
- 5.5 It is made clear that no relationship of Owner and employee is created between Owner and the Contractor's resident engineers, employees and no claim for employment of any such personnel shall be tenable or entertained.

6. Title of Property:

- 6.1 Unless otherwise provided in this order or agreed to in writing, property of every description including but not limited to all tooling, tools, equipment and material furnished or made available to Contractor, title to which is

in Owner, and any replacement thereof shall be and remain the property of Owner. Such property other than material shall not be modified without the written consent of Owner. Such property shall be plainly marked or otherwise adequately identified by Contractor as being owned by Owner and shall be safely stored separately and apart from Contractor's property.

6.2 Contractor shall not use such property except for performance of work hereunder or as authorized in writing by Owner. Such property while in Contractor's possession or control shall be listed in writing and kept in good condition, shall be held at Contractor's risk, and shall be kept insured by Contractor, at its expense, in an amount equal to the replacement cost with loss payable to Owner. To the extent such property is not material consumed in the performance of this order, it shall be subject to inspection and removal by Owner and Owner shall have the right of entry for such purposes without any additional liability whatsoever to Contractor. As and when directed by Owner, Contractor shall disclose the location of such property, prepare it for shipment and ship it to Owner in as good condition as originally received by Contractor, reasonable wear and tear excepted.

7. Work Completion schedule:

Contractor shall plan and execute the Work in accordance with a detailed schedule mutually agreed upon by the Parties (Owner and Contractor).

8. Contract Price and Payment:

8.1 The Contract Price shall be a firm & fixed Contract Value for the Work inclusive of all the taxes, levies & duties and shall remain firm till the validity of this contract.

8.2 Unless Specifically stated elsewhere in the contract, the Contractor is solely liable for payment of , and warrants that it will pay, or ensure the payment of all taxes imposed, assessment made in relation to the Work.

8.3 An amount as stated in the table below shall be retained towards Contractor's safety performance against every RA bill:

Contract Value	Retention Amount (%)
Upto Rs. 10 lakhs	2.5
Above Rs. 10 lakhs and below Rs. 50 lakhs	2
Above 50 lakhs and upto Rs. 10 Crores	1.5
Above Rs. 10 Crores	1

Rev. date: 25 Jul 2017

The above mentioned safety retention shall be over and above any other retentions/ deferred payments as may have been specifically agreed in the Contract.

8.4 For Contract Price Rs. 1 crores or above and Contract Completion Schedule 12 months or more, the above safety retention will be released half yearly against the Safety Performance Score (methodology for evaluation enumerated in the Safety Terms & Conditions attached as Appendix to this General Terms & Condition) which will be evaluated by the Order Manager every month. For all other contracts, the above said safety retention shall be released along with the final settlement only at the end of the contract period.

8.5 The Owner shall have the right to stop any work which in its opinion is not meeting the safety standards/ guidelines of the Owner and good engineering practice. The Contractor shall not be eligible for and shall not be granted any extension in Completion Schedule due to such stoppage of work by the Owner.

8.6 The above retention towards safety shall not absolve the Contractor of its liabilities including statutory liabilities towards safety violations, injury or death (whether by accident or otherwise). An amount between Rs. 5 to 50 lakhs as deemed appropriate by Owner's appointed Committee for incident investigation and/ or as determined by statutory authorities (whichever higher), will be payable by the Contractor in case of such severe incidents of injury leading to loss of property or partial/ permanent disablement (e.g. loss of limb/s, vision etc.) or death.

8.7 Notwithstanding anything else stated in the Contract, the Contractor shall be liable for termination without any notice and without recourse to Owner in case of three (3) or more severe safety violations. There shall be no termination fees/ compensation payable to Contractor for such termination.

8.8 In case the Contractor achieves 100% on the Safety Performance Score, the Contractor shall be awarded a discretionary bonus of 1% of invoiced value subject to a maximum of Rs. 50 lakhs towards Safety Performance.

8.9 Payment shall be released within 60 days of submission of error free invoice with supporting documents duly certified by the Order Manager/ Engineer-in-Charge after deducting taxes at source as prescribed under the applicable law, income – tax or other deductions under the state value added tax laws . If such payment release

day falls on a holiday of Owner, payment will be released on the next working day. Against deduction of statutory taxes, tax deduction certificates where ever applicable shall be issued as per the applicable provisions of the statute. The Order Manager may recover any amount wrongly paid in excess in any previous bills certified by him.

8.10 *Mode of Payment:* All payments shall be made direct to the Contractor or his authorized representative in the shape of RTGS or Electronics Transfer method, on certification of the Order Manager/Engineer-in-Charge and on compliance of contractual terms & conditions.

9. **Taxes and Duties:**

9.1 The Contract Price shall be inclusive of all taxes, duties, including but not limited to Customs duty, GST or any local taxes, levies imposed by State/Central/Local governments.

9.2 Taxes as mentioned in the Contract Price or Price Schedule shall be paid to the contractor subject to the Contractor complying with all the statutory requirements and furnishing the relevant documents including error free invoices containing detailed break up of the taxes.

9.3 The tax invoices should contain the details to comply with the GST Law. The supplier shall:

- i) Furnish (electronically) and communicate to the Owner, the details of Goods or Services supplied by the 10th of the month succeeding the said tax period,
- ii) Upon discovery of any discrepancy, rectify it and shall pay the tax and interest thereof,
- iii) Furnish the returns (electronically), for the inward and outward supplies of Goods and/or Services, before the specified dates as per the GST Law,
- iv) Communicate the tax paid, credits etc. as and when credited.
- v) The Invoice should clearly state the description of the goods, quantity, sale price, tax %, and tax amount;
- vi) The Invoice should be signed by an Authorized Signatory.

Bills/Invoices in the name of The Tata Power Company Ltd. with packing lists in triplicate shall be forwarded along with the equipment.

Contractor to furnish GST Registration no. in all invoices as well as Purchaser's (Tata Power's) GST no.

9.4 However the payment of tax shall be restricted to the total amount as indicated in the price schedule.

9.5 Any statutory variation in duties, levies or taxes if applicable and specified in this Contract till the scheduled date for completion of Work and limited to direct invoices of the Contractor shall be to the account of Owner. The Contractor shall have the obligation to provide the necessary documentary evidence / supporting by way of gazetted notifications etc. to prove the change in such levies or taxes between the due date of submission of the Bid and the scheduled date of completion of work to claim the difference.

9.6 The Contractor shall pass on to the Owner all the benefits of either reduction in tax rates, exemptions, concessions, rebate, set off, credits etc. or introduction of new tax rates exemptions, concessions, rebate, set off, credits etc. pertaining to all taxes, duties, imposts, fees and levies in respect of the supplies of Goods or performance of obligations under the contract. This would specifically include reduction of tax rates as a result of statutory changes or judicial rulings.

9.7 Any other taxes, levies and duties not mentioned in Contract Price or Price Schedule but applicable as per any statute (s) or introduction (omission) of new taxes, levies and duties shall be deemed to be included in the Contract Price and shall be to the account of the Contractor.

9.8 For facilitating availment of a credit, set-off, rebate, drawback or like benefit available to the Owner, the Contractor will facilitate the Owner by providing the necessary documentary and/or procedural support. In any process of assessment or re-assessment, of taxes payable by the Owner,

9.9 The Contractor shall bear and pay all the costs, liabilities, levies, interest, penalties in respect of non-compliances of any legal requirements as per various statutory provisions. The contractor shall keep the owner indemnified at all times from any tax liability, interest, penalties or assessments that may be imposed by the statutory authorities for non-compliances or non-observation of any statutory requirements by the Contractor.

9.10 All formalities required under statutes, for availing any concessions under relevant tax laws shall be adhered to by the Contractor.

9.11 Deduction at source: Recovery at source towards income tax calculated at the rate prescribed from time to time under the Income Tax Act 1961 and other relevant sections of Income Tax Act shall be made from the bills of the Contractor and the amount so recovered shall be

deposited with the Income Tax Department. Necessary TDS certificate to this effect will be issued to the Contractor in the prescribed proforma.

- 9.12 If any other taxes / duties / cess etc are to be recovered at source as per government regulations / Legislation from time to time, the same shall be recovered from the bills payable to the Contractor. Necessary receipt to this effect will be issued to the Contractor in this regard as per the applicable legislation.

10. Contract Performance Guarantees (If applicable)

The Contractor shall within 15 days of issuance of this Order/Contract furnish an unconditional irrevocable bank guarantee duly stamped, strictly as per the prescribed format of Owner from any nationalized bank or any scheduled bank having a branch in Mumbai and approved by the Owner for a sum equivalent to 10% of the Total Contract Price valid for the Contract Period and with a claim period of not less than 6 months from the completion of Contract Period. The issuing bank should be advised to send a direct confirmation of issue of bank guarantee to Owner.

In case the Contractor fails to furnish the requisite Bank Guarantee as stipulated above, then the Owner shall have the option to cancel the Contract besides other contractual remedies.

11. Price Reduction:

- 11.1 In case the Contractor fails to deliver the service/ Complete the work as per the agreed Completion Schedule including intermediate milestones (if applicable), the Owner shall recover from Contractor, as ascertained and agreed Liquidated Damages, and not by way of penalty, a sum equivalent to 1% of the Contract Value per week of delay. The Liquidated Damages referred above may be recovered by the Owner as set off against any amounts payable by the Owner to the Contractor or in any other manner in accordance with applicable laws.
- 11.2 The overall cap on liquidated damages shall be limited to 10% of the Contract Price.

12. Insurance

- 12.1 The Contractor agrees to indemnify and protect Owner against all liability, claims or demands for injuries or damages to any person or property growing out of the performance of this order/ Contract.
- 12.2 The Contractor further agrees to furnish evidence of insurance showing that Contractor has and will maintain adequate insurance coverage during the life of this Contract/ order in the opinion of Owner, including but not

limited to comprehensive general liability insurance. Such evidence of insurance must set forth the name of the insurer, policy number, expiration date, and limits of liability. Compliance by Contractor with insurance requirements does not in any way affect Contractor's indemnification of Owner under Indemnification clause

13. Indemnification:

The Contractor shall indemnify, save harmless and defend the Owner and keep the Owner indemnified from and against any and all claims, costs, liabilities (financial), litigations, compensations, judgments, expenses or damages (including attorney's fees and other related expenses) arising out of any breach or alleged breach of any of the conditions of this Contract including compliance to statutory laws of provisioned under clause 3, performance of the obligations hereunder, or any representation or misrepresentation made by the Contractor or by any third party in respect of death or bodily injury or in respect to loss or damage to any property with regard to the subject of this Contract.

14. Indemnity against IPR:

The equipment, system, drawings, and other materials that shall be supplied against the Contract will become the Owner's property. Without limitation of any liability of whatsoever nature, the Owner shall be indemnified and kept indemnified against any claim for infringement or breach of any of the statues, rules & regulations by the use of or sale of any article or material supplied by the Contractor. The indemnity shall include any infringement of patent, trade mark, design, copyright or other property rights whether in Country of Origin, or elsewhere resulting from the Contractor's design, manufacture, use, supply or re-supply & would also cover use or sale of any article or material supplied by the Contractor to the Owner under the Contract. The Indemnity shall cover any claim/action taken by a third party either directly against the Owner or any claim/action made against the Contractor & where under the Purchaser is made liable. The Indemnity shall be for losses, damages, and costs including litigation costs, attorney fees etc incurred by the Owner in relation to the Contract.

15. Free Issue Material:

Wherever contracts envisage supply of Free Issue Material (FIM) by the Owner to the contractor for fabrication/ use in service performance, such Free Issue Material shall be safeguarded by an insurance policy to be provided by the Contractor at his own cost for the full value of such materials and the insurance policy shall cover the following risks specifically and shall be valid for six months beyond the Contract Validity date :

RISKS TO BE COVERED: Any loss or damage to the Owner's materials due to fire, theft, riot, burglary,

strike, civil commotion, terrorist act, natural calamities etc. and any loss or damage arising out of any other causes such as other materials falling on Owner's materials.

The amount for which insurance policy is to be furnished shall be indicated in the respective Contract.

Free Issue material (FIM) will be issued to the Contractor only after receipt of the Insurance Policy from the Contractor. The contractor shall arrange collection of the FIM from the Owner's premises and safe transportation of the same to his premises at his risk and cost. Notwithstanding the insurance cover taken out by the Contractor as above, the Contractor shall indemnify the Owner and keep the Owner indemnified to the extent of the value of free issue materials to be issued till such time the entire contract is executed and proper account for the free issue materials is rendered and the left over/surplus and scrap items are returned to the Owner. The contractor shall not utilize the Owner's free issue materials for any job other than the one contracted out in this case and also not indulge in any act, commission or negligence which will cause/result in any loss/damage to the Owner and in which case, the Contractor shall be liable to the Owner to pay compensation to the full extent of damage/loss. The Contractor, shall be responsible for the safety of the free issue materials after these are received by them and all through the period during which the materials remain in their possession/control/custody. The Free issue materials on receipt at the Contractor's works shall be inspected by them for ensuring safe and correct receipt of the material. The contractor shall report the discrepancies, if any, to the Owner within 5 days from the date of receipt of the material. The contractor shall take all necessary precautions against any loss, deterioration, damage or destruction of the FIMs from whatever cause arising while the said materials remain in their possession/custody or control. The free issue materials shall be inspected periodically at regular intervals by the Contractor for ensuring safe preservation and storage, the Contractor, shall also not mix up the materials in question with any other goods and shall render true and proper account of the materials actually used and return balance remaining unused material on hand and scrap along with the final product and if it is not possible within a period of one month from the date of delivery of the final product/ completion of Service covered by this Contract. The Contractor shall also indemnify the Owner to compensate the difference in cost between the actual cost of the free issue material lost/damaged and the claim settled to the Owner by the insurance company.

16. Relation between parties:

The Contract shall be entered into on a principal-to-principal basis only. The Contract shall not be construed as a partnership or an association of persons. There is no agent and principal relationship between the parties. Each party shall be responsible for its own conduct. The Contractor shall ensure at all times that all the work carried out under this contract

either by its own person or through any of its sub-Vendors shall be always done under its own direct supervision.

17. Safety:

Contractor shall comply with all legal and statutory provisions including all rules and regulations pertaining to Safety, Health and the Environment and will be responsible for all legal liabilities arising due to any of their acts or of their personnel.

The Contractor shall comply with the Owner's Contractor Safety Policy and Safety Terms and Conditions. Any misconduct and/ or violation with respect to the Owner's Contractor Safety Policy and Safety Terms and Conditions or any other legal and statutory provisions pertaining to Safety, Health and Environment shall be dealt with as per the Safety Terms and Conditions.

Prior to commencement of any work at site Contractor shall submit an undertaking in writing to adhere to and comply with all the provisions of Owner's Contractor Safety Code of Conduct.

The Contractor shall have a valid ISO 14001/ OHSAS certification. In absence of the same, the Contractor shall obtain the same within 6 months from the date of the Effective Date of Contract.

18. Suspension of Work

Owner may instruct Contractor at any time to suspend performance of the Work or any part thereof with a notice of 7 days for whatever reason. Provided Contractor is not in default under this Contract subject to Articles 1 and 5 inclusive, the Contractor shall be paid a mutually agreed fee, if any, necessarily incurred by Contractor as a direct consequence thereof of suspension and the Project Completion Schedule may be revised accordingly.

Without prejudice to any other rights Owner may have under this Contract or at law if Contractor is in default under this Contract, Owner may instruct Contractor to suspend performance of the Work or any part thereof by giving 7 days notice till such default has been corrected to the satisfaction of Owner. Also Liquidated Damages in accordance with Clause 11 shall continue to be applicable during such period until the default is cured. The costs incurred by the Contractor for such correction shall be to the Contractor's account, and furthermore no payment shall become due to the Contractor. Any cost incurred due to non - performance of the Contractor by the Owner shall be charged to the Contractor.

19. Change Management:

Owner shall have the right at any time to order any change in the Work in accordance with the following procedure. Contractor shall furnish to Owner upon request as soon as reasonably possible but no later

than five (5) days following the request, a written statement specifying:

- (a) the increase or decrease, as the case may be, in the costs of the Work which will result from a change in the Work as requested by Owner,
- (b) any effect such change in the Work may have on any other provision of this Contract originating from either parties, and
- (c) such other details as Owner may require.

Any change in costs shall be reasonably related to the proportional change in the Work and any other costs incurred by Contractor. If Owner agrees to Contractor's statement Owner shall notify Contractor thereof in writing in the form of a change order, whereupon the change in the Work shall be incorporated in the Work and immediately implemented. In the event that the change relates to a reduction in Work, the work in question shall not be undertaken pending the issue of an appropriate Change Order.

20. Governing Laws

This Contract shall be construed in accordance with and governed by the Laws of India without giving effect to any principle of conflict of law.

21. Jurisdiction

This Contract and the transaction contemplated herein shall be subject to the exclusive jurisdiction of the competent Courts in Mumbai only.

22. Dispute settlement:

Dispute or differences arising out or relating to this Order shall be resolved amicably by the parties. Failing such amicable resolution of dispute / differences either party may refer the matter to arbitration of a Sole Arbitrator to be appointed jointly by both the parties. The award of the Arbitrator shall be final, binding and conclusive on the parties. The venue for arbitration shall be Mumbai. The Arbitration proceedings will be governed and regulated by the provisions of Indian Arbitration and Conciliation Act, 1996 as amended from time to time and the rules framed there under.

23. Force majeure:

- 23.1 In the event of either party being rendered unable by force majeure to perform any obligation required to be performed by it under this Contract the relative obligation of the party affected by such force majeure shall, after notice under this articles be suspended for the period during which such cause lasts. The term 'Force Majeure' as employed herein shall mean acts of God, wars (declared or undeclared), riots or civil commotion, fire, floods, and acts and regulations of the Government of India or State Government or any of the statutory agencies. Both the party

shall pay to the other party, the amount payable upon the date of the occurrence of such force majeure.

- 23.2 Upon the occurrence of such cause and upon its termination, the party alleging that it has been rendered unable as aforesaid, thereby shall notify the other party in writing immediately but not later than twenty four (24) hours of the alleged beginning and ending thereof giving full particulars and satisfactory evidence in support of the claims.

- 23.3 During the period, the obligations of the parties are suspended by force majeure; the contractor shall not be entitled to payment of any rate.

- 23.4 In the event of the force majeure conditions continuing or reasonably expected to continue for a period more than thirty (30) days, Owner shall have the option of terminating the contract by giving seven (7) days notice thereof to the contractor.

24. Sub letting and Assignment

The contractor shall not, without prior consent in writing of the Owner, sublet, transfer or assign the contract or any part thereof or interest therein or benefit or advantage thereof in any manner whatsoever, provided nevertheless that any such consent shall not relieve the contractor from any obligation, duty or responsibility under the contract.

25. Limitation of Liability:

Notwithstanding anything contained in the Contract, the Contractor's aggregate liability under this Contract shall be limited 100% of the Total Contract value. This shall exclude liability arising pursuant to clause 3- Compliance to Local Laws, clause 9.10, clause 14- Indemnity against IPR, clause 13- Indemnity, clause 26 – Confidentiality, liability arising due to loss of or damage to the Free Issue Material (FIM) issued by Owner to Contractor for completion of the Work and liability arising due to wilful misconduct, gross negligence, third party claims and corrupt acts attributable to the Contractor.

26. Confidentiality:

The Contractor shall use the Confidential Information of the Owner only in furtherance of this Contract and shall not transfer or otherwise disclose the Confidential Information to any third party. The Contractor shall (i) give access to such Confidential Information solely to those employees with a need to have access thereto; and (ii) take the same security precautions to protect against disclosure or unauthorized use of such Confidential Information that the party takes with its own confidential information but, in no event, shall a party apply less than a reasonable standard of care to prevent such disclosure or unauthorized use.

27. Termination:

27.1 The Contract shall be deemed to be terminated on completion of the Contract period.

27.2 Termination of default by Contractor:
Owner may terminate the contract at any time if the Contractor fails to carry out any of his obligations under this Contract. Prior to termination, the Contractor shall be advised in writing of the causes of unsatisfactory performance to be improved upon 15 days of the receipt of notice. In case, if the Contractor fails to bring about the improvement to the satisfaction of the Owner, then the Contract shall be terminated.

27.3 Without prejudice to the rights and remedies available to Owner, Owner may terminate the Contract or part thereof with immediate effect with written notice to the Contractor if:

27.3.1 The Contractor becomes bankrupt or goes into liquidation.

27.3.2 The Contractor makes a general assignment for the benefit of creditors.

27.3.3 A receiver is appointed for any substantial property owned by the Contractor.

27.3.4 The Contractor is in breach of any representation or warranty made to the Owner by the Contractor.

The Contractor shall not be entitled to any further payment under the Contract if the Contract is terminated. If the order is terminated under clause 27.2 and 27.3, the Contractor shall not be entitled to any further payment, except that, if Owner completes the Work and the costs of completion are less than the Contract Price, the Owner shall pay Contractor an amount properly allocable to services fully performed by Contractor prior to termination for which payment was not made to Contractor. In case, the cost of completion of Work exceeds the Contract Price, the additional cost incurred by Owner for such completion shall be paid by the Contractor.

27.4 Owner shall be entitled to terminate the Contract at its convenience, at any time by giving thirty (30) Days prior notice to the Contractor. Such notice of termination shall specify that termination is for Companies convenience and the date upon which such termination becomes effective. Upon receipt of such notice, the Contractor shall proceed as follows:

27.4.1 cease all further work, except for such work as may be necessary and instructed by the Owner/ Owner's representative for the purpose of preserving and protecting Work already in progress and protect

materials, facilities and equipment on the Work Site or in transit;

27.4.2 stop all further sub-contracting or purchasing activity, and terminate Sub-contracts;

27.4.3 handover all Documents, equipment, materials and spares relating to the portion of Work already executed by the Contractor or procured from other sources up to the date of termination for which the Contractor has received payment equivalent to the value thereof; and

27.4.4 handover those parts of the supplies manufactured/ work executed by the Contractor up to the date of termination.

Upon termination pursuant to clause 27.4, the Contractor shall be entitled to be paid (a) all sums properly due to the Contractor under the Contract up to the date of termination; and (b) any direct and substantiated charges already incurred or committed for cancellation of the procurement of third party goods or services which were to have been supplied by the Contractor in connection with this Contract provided that the Contractor shall use its best endeavours to minimise such charges

25.5 The Contractor shall not be released from any of his obligations or liabilities accrued under the Contract on termination. For the avoidance of doubt, the termination of the Contract in accordance with this clause shall neither relieve the Contractor of his accrued obligations for Warranty or his accrued liability to pay (liquidated) damages for Delay nor shall entitle him to reduce the value of Performance Security.

28. Consequential Damages:

Unless otherwise specified, neither Party shall be responsible for and nor shall be liable to the other Party for indirect/consequential losses and damages suffered by such Party including for loss of use, loss of profit whether such liability or claims are based upon any negligence on the part of the other Party or its employees in connection with the performance of the Contract.

29. Environment / ISO 14001 Certification:

The Contractor to confirm whether their organization is ISO 14001 certified. If not, the Contractor must certify that the handling, use and disposal of their product / by-products conform to practices consistent with sound environmental management and local statutes. The Contractor shall ensure that all the wastes are disposed in environmental friendly way with strict compliance to applicable laws including adherence to MoEF guidelines with respect to disposal of batteries, lead waste, copper cables, ash, waste oil, e-waste etc which shall be disposed through MoEF approved

parties only. The Contractor shall also be responsible to collect and recycle all the e-waste generated at the end of the product life cycle at its own costs and risks as per the MoEF guidelines/orders.

30. Non-Exclusive Agreement

This Contract is non-exclusive and Owner reserves the right to engage other contractors to perform similar or identical work. Contractor shall accord such other contractors adequate opportunity to carry out their contracts and shall accomplish the Work in co-operation with those contractors and with Owner, in accordance with such instructions as may be issued by the Owner from time to time.

31. Severability

In the event that any of the provisions, or portions or applications thereof, of this Contract are held to be unenforceable or invalid by any court or arbitration panel of competent jurisdiction, Contractor and Owner shall negotiate an equitable adjustment to the provisions of the Contract with a view towards effecting the purpose of the Contract and the validity and enforceability of the remaining provisions, or portions or applications thereof, shall not be affected thereby.

32. Housekeeping & Removal of scrap:

The Contractor shall be responsible for keeping the areas of his work at site, neat and tidy throughout the period of his work. All excess material/ spares/ consumables taken by Contractor, as well as the scrapped items and wooden logs/ crates/ planks shall be returned, from time to time, to the Stores, and transported/ unloaded by Contractor's personnel at the place shown by Order Manager/Engineer-in charge.

The Contractor shall so arrange that all the scrap generated during the progress of his work, is separated into two categories, viz.

- i) Saleable scrap like steel, copper or other metals, etc., and,
- ii) Others, which have nil or negligible resale value, like insulation material, jute, debris, etc. (or as directed by the Order Manager/Engineer-in charge).

The saleable scrap shall be shifted to and unloaded at a central place as per directions of the Stores-in charge, while the other scraps shall be shifted to other locations as per directions from Order Manager/Engineer-in Charge, or as per terms of the order.

The Contractor shall arrange to remove the scrap on regular basis, or even on daily basis, depending upon the requirement, to keep the area around his workplace neat and tidy. In case, it is observed that the

Contractor is not carrying out regular cleaning of his areas of work, or, is not returning the excess materials/ scrap, etc., to the Stores, Owner reserves the right to arrange the same through other sources, and back-charge the Contractor the cost of doing so, along-with overheads, by deducting the amount from Contractor's bills.

Contractor's final bill will be cleared by Owner only after confirming that proper clearing of his areas of work has been completed by the Contractor, and same is certified by the Order Manager/ Engineer in-charge

33. 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 at our website: <http://www.tatapower.com/aboutus/code-of-conduct.aspx>. The Contractor is requested to bring any concerns regarding this to the notice of our Chief Ethics Officer on the e-mail ID: cecounsellor@tatapower.com.

34. Responsible Supply Chain Management:

The Owner is committed for a cleaner environment and respect of Human rights through its Responsible Supply Chain Management policy. The Contractor is required to comply with all the environment & Human rights related laws, including emission norms, Labour and environmental regulations. The Owner encourages its Vendors/ Contractors/ Business partners to pay more attention to green design, green supply, green production, green logistics and green packaging in performing their business obligations.

The Contractor is required to abide by the Tata Power Corporate Environment policy, Energy Conservation and Corporate Sustainability Policy.

A copy of the Responsible Supply Chain Policy along with Environment policy, Energy Conservation policy, Sustainability policy, Health & Safety policy and Human Rights policy is available at website: <http://www.tatapower.com/sustainability/policies.aspx>.

Contractor/Bidder is required to completely fill the attached "Supplier Sustainability Questionnaire" in support of their Green Supply Chain Management initiatives and submit the same with their offer.

The Owner recognizes that diversity in the workplace positively impacts business. The Owner is committed to help people from SC/ST background either by helping them to become entrepreneurs or by engaging workforce from SC/ST community under the contracts agreed herein. To encourage engaging SC/ST community, the owner may consider on the merit to incentivize the Contractor by paying additional 1% of

the service contract portion if the number of SC/ST workforce engaged in the contract exceeds 30% of the total deployed strength and 2%, if the strength goes beyond 50%. While the Contractor will assist the workforce so engaged to become self-reliant in meeting the work expectation, the Owner may also volunteer its training resources to the extent possible to improve their employability. The Contractor shall maintain the proper documentation of such category of the workforce engaged and the owner may consider to pay the incentive after its verification.

The Owner may also consider extending price preference of 5% in the bid evaluation for an order value up to Rs.50 Lacs, provided the company is owned by a person from SC/ST community having minimum 50% holding in the company.

35. Vendor rating:

You are requested to ensure compliance to the terms of the individual orders with regards to timely delivery, provision of all applicable documents / challans / test certificate, quality of the material etc. Your performance with respect to the said factors will be taken into consideration for future business.

36. Vendor Feedback:

34.1 In this dealing Vendors feedback is important for the purchaser to improve its processes. If Contractor have to report any grievance, problem or require any clarification, information, Contractor is requested to contact purchaser at email ID:
CC_CUSTOMERFEEDBACK@tatapower.com

34.2 Contractor is requested to ensure compliance to the terms of the individual orders with regards to timely delivery, provision of all applicable documents / challans / test certificate, quality of the material etc. Contractor performance with respect to the said factors will be taken into consideration for future business.

37. Non-Waiver:

Failure of Owner or its representatives to insist upon adherence to any of the terms or conditions incorporated in the Contract or failure or delay to exercise any right or remedies herein or by law accruing, or failure to promptly notify the Contractor in the event of breach or the acceptance of or the payment of any Material(s) hereunder or approval of any design or Material(s) shall not release the Contractor and shall not be deemed a waiver of any right of Owner to insist upon the strict performance thereof or of any of its rights or remedies as to any

such Material(s) regardless of when the Material(s) are shipped, received or accepted not shall any purported oral modification or revisions of the Contract by Owner or its representative(s) act as waiver of the terms hereof.

ESG FRAMEWORK FOR BUSINESS ASSOCIATES

Tata Power's Sustainability philosophy sits at the core of its Business Strategy. Tata Power Sustainability Model has an overarching objective of 'Leadership with care' with key elements of 'Care for the Environment'; 'Care for the Community'; 'Care for our Customers / Partners' and 'Care for our People'. These sustainability objectives encompass the Environmental, Social and Governance objectives driven as integrated elements.

Tata Power, together with its stakeholders is determined to achieve sustainable growth while creating shared value for all.

As a part of future ready roadmap, Tata Power has targeted following as our Environment, Social and Governance priorities:

- Being Carbon Net Zero before 2045
- Growing Clean capacity (80% by 2030)
- Customer centricity
- Becoming water neutral before 2030
- Achieving zero waste to landfill before 2030
- No net loss of biodiversity before 2030
- Positively impacting 80 million lives by 2027

In order to create a sustainable business ecosystem, Tata Power expects that all its Business Associates (BA) which includes its suppliers, vendors, consultants and service providers to align to its ESG and sustainability commitments.

Tata Power encourages improved efficiencies and scaling up of green initiatives through technology and innovation taking us farther on the journey of reducing carbon emissions and preparing the entire eco-system towards products and services that would have net positive impact on the environment and communities that we operate in.

The Vendors/ bidders wishing to associate with Tata Power are expected to share their own sustainability and ESG journey. We at Tata Power promote all Business Associates to have a sustainable procurement policy for their supplier and service providers to contribute to our integrated approach in achieving a sustainable supply chain. The BA is encouraged to carry out the assessment of their sub-contractors and sub-vendors on sustainability readiness so that they are aware of the expectation/ business requirement.

The Vendor/ Bidder shall fill-in the 'Environment, Social and Governance Compliance Screening Questionnaire for Business Associates' attached at Annexure-I and submit the same along with the Bid in Ariba online platform.

Responsible Supply Chain Management:

Tata Power is committed for a cleaner environment and respect of Human rights through its Responsible Supply Chain Management policy.

Tata Power Business Associate (BA) shall comply with all the environment & Human rights related laws, including emission norms, Labour and environmental regulations.

Tata Power encourages its BA to focus on green design, green supply, green production, green logistics and green packaging in performing their business obligations. The BA is expected to abide by the Tata Power Corporate Environment policy, Energy Conservation and Corporate Sustainability Policy (enclosed with this document as Annexure-II).

The BA is expected to:

- Strive towards Conservation of Energy, Water, Resources and optimize transportation of Men & Materials to minimize environmental impact and reduce carbon footprint.
- Carry out the assessment of materials used for construction, operation & maintenance, consumables and accordingly phase out those materials which are environmentally hazardous.
- Be cognizant that diversity in the workplace positively impacts business.
- Promote affirmative action by supporting people from SC/ ST background by engaging workforce from SC/ ST community under the contracts agreed herein.
- Share the commitment of 'No child labour', 'No forced labour', Non-discrimination on the basis of caste, colour, religion, gender, disability, maternity or pregnancy or any other factor unrelated to the requirements of the job
- Pay the wages or remuneration to the workforce, personnel deployed in compliance to all applicable laws and regulations.
- Provide its employees/ deployed labor with an employment environment that is free of physical or psychological harassment.
- Carry out the assessment of their Sub-contractors on their Sustainability Readiness so that they are aware of the above expectation/ standards
- To ensure usage of suitable package material which is more environmentally sustainable. Further the packing material shall be recycled to the extent possible. The material used for packing is expected to suit the mode of transport and to ensure its safe receipt at point of delivery.

Waste Disposal:

The BA is expected to follow best practices for disposal of waste, few of which are listed below:

- Have a detailed project plan that includes the waste management, segregation of all designated waste material (Recyclable/ Non-Recyclable), collecting, storing, disposing and transferring the same to pre-arranged facility/ destination in timely and safe manner as per environmental legislations. The project plan shall also include the innovative construction practice to eliminate or minimize waste, protect surface/ground water, control dust and other emissions to air and control noise.
- Have purchase policy to encourage the procurement of material with recycled and minimum packaging of goods during delivery and appropriate means for site-to-site transportation of materials to avoid damage and litter generation.
- Ensure that the residents living near the site are kept informed about proposed working schedule and timings/ duration of any abnormal noise full activity that is likely to happen.
- Ensure the regular maintenance and monitoring of vehicles and equipment for efficient fuel use so that emissions and noise are within acceptable limits to avoid air pollution.

Water Management:

The BA is expected to follow best practices for water management, few of which include a management and monitoring system for water withdrawals and consumption, procedures to reduce water usage or reuse/recycle water, and pretreatment of wastewater before disposal.

Compliance to Law:

The BA shall adhere to responsible business practices and comply with the provision of all the Statutory Acts Applicable. Special attention of the BA is drawn towards the compliance of provision of the following statutes: (along with the latest amendments/additions, as applicable):

- The Child Labour (Prohibition and Regulation) ACT, 1986.
- The Contract Labour (Regulation and Abolition) ACT, 1970.
- The Employee's Pension Scheme, 1995.
- The Employee's Provident Funds and miscellaneous provisions Act, 1952.
- The Employees State Insurance Act, 1948.
- The Equal Remuneration Act, 1976.
- The Industrial Disputes Act, 1947.
- The Maternity Benefit Act, 1961.
- The Minimum Wages Act, 1948.
- The Payment of Bonus Act, 1965
- The Payment of Gratuity Act, 1972.
- The Payment of Wages Act, 1936.
- The Shops & Establishment Act, 1954.
- The Workmen's Compensation Act, 1923.
- The Employer's Liability Act, 1938.
- and any other applicable statutory act

Social Accountability (SA 8000):

Tata Power expects its BAs to follow guidelines of SA 8000:2014 on the following aspects

- Child Labour
- Forced or Compulsory Labour
- Health & Safety
- Freedom of Association & Right to Collective Bargaining
- Discrimination
- Disciplinary Practices
- Working Hours
- Remuneration
- Management System

Health and Safety

The BA is expected to ensure the health and safety of his and his Sub-contractor's staff and labour. The BA shall, in collaboration with and according to the requirements of the local health authorities, ensure that medical staff, first aid facilities, sick bay and ambulance service are available at the accommodation and on the Site at all times, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics. The BA shall maintain records and make reports concerning health, safety and welfare of persons deployed, and damage to property, as the Owner's Representative may reasonably require. The BA shall be responsible for the medical treatment / hospitalization of his and his Sub-contractor's staff/ labour.

The BA shall appoint a qualified Safety officer at the Site to be responsible for maintaining the safety, and protection against accidents, of all personnel on the Site. Such Safety officer shall have the authority to issue instructions and take protective measures to prevent accidents.

The BA shall comply in toto with the Tata Power's Contractor Safety Terms & Conditions, Health Safety & Environment Manual while working on Tata Power Site/ Services/ Contracts.

Grievance Mechanism

The BA is expected to have grievance procedures that allow stakeholders to anonymously bring environmental and/or work-related violations and/or concerns to the attention of management. In addition, the BA is expected to have procedures for examining reports of environmental and/or work-related violations or concerns and/or privacy complaints.

Data Protection

The BA is expected to have a formal process to address data security or privacy issues.

ANNEXURE-I



Sr. No.	Question Description	Response (Y/N)	Remarks
Organization			
1	Does your Company have Sustainability Policy at Organization Level? If Yes, Please attach		
2	Do you have sustainable procurement policy in place for your own suppliers? If Yes, Please attach		
3	Does your company do regular assessment of its suppliers on ESG parameters?		
4	Are there ESG risks, or negative impacts identified in your supply chain		
Governance			
1	Is diversity taken into consideration when appointing board members/ senior management? Do you have an independent director/s?		
2	Has your company taken initiatives to ensure ethical practices at workplace? Please share the details, Policies etc.		
3	Does your company have a formal process to address data security or privacy issues? Please share the details, Policies etc.		
4	Does your company have grievance mechanism for stakeholder issues and track resolution?		
Environment/ Planet			
1	Does your company have Environmental Policy? If Yes, Please attach		
2	Do you have a formal process for waste management including solid wastes, liquid wastes and hazardous waste?		
3	Does your company track greenhouse gas emission? Also, what percentage of own consumption comes from the renewable energy?		
4	Does your company have a formal process for water management including monitoring of water consumption and withdrawals, and if applicable, pretreatment of wastewater?		
Green Technology/ Innovation			
1	Are your facility/ Product/ Services provided by you is based on green design, green production, green packaging or green logistics considerations? Please elaborate.		
2	Do your products or services have any environmental or social features or benefits (e.g. environmental/energy certification, ecolabels, fair trade certification, etc.)?		
Social/ People			
1	Does you facility/ Company have written personnel policies in place Are you an equal opportunity employer?		
2	Please describe any formal programme / campaign in place to promote company involvement with the community (volunteering, etc.). What is the percentage of profit spend on community activities?		
3	Does your company have a written Health & Safety Policy or Program? If Yes, Please attach		
Certifications: Does your company have following certifications (valid till date-please mention validity)			
1	ISO9001 accreditation		
2	SA8000 or equivalent		
3	ISO 14001 certification		
4	ISO 18001/45001 or equivalent		
5	ISO/IEC 27001 or equivalent		
6	Any Other (Please specify)		

Signature

Business Associate Name

ANNEXURE-II

CORPORATE SUSTAINABILITY POLICY

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

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

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



Praveer Sinha
CEO & Managing Director

Date: 15th June 2018



Supplier Code of Conduct

Tata Power follows the Tata Code of Conduct (TCoC) and the Whistle blower Policy and expect all its Suppliers to adhere to the same principles. “**Supplier**” here means any business, company, corporation, person or other entity that provides, sells or seeks to sell, any kind of goods or services to Tata Power, including the Supplier’s employees, agents and other representatives. The suppliers are expected to adhere to the following Do’s and Don’ts:

Do’s

1. The Suppliers shall be committed to supplying products and services of high quality that meet all applicable standards and laws, including product packaging, labelling and after-sales service obligations.
2. Comply with all applicable laws and regulations, both in letter and in spirit, in all the territories in which it operates.
3. Strive to provide a safe, healthy and clean working environment for its employees.
4. Strive for environmental sustainability, particularly with regard to the emission of greenhouse gases, consumption of water and energy and the management of waste and hazardous materials.
5. The Supplier shall represent our company (including Tata brand) only with duly authorised written permission from our company.
6. Safeguard the confidentiality on the use of intellectual property, information and data of the Company.
7. Gifts and hospitality given or received should be modest in value and appropriate as per Company Policy.
8. The assets of Tata Power shall be employed primarily and judiciously for the purpose of conducting the business for which they are duly authorised.
9. All actual or potential conflicts due to financial or any other relationship with a Tata Power employee shall be disclosed.

Don’ts

1. The Supplier shall not make unfair or misleading statements about the products and services of competitors.
2. Children shall not be employed at workplaces.
3. Forced labour shall not be used in any form.
4. The Suppliers shall neither receive nor offer or make, directly or indirectly, any illegal payments, remunerations, gifts, donations or comparable benefits that are intended, or perceived, to obtain uncompetitive favours for the conduct of its business with Tata Power.

Reporting Violations

The Supplier shall notify the Company regarding any known or suspected improper behaviour of other suppliers or employees relating to its dealings with Tata Power, by email to: cecounsellor@tatapower.com.

The same can also be raised through our 3rd party ethics helpline facility:

1. Email id: tatapower@ethics-line.com ; Website: www.tip-offs.com
2. Helpline numbers: Toll free - 0008001004382 and 0008001008277. Also accessible at normal domestic call rates within India: +91-11-71279005
3. Postal address: Deloitte Touche Tohmatsu India LLP
c/o Arjun Rajagopalan, Partner (Ethics Helpline Services)
19th Floor, 46 - Prestige Trade Tower, Palace Road,
High Grounds, Bengaluru, Karnataka – 560001



STC additional for Open Tender

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Special Terms and Conditions

Item No D.2

1. The information contained in this Tender Document or subsequently provided to Bidder, whether verbally or in documentary or any other form by or on behalf of The Tata Power Company Limited herein referred to as Tata Power, or any of its employees, is provided to Bidder on the terms and conditions set out in this Tender Document and such other terms and conditions subject to which such information is provided.
2. Tata Power also does not accept any liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Bidder upon the statements contained in this Tender Document.
3. Tata Power, and its employees make no representation or warranty and shall have no liability to any person including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this Tender Document or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the Tender Enquiry and any assessment, assumption, statement or information contained therein or deemed to form part of this Tender Document or arising in any way in this Selection Process.
4. Tata Power may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this Tender Document.
5. Though adequate care taken while issuing this Tender Document, Bidder should satisfy himself for completeness of the document in all respects. Intimation of any discrepancy should be given to Tata Power Concerned Person immediately. If no intimation received by this office within 3 days from the date of issue of the Tender Document, then Tata Power shall consider that the document received by the Bidder is complete and to the satisfaction of the Bidder in all respects.
6. Tata Power reserves the right to change any or all of the provisions of this Tender Document before date of submission. Such changes, if any, would be intimated to Authorized Person of Interested Bidder through E-Tender System only.
7. The issue of this Tender Document does not imply that Tata Power is bound to select a Bidder or to appoint the Selected Bidder, as the case may be, for the Contract and Tata Power reserves the right to reject all or any of the Proposals without assigning any reasons and or making any correspondence on this account whatsoever.
8. Bidder shall bear all costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses

associated with any demonstrations or presentations which may be required by Tata Power or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Bidder and Tata Power shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by an Bidder in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.

Any Bidder wishing to undertake site visits for familiarization with site conditions, may do so. All costs towards site visits, conference and submission of documents shall be borne by the Bidder themselves.

9. No claim shall be entertained on account of disruption of internet services being used by bidders. Bidders are advised to upload their bids well in advance to avoid last minute technical snag.
10. The decision of Tata Power Management regarding the opening of offers, evaluation and acceptance of the offer shall be final and binding on all the Bidders.
11. Tata Power reserves the right to extend the date of uploads/opening of tenders without assigning any reason thereof, and also reserves the right to distribute the work among more than one bidder.
12. Tata Power reserves the right to accept or reject any offer, and to annul the offer process and reject all offers at any time prior to award of Offer, without thereby incurring any liability to the affected Bidder or any obligation to inform the affected Bidder of the grounds for the Tata Power decision.
13. Tata Power reserves the right to invite open or limited tenders and when tenderers are called to accept a tender in whole or in part or reject any tender or all tenders without assigning any reasons for such action.
14. The authority for the acceptance of the tender will rest with the Tata Power. It shall be obligatory on the said authority to accept the most suitable bid or any other bid and no Bidder shall demand neither any explanation for the cause of rejection of his / their tender nor Tata Power undertake to assign reasons for declining to consider or reject any particular tender or tenders.
15. Local Conditions: It will be imperative on each Bidder to fully acquaint himself with all the local conditions and *factors* which would have any effect on the performance of the contract. Tata Power shall not entertain any request for clarifications from the tenderer regarding such local conditions. No request for the change of price, of time schedule of completion of work on account of any local conditions or factor shall be entertained after the offer is accepted by Tata Power.

16. The intending bidder will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that rates he enters in the tender papers are adequate and all inclusive, for the completion of works to the entire satisfaction of Tata Power.
17. Bidder who is Black listed / Banned / Debarred as on originally scheduled date of this bid opening or whose Agreement / Work order has been terminated on account of performance, or a bidder against whom there is adverse report about its performance under an existing contract or a bidders performance security has been forfeited by any company/organization for non-performance at any time shall not be eligible, within 5 (five) years of originally scheduled date of this bid opening by any State / Central Govt. / Govt. Undertaking / Public sector Undertaking in India for similar type of work, will not be eligible for participating in this tender. The Bidder should submit an affidavit on Letter Head (Format F1) as a proof in this regard.
18. The bidder should provide detailed information on any litigation or arbitration arising out of contracts completed or under execution by it over the last five years. A consistent history of awards involving litigation against the Bidder may result in rejection of Bid.
19. Conditional and incomplete tenders shall not be accepted. Bid must be in conformity with schedules / formats of this tender.
20. At any stage if it is found that bidder
 - a. have submitted false document for the purpose of qualifying in the tender or non-execution of project as per contract,
 - b. Have not provided relevant details (for example litigation history etc)action as per Law will be taken and the pending payment, Bank Guarantee, EMD, Security amount of the bidder will be forfeited by Tata Power at any stage of execution. Also Bidder will be Blacklisted for future Tenders by Tata Power.
21. Issuance of Tender document does not construe that Bidder will be qualified for award of work.
22. Tata Power reserves the right to verify all statements, information and documents, Submitted by the Bidder in response to Tender Document. Any such verification or the lack of such verification by Tata Power to undertake such verification shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of Tata Power there under.



Special Conditions of Contract

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The Tata Power Company Ltd		<i>OPEN TENDER NOTIFICATION</i>
Tender Reference: CC26MSJ002		<i>Document Date: 16th May 2025</i>

Tender No: **CC26MSJ002**

Tender Name: **SITC of 110kV, 40MVA Capacitor Bank at Tata Power Salsette Receiving Station**

The commercial terms and conditions are as follows: -

1) **GENERAL** - The following Special Conditions of Contract (SCC) shall supplement the General Terms and Conditions – Supply & Services. Wherever there is a conflict, the provisions herein shall prevail over those in the "General Terms and Conditions".

2) **CONTRACT PRICE & CONTRACT STRUCTURE** - Bids shall remain valid for 180 days from the due date of submission of the bid. Price submitted as part of e-auction / Negotiation shall remain valid for 90 days from date of e-auction / Negotiation.

Notwithstanding clause above, Tata Power 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.

Price quoted by Bidder shall be on Firm basis without any Price Variation / Escalation. Price shall remain same & unchanged till the material is delivered at site & payment is disbursed. Unit rate shall be inclusive of Freight and In Transit Insurance. Unloading of material at Buyer's site shall be in Buyer's scope.

Lodging, Boarding, Local and To & Fro Conveyance is in In Business Associate's scope

Taxes shall be paid at actuals.

3) **COMMENCEMENT / EFFECTIVE DATE** - The vendor will commence work / manufacturing of equipment after issuance of Firm Purchase Order, in coordination with the Order Manager.

No equipment shall be delivered without specific dispatch clearance from the Owner.

4) **Acceptance of SLA & Scope of work/Tech Specs:** The Business Associate has a clear understanding of the technical requirements of this package & confirms to deliver the supply items as per technical specifications & subsequent confirmations provided by M/s Tata Power Engineering team.

5) **CONTRACT PERFORMANCE BANK GUARANTEE** - This is further to the General Terms & Conditions-Supply

Successful bidder shall submit a CPBG cum PBG of 10% of Contract Value in format specified by the Owner within 15 days from the placement of confirmed Purchase Order.

This CPBG cum PBG shall remain valid till the completion of warranty period plus addition 06 months claim period.

6) **TERMS OF PAYMENT** - This is further to General Terms & Conditions - Supply, Clause 6

No Advance Payment shall be made.

Payment Term shall be as follows: -

- A. Supply: 90% payment within 60 days from the date of receipt of material at site and remaining 10% payment within 60 days from the date of commissioning and submission of error free bills submission. For MSME, Credit period is 45 days. In case Commissioning is delayed due to reasons attributable to Tata Power, then balance 10% of supply part shall be paid within 60 days from scheduled date of Commissioning.
- B. Service: 100% payment within 60 days from the date of commissioning and error free bills submission. For MSME, Credit period is 45 days
- C. Income tax and any other statutory recoveries as applicable shall be recovered from Contractor monthly running bills and TDS certificate for the deductions shall be furnished.
- D. All payments against supply and services are subject to submission of unconditional CPBG cum PBG (as per clause 5 of SCC above) and unconditional acceptance/signing of the PO/Contract agreement.

7) **INSURANCE** - This is further to the General Terms & Conditions-Supply, Clause 5

Complete Insurance for the subject package shall be in Bidder's scope.

8) **LIQUIDATED DAMAGES** - This is further to General Terms & Conditions-Supply, Clause 10

LD clause will be as per Tata Power's General Terms & Conditions - Supply & Services, In the event of delay, 1% of total order value shall be charged for per week's delay up to a maximum of 10% of Order value.

9) **WORK COMPLETION PERIOD** - After placement of a firm PO: -

Supply - Delivery of supply items shall be completed within 17 weeks from the date of award.

The above timeline is inclusive of BA to submit GTP & drawings within 2 weeks of receipt of Purchase Order. Tata Power shall approve the same & provide manufacturing clearance within next 2 weeks).

Supervision Services and testing activity for commissioning work shall be completed within 18 Weeks from the date of award.

10) **WARRANTY PERIOD** - This is further to Warranty period mentioned in the General Conditions of Contracts-Supply

66 months warranty period from the date of supply or 60 months warranty period from the date of commissioning whichever period concludes earlier. The Performance Bank Guarantee shall be submitted accordingly by the bidder.

The Performance Bank Guarantee shall be submitted accordingly by the bidder.

11) TOTAL COMPLIANCE TO TCOC, SHE AND INTERNATIONAL SAFETY STANDARDS

- Safety Terms and Conditions and Tata Code of Conduct (TCOC) is enclosed as Annexure to the GCC. Bidder shall have to abide fully without any deviation.

12) REVERSE AUCTION - Tata Power reserves the right to conduct the reverse auction for the products / services being asked for in the tender. Only Technical Qualified Bids will be allowed to participate in e-auction.

Date and time of e-auction will be intimated through E-Tender system to Authorized Person of Interested Bidder.

Tata Power reserves the right to go for Reverse Auction (RA) for price negotiation and discover the most competitive price on ARIBA portal, Tata Power's official e-tendering platform. This will be decided after techno-commercial evaluation of the bids. Bidders need to give their acceptance with the offer for participation in RA.

Non-acceptance to participate in RA may result in non consideration of their bids, in case Tata Power decides to go for RA.

Only those bidders who are techno-commercially qualified shall be eligible to participate further in RA process.

13) TPSDI Training - To improve work safety and to ensure that all work force deployed at owner premises have the right orientation / induction and skills training before they undertake any work, the bidder shall accordingly plan and enrol his and sub-contractors work force to the respective skills / crafts training (Levels L1/L2/L3) offered by TPSDI.

This is further to General Conditions of Contract Clause 3.54.23. In order to improve work safety and to ensure that all work force deployed at owner premises have the right orientation / induction and skills training before they undertake any work, the bidder shall accordingly plan and enrol his and sub-contractors work force to the respective skills / crafts training (Levels L1/L2/L3) offered by TPSDI.

In addition to all prevailing safety practices bidder to take special note of following (If Applicable): -

1. TPSDI training is mandatory. Each employee must undergo L1 training for 3 days. Depending on competency certain workmen will need L2 training which is for 2 days and L3 training which is for 3 days.

2. As per safety standards at Tata Power, Hydra is banned and Farhana or regular crane is accepted along with all statutory approvals i.e., Form 11 for tools and tackles, Driver Licence, PUC, Insurance etc

3. Electric chippers are not allowed in wet / waterlogged areas

4. Electric Submersible Pump Operation is not allowed when people are in the pit.

The Tata Power Company Ltd



OPEN TENDER NOTIFICATION

Tender Reference: CC26MSJ002

Document Date: 16th May 2025

14) MATERIAL DELIVERY ADDRESS / PROJECT SITE ADDRESS-

Tata Power Salsette Receiving Station

The Tata Power Company Limited, Salsette Receiving Station, Lake Road, Bhandup,
Mumbai 400 078, Maharashtra, India

15) BID SUBMISSION (In Ariba) - Bidders are requested to submit their offer in line with this Tender document, instructions given in "Tender Notice and Instructions to Bidder".

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Price Bid Format

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D.4 Price Bid Format - CC26MSJ002

Sr. No.	Description	Qty	UOM	Price quoted by bidder in INR	Total Price
1	Design, engineering, manufacture, factory testing, packaging, route survey, transport, delivery to site 110kV, 40MVAR, 50Hz, 3-phase complete set of capacitor bank as per specifications consisting of following:				
1.1	Capacitor units as per OEM design	1	LS		0
1.2	Copper wound, current limiting series reactor	6	Nos		0
1.3	Neutral current transformer	2	Nos		0
1.5	Lightning arrestor	3	Nos		0
1.6	Adequate quantity of Interconnecting Copper Bus bar, copper flexible conductor along with its respective clamps, connectors, support insulators and post insulators.	1	LS		0
1.7	The adequate quantity of the Structural steel with hot dipped galvanization, foundation and fixing bolts and nuts, clamps and any other material required for successful commissioning of complete set of capacitor bank	1	LS		0
	SPARES				
1	Capacitor units	4	Nos		0
2	Neutral current transformer	1	Nos		0
3	Support insulators (1 no each type & rating)	1	Set		0
4	Post insulators (1 no each type & rating)	1	Set		0
5	Lightning Arrestor	1	Nos		0
	SERVICES				
1	Supervisory services during unloading, handling, shifting, erection, installation, testing & commissioning of capacitor bank and its associated equipments at its designated location	1	LS		0
				Total	0
				GST @ 18%	0
				Grand Total Incl Taxes	0



Annexure to GCC and Safety T&Cs

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The Tata Power Company Ltd	TPCODL		TPNODL	Appendix 3 to CSCC Safety Terms and Conditions
Document No. TPSMS/GSR/STC/009 REV 05	TPSODL	TATA TATA POWER	TPWODL	Date of Issue: 01/08/2023

Appendix 3:

Safety Terms and Conditions

Reason for Change	Date of Last Revision	Prepared By	Reviewed By	Approved by
Inclusion of Odisha Discom and periodic Revision	<u>10-Jan-2021-R4</u>	All Discom and CFT members	Debi Prasad Acharya (Head-Safety-Odisha Discom)	Suresh H Khetwani (Chief safety and Environment)

Clause	Sub-clause	Description	Page No
1.0		Objectives	3
2.0		Scope	3
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1.0 Objective:

The Objective of Safety Terms and Conditions is to apprise the Business Associates about various critical procedures of the Tata power Division/Discoms and the expectations from the BA to implement such procedures without fail. Certain terms and conditions are also mentioned to ensure a safe work atmosphere round the year. Refer Contractor's Safety Code of Conduct- Document no TPSMS/GSP/ CSM/015

2.0 Scope:

This procedure applies to all operating and project sites of The Tata Power Company Ltd and Group companies including new businesses like Electric Vehicle charging, Home Automation, Microgrid, Roof top solar etc. This Code of Conduct also applies to all operating and project sites of four Odisha Discoms and New business based on mutually agreed timeline for implementation. R5

3.0 Safety Organization & Responsibilities

3.1 Contractor Site Management and Supervision

Each Contractor will be responsible for fulfilling all statutory and safety requirements as per the laws of the land and not limited to Factory Act, Electricity Act, Electricity Rules and Regulations, Shop and Establishment Act etc.

Each Contractor shall provide at least one competent full-time safety supervisor for workforce of every 50 workers or less than that. When workforce ranges to 500, the contractor must provide at least one qualified safety officer (This may be subjected to change as per applicable act). Thus, for work force of 500 workers there will be one qualified safety officer and 10 safety supervisors. For every 500 additions in workforce, the contractor must add 1 safety officer and 10 safety supervisors. The Order Manager or Safety Department of the Tata Power Division /Discoms will review and approve the appointment of all safety officers and supervisors. The safety supervisors/officers will work with the guidance from Tata Power Division /Discoms Safety Department and align themselves with Tata power Division/Discom safety requirements.

For O&M related AMC activities, minimum one qualified safety officer to be deployed for each Division of the Discoms.

Qualified safety officer means he or she has completed PDIS or ADIS from a recognized institute.

Site Safety Officer/Safety Supervisor / Safety Coordinator shall be interviewed by the Order Manager/ Safety head of the Tata Power Division/Discom and then gate passes shall be issued if the interview is successful.

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Site Manager of Contractor/Subcontractor is responsible, and will be held accountable, for the safety of their own workforce as well as that of sub-contractors. He should also ensure that all equipment, materials, tools, and procedures remain in safety compliance at job site.

Responsibility of Site manager includes, but not limited to:

- 3.1.1 Holding officer/supervisors accountable for safety and actively promote safe work performance.
- 3.1.2 Participate in and cooperate with all safety program requirements to be implemented to meet Tata Power Division /Discoms safety objectives
- 3.1.3 Ensure timely reporting of safety incidents, near misses, unsafe acts, and conditions.
- 3.1.4 Identify the training needs of BA employees and maintain all safety training documents.
- 3.1.5 Provide Safety Performance Report at an agreed frequency.
- 3.1.6 Stopping of unsafe work (Acts and/or Conditions) immediately. Work to start only after corrective actions are implemented.
- 3.1.7 Ensure and participate in daily toolbox talk for all the jobs.
- 3.1.8 Ensure that only tested and certified tools and equipment are issued to the workers and being used at the site.

3.2 Contractor Supervisors and General Staff.

Contractors' site supervisors and general staff members in charge of job site functions such as field engineering, warehousing, purchasing, costing, and scheduling etc. are responsible for the safe performance of the work of those they supervise. They must set an example for their fellow employees by being familiar with applicable sections of the Site Safety program and ensuring that all site activities are performed with SAFETY as the primary objective.

Each site supervisor is responsible and will be held accountable for identifying, analyzing, and eliminating or controlling all hazards through implementation of an aggressive, pro-active Health, Safety and Environmental Program. Each supervisor will proactively participate in the Safety program by observing, correcting, and recording unsafe acts and conditions at plant / sites.

3.3 Contractor Workforce

- 3.3.1 Contractors shall provide adequate quality and quantity of manpower as mutually agreed. (R5)
- 3.3.2 All the contractor employees shall attend "SHE L0(Other than new business and Odisha Discom)/L1 Foundation Course in Safety". Depending on the critical procedure in job employees shall also be required to attend "SHE L2 course of critical/high risk operations". All Supervisors shall be required to attend "SHE L3 Supervisory Training". All the above trainings will be conducted by TPSDI/Skill development institute of Disco, or other equivalent institute approved by Tata Power.

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- 3.3.3 Contractor employees shall be required to attend any other additional training if suggested by Order manager or Site Safety Head. The cost of such additional training shall be borne by the Vendor.
- 3.3.4 Contractor / Vendor shall mobilize their manpower well in advance to complete the training through TPSDI/Sill development Institute.
- 3.3.5 The Vendor / BA shall arrange or bear the conveyance and food expenses incurred during training of BA employees in Odisha Discom. (R5)
- 3.3.6 The validity of the training L1, L2 and L3 is 3 years. There will be competency assessment as Revalidation test in every three months for Tata Power Division and six months for Odisha Discom till one year from implementation of CSCC.(R5) Those who fail in the competency assessment shall undergo training again.
- 3.3.7 Supervisors/Welder/Electricians/Line man /Fitters /Radiographers/Riggers engaged by the contractor shall have valid competency certificates issued by authorized agency/Institute.
- 3.3.8 Contractor workforce must make safety a part of their job by following safety rules and regulations and by using all safeguards and safety equipment. They must take an active part in the Safety programs for the Site.
- 3.3.9 Every member of the workforce is expected to report for work without influence of any Drug/Alcohol. Failure to comply with this requirement shall result in immediate termination of employees under the influence of drug and alcohol plus show cause notice/penalty to the vendor.
- 3.3.10 All employees shall report hazardous conditions, practices and behaviours in their work areas and correct wherever possible.
- 3.3.11 Workforce is responsible for active participation in safety and health programs, suggestion systems, trainings and reporting of unsafe act/practices, Unsafe conditions incidents and injuries to their supervisors.

3.4 Vendor/Contractor/sub-contractor

- 3.4.1 Vendors/Contractor shall always comply with and ensure that their workforce comply with all site safety rules and regulations. Specifically, with applicable provisions of the Site Safety Management Plan and all statutory safety rules and regulations.
- 3.4.2 After receiving the work order/ purchase order vendor/contractor/bidder shall not appoint Sub-contractor without safety assessment of the sub-contractor through safety concurrence group Under Contractor Safety Code of Conduct. Penalty of 5% of contract value will be applicable to the contractor if subcontractor is appointed without the permission of SCG and without evaluation through CSCC process.

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4.0 Tools and Tackles(R5)

- 4.1 Tools & Tackles used to carry out the job shall be checked and inspected by Order Manager and safety Officer.
- 4.2 Vendor must submit a valid Certificate from Competent person under the Factories Act 1948 and State Factories Rule for all Lifting Tools and Tackles (like Hoist, D Shackles, chain Block, wire ropes etc.).
- 4.3 All Electrical Hand Tools must be tested for leakage of current by a person /agency authorized by Tata Power Division /Discoms. Electrical power must be taken though RCCB of 30mA. Electrical hand tools should not have cord more than 3 meters in length. If power source is at > 3 meters, extension boards with RCCB of 30 mA and ON/OFF switch, shall be used.
- 4.4 Removal or inclusion of tools any new tool /tackles / machinery / equipment at site should only be done with concurrence of the order Manager / Head Safety.

5.0 Site Safety Rules and Procedures:

The work in the safest possible manner can only happen when it has been carefully planned and all applicable procedures are followed. The Tata Power Safety Procedures are derived from Tata Power best practices and the applicable Government acts regulations. In each case, the most stringent regulation is used. All safety rules and procedures developed from time to time shall be mandatorily followed by the vendor and his employees while working at Site.

6.0 Critical safety Rules and Procedures: Following is the list of Tata Power's critical Safety Rules and Procedures. Contractor shall refer to approved Rules and Procedures for detailed requirements and ensure conformance

6.1 Lock Out and Tag Out Procedure.

This procedure is intended to be used for the protection of Personnel while servicing or performing maintenance on distribution network/ equipment / pipeline / vessel / process systems. This is a general procedure that shall be used as the minimum requirements for isolation of equipment, pipelines, machines, system from all possible sources of hazardous energy and / or material such as Steam, Hot Water, Compressed Air, any other process fluid / chemical energy /Mechanical energy or Electrical energy. For complete procedure kindly refer Procedure Document No. **TPSMS/CSP/LOTO/001**

6.2 Excavation Safety (Shoring and Sloping) Procedure

This procedure is developed to cover the safe practices required for shoring and sloping in excavation and trenching jobs. This procedure is developed to establish mandatory requirements for practices to protect personnel, property and equipment from hazards associated with above activities. For complete procedure kindly refer Procedure Document No **TPSMS/CSP/EXS/002**

6.3 Confined Space Entry Procedure:

This procedure outlines the steps required to perform the confined space entry and to protect personnel from the hazards of entering and conducting operations in confined spaces. For complete procedure kindly refer Procedure Document No – **TPSMS/CSP/CSE/003**.

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6.4 Working at Height Procedure:

This procedure describes the rules and procedures to protect employees from the hazards of working at heights. This procedure is developed to cover the safe practices required for Working at Heights. This procedure is developed to establish mandatory requirements for practices to protect personnel from hazards associated in this area. For complete procedure kindly refer Procedure Document No – TPSMS/CSP/WAH/004.

6.5 Heavy Equipment Movement Safety Procedure.

Heavy equipment lifting and movement is an activity involving loading, unloading, storage and movement from one place to another including lifting and erection or repairing of equipment with cranes or hoists. Material, machinery and equipment handling operations are being carried out by large capacity cranes and hoists, which make the job safer and faster. This procedure addresses the hazards and precautions associated with such equipment and their use. For complete procedure kindly refer Procedure Document No – TPSMS/CSP/HEMS/005.

6.6 Mobile Crane Safety Procedure.

Mobile cranes are responsible for many incidents, injuries. Falling loads from mobile cranes pose a severe hazard to operators and nearby workers and property. Many types of cranes, hoists, and rigging devices are used for lifting and moving materials. To maintain safe, appropriate standards must be adhered to and only qualified and licensed individuals shall operate these devices. For complete procedure kindly refer Procedure Document No – TPSMS/CSP/MCS/006.

6.7 Scaffold Safety Procedure.

This procedure is developed to provide information on the safe erection, use, dismantling and maintenance of access scaffolding in the workplace. It is developed to establish mandatory requirements for practices to protect personnel from hazards associated with erection, use and dismantling of scaffolds. For complete procedure kindly refer Procedure Document No – TPSMS/CSP/SCAF/007.

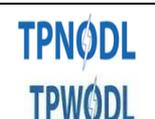
6.8 Permit to Work Procedure.

Given the inherent hazards of the power generation and distribution industry, a significant number of TATA POWER operations and installations are critical. Work Permit (WP) System is an essential element in controlling the workplace risks in an effective manner. For complete procedure kindly refer Procedure Document No – TPSMS/CSP/PTW/008.

6.9 Job Safety Analysis (JSA) Procedure.

This objective of this procedure is to have a task-based risk assessment process in place that identifies, evaluates and controls the risks associated with work activities, and as a result, prevents those involved in the task or those potentially affected by the task, from being harmed. For complete procedure kindly refer Procedure Document No- TPSMS/CSP/JSA/009 REV 01.

6.10 Electrical Safety Procedure.

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The objective of these standards is to specify minimum mandatory requirements and advisory guidance for identifying and controlling hazards to ensure 'Zero Harm' regarding operation maintenance and testing of electrical equipment. For complete procedure kindly refer Procedure Document No- TPSMS/CSP/ELEC/010

6.11 Fire Safety Management Procedure.

Objective of This standard is to specify the minimum mandatory requirements and advisory guidelines to ensure prevention of fire related incidents and managing / controlling their impacts if they do occur. For complete procedure kindly refer Procedure Document No - TPSMS/CSP/ELEC/011

6.12 Hazard Identification & Risk Assessment (HIRA) Procedure(R5):

Objective of this procedure is to define guidelines for Hazard identification, Risk assessment and determination of controls. For complete procedure kindly refer Procedure Document No - TPSMS/CSP/HIRA/012.

6.13 Management Of Change (MOC) Procedure(R5):

The objective of this document is to establish the procedures necessary to ensure that HSE risks are managed to an acceptable level in Tata Power Management of Change (MOC) process. For complete procedure kindly refer Procedure Document No - TPSMS/CSP/MOC/013.

6.14 Pre-Start-up Safety Review (PSSR) Procedure(R5).

Objective of this procedure is to provide guidelines for safe initial startup of a new facility or restart of a modified facility. The PSSR process verifies that the new/modified facility meets the original design and operating parameters. The intent is to prevent incidents caused by inadequate, incomplete, unauthorized design, construction, installation, and/or commissioning. For complete procedure kindly refer Procedure Document No - TPSMS/CSP/MOC/014.

6.15 Road Safety procedure(R5):

To provide Safety Rules for road travel management and safe usage of all types of vehicles viz. passenger/ commercial, owned/ hired by company, driven by employees or contractors. For complete procedure kindly refer Procedure Document No - TPSMS/CSP/RSP/015.

7.0 General safety Rules and Procedure:

7.1 Lift (Elevator) Safety Procedure:

To provide safe operating procedure for taking control of lift car before entering and existing the pit of OTIS make elevators. For complete procedure kindly refer Procedure Document No – TPSMS/GSP/LIFT/001,

7.2 Working on conveyor belt Procedure:

This procedure is developed to cover the safe practices required for Working on live equipment and to protect personnel from hazards associated with it. For complete procedure kindly refer Procedure Document No – TPSMS/GSP/CONV/003

7.3 Batteries Handling & Disposal(R5)

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To provide procedure for recycling and / or safe disposal of used / waste batteries in compliance with all legislation. For complete procedure kindly refer Procedure Document No – **TPSMS/GSP/HAZM/003**

7.4 Material Handling and Storage Procedure:

The purpose of this document is to provide procedures to assist the safe handling of materials (manual handling and mechanical handling). For complete procedure kindly refer Procedure Document No – **TPSMS/GSP/MATL/004**.

7.5 Office Safety Procedure(R5):

The objective is to provide a safe working environment to those working in office premise, who may be exposed to emergency situations and other chronic / cumulative risks that may arise due to various reasons of unsafe act, unsafe condition, fire and or pandemic crisis like COVID-19 etc. For complete procedure kindly refer Procedure Document No - **TPSMS/GSP/OFS/006**

7.6 Earth Leakage Circuit Breaker (ELCB) Testing Procedure(R5):

The objective of this procedure is to define the minimum requirements for testing of Earth Leakage Circuit Breaker (ELCB). For complete procedure kindly refer Procedure Document No - **TPSMS/GSP/ELCB/008**.

7.7 Occupational Health & Safety Legal Compliance Procedure(R5):

Objective of this procedure is provide guidelines for compliance of Occupational Health & Safety (OH&S) legal requirements and all ratified protocols and agreements are incorporated in Tata Power Safety Management System (SMS). For complete procedure kindly refer Procedure Document No - **TPSMS/GSP/LEGL/009**.

7.8 Incident Reporting & Investigation Procedure(R5):

Objective of this procedure is to outline the process for reporting, recording and investigating an incident, recommending corrective and preventive actions and to communicate the lessons learned to prevent recurrence of similar incidents. For complete procedure kindly refer Procedure Document No - **TPSMS/GSP/IRI/011**.

7.9 Contractor Safety Management Procedure.

The purpose of this document is to engage with contractors in a way to create safe work environment for everyone working for Tata Power. For complete procedure kindly refer Procedure Document No – **TPSMS/GSP/CSM/015**.

7.10 Tree Trimming Procedure(R5):

The objective of this procedure is to define guidelines and minimum requirements for Tree trimming. For complete procedure kindly refer Procedure Document No – **TPSMS/GSP/TTRM/017**

7.11 Safe Lone Working Procedure(R5):

Objective of this procedure is to lay down guidelines for reduction and safe managing of any additional risk arising from lone working. For complete procedure kindly refer Procedure Document No – **TPSMS/GSP/LONE/019**.

7.12 Good Housekeeping(5S) Procedure(R5):

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Objective of this procedure is to explain the meaning, importance and provide guidelines for implementation of Good Housekeeping(5S) at workplaces across organization. For complete procedure kindly refer Procedure Document No – **TPSMS/GSP/GHK/022**.

7.13 Personal Protective Equipment(R5):

This procedure describes the basic requirements, applicability, minimum specifications of Personal Protective Equipment (PPE). For complete procedure kindly refer Procedure Document No – **TPSMS/GSP/PPE/023**.

7.14 Process Safety Management Procedure(R5):

The objective of this document is to provide a standardized & uniform guideline to implement Process Safety Management in Tata Power, its JVs, and subsidiaries to prevent or minimize the consequences of releases of toxic, flammable, pressurized or uncontrolled chemicals/Steam/Water or any other material which may result in toxic, fire, explosion, burn or flood like situation. For complete procedure kindly refer Procedure Document No – **TPSMS/GSP/PSM/024**

The above procedures will be updated time to time and the updated version of the procedures as well as any additional critical procedure will be available on official website of Tata Power (www.tatapower.com) for your reference.

8.0 Training and Capability Building.

Safety Training and capability building of workforce is a major component of safety management program. All training required must be provided and documented as specified by Tata Power and Indian Regulations. Tata Power Division /Discoms Safety department will audit contractors training and related documentation to assure its adequacy.

8.1 Tata power Odisha Discom Site Safety Orientation.R5

All Tata Power contractor and subcontractor workforce is required to attend Site Safety Orientation Training to receive a Safety Training Card, which is required to obtain a Gate Pass to the site, prior to entry. This Safety Orientation Course will be for duration of minimum half day. The information provided during the orientation will include, but is not limited to following:

- 8.1.1 Job rules, personal safety, and conduct
- 8.1.2 Hazard's reporting
- 8.1.3 Reporting of injuries
- 8.1.4 Emergency procedures
- 8.1.5 Safety Activities and Program including disciplinary measure and incentives.
- 8.1.6 Critical safety procedure relevant to the job

8.2 Capability Building:

- 8.2.1 All Tata Power contractor and subcontractor workforce is required to attend L1 Training to receive a Safety Training Card, which is required to obtain a Gate Pass to the site, prior to entry.
- 8.2.2 Appropriate practical training such as SHE L1, L2& L3 is given to ensure that a jobholder, either supervisor or worker, is competent to do his/her job safely. The skill training is provided through TPSDI, and other agencies authorized

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- by Tata Power on the list of 15 critical Safety procedures mentioned under safety procedures. Duration of course is as specified by Division/Discom
- 8.2.3** Contractor shall ensure that concerned workmen are provided with adequate training before he/she is allowed to execute the work. An evaluation test will be conducted after the completion of the training. Those employees who meet the minimum required competency will be provided with Certificate (Card), which will be valid for 3 years, post which the workmen have to reappear for assessment.
- 8.2.4** If the workman is not able to qualify the assessment, he/she will be given 3 additional attempts to clear in 3-month time failing which he/she will not be allowed to work in the Division /Discoms.
- 8.2.5** After expiry of Certificate or Training /Competency Card again one day recertification of L1, L2 and L3 skill training will be provided. R7.
- 8.2.6** Quarterly /Half yearly(For Odisha and New business) Revalidation Test - "SHE L1 Revalidation test" will be conducted for the contractor's employees to revalidate their safety awareness and knowledge.
- 8.2.7** Order Manager and Safety In charge of the Division/Site /Plant will conduct a Competency Assessment of all workforces, going to be deployed at site / plant for high-Risk job.
- 8.2.8** The Contactor shall bear the conveyance and food expenses of his staff for attending training sessions and capability building sessions in new business-like Odisha Discom.
- 8.2.9** The Contactor shall bear the entire cost of L1/L2/L3, the costs towards training, salaries/wages, boarding and lodging of his staff for attending training sessions and capability building sessions. These trainings are offered on nominal chargeable basis payable by Contractor and rates shall be decided by TPSDI from time to time in case of training through TPSDI. Generally, L0 is of one day, L1 is for 2 days for each critical procedure and L3 is for one day. Around Rs 700+GST is approx. cost /Day/Candidate. -R5
- 8.2.10** Competency assessment of all critical workforce to be carried out for all who has taken L2 training. R5

9.0 Recognition to the Prior Learning in Safety-R5

If "Order Manager" recommends and "Head of the Safety Department of Discom" is satisfied with the safety knowledge and competency of the employee of contractor, a test may be conducted by Tata power Skill development Institute/ other recognized institute to assess the prior learning in safety. If employees of the contractors pass in such test, he will be exempted from appearing in SHE L1 training. This assessment is on nominal chargeable basis and rates are decided by TPSDI from time to time.

10.0 Safety performance retention(R5) and Safety Performance Evaluation: 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. This is as per CSCC Document no TPSMS/GSP/ CSM/015

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This safety retention shall be waived for Contractors who have either submitted a Contract Performance Bank Guarantee or have a retention from each running bill for an amount not less than 10% of each bill subject to the express undertaking / understanding that if there are any deductions required to be made for safety non-performance as per the Safety Performance Score, then Tata Power shall recover any such deductions against safety non-performance directly from the monthly bills / final settlement as the case may be failing which it shall be within its right to recover such sum from accounts payable or the CPBG or the retention of the Contractor available with Tata Power for the said contract or any other contract between the Contractor and Tata Power.

11.0 Pre-Employment and Periodic Medical check-up:

Contractor shall arrange to conduct a pre-employment and periodic medical check-up for its entire workforce by Tata Power medical officer or Tata Power authorized medical officer. The contractor shall be able to produce the certificate prior to the employment. The contractor shall also organize to conduct periodical medical checkup (six monthly) for the following category of employees:

- Drivers (Check for Vision & Hearing)
- HEM Equipment Operators (Check for Vision & Hearing)
- Workforce working at Height (Check for Vision, Hearing, Vertigo & Height Phobia)
- Workforce Handling the hazardous substances - Coal, ash and chemicals (Chest X-ray and Lung Function T)
- Workforce in high Noise area (> 90 Decibel), Check for Hearing
- Workforce handling radiography equipment for conducting NDT.
- Workforce, working in specific areas requiring specific medical attention should conduct the medical tests test as laid down in the respective Site Safety Management Plan.

12.0 Other Conditions:

- 12.1. The manpower/vehicles/Tools & Tackles/Equipment provided shall be as per mutually agreed SLA.
- 12.2. No Supervision No work policy should strictly be followed.
- 12.3. Test Before Touch must be ensured every time a job is being carried out in electrical network.
- 12.4. HIRA /JSA as per the job scope must be prepared in detail and submitted along with Site Safety Plan by the successful bidder.
- 12.5. Personal protective equipment (PPE) must always be checked before use to ensure that they are in good condition and clean. Replace them if necessary.
- 12.6. All relevant PPE shall be provided by the vendor while working at the site.
- 12.7. Housekeeping shall be maintained all the time while execution of work. All the unwanted material shall be removed from the site at the end of the day's work. Old/damaged parts if taken out of the system shall be kept at

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identified placed and it shall be shifted to scrap yard or disposed of as per instruction of order manager.

- 12.8. Site Safety Plan shall be prepared by successful bidder along with order manger. Appendix 1 to be filled by successful bidder and submitted to Tata Power safety in-charge, before mobilization of team at site and start of the work.
- 12.9. The Owner or Proprietor of BA must visit worksite at least once in a month and meet Order Manager every month. In case of incidents, the Owner or Proprietor of BA is required to attend Time Out Meetings to understand the gaps that contributed to the incident.

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General Safety Conditions for various contracts Specific to Odisha Discom(R5)

13.0. Safety Conditions for maintenance of STS (Sub Transmission System) Network.

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

- Availability of Discharge Rods - Minimum 6 Nos. in each maintenance vehicle, fit for purpose and in good conditions and defective rods are removed from service.
- Availability of Neon tester - Minimum one Neon Tester in each Maintenance Vehicle, in good and working condition and defective or non-standard neon testers are removed from service.
- Electrical hand Gloves - Minimum two sets of 33 KV and two sets of 11 KV in maintenance vehicles.
- The BA linemen must be having required ELBO certification for the voltage level involved.
- BA shall provide Safety Policy, Safety Objectives, Organogram showing structure and responsibility of Safety management of his company and shall document the work practices and procedures in terms of Safety Management.
- BA shall comply with all statutory requirements like applicable acts, regulations, codes of practice, OHSAS Standards, Labour laws, etc.
- The BA shall participate in Safety promotional activities like celebration of Lineman day on 4th March, National Fire Service Day on 14th April and Theme based safety campaigns undertaken by the Discoms every month.
- BA shall abide by Safety manuals and guidelines of Discom issued from time to time.
- BA shall ensure safety training and induction program for the employees. The BA employees must carry safety training card / competency card to the worksite and produce the card on demand.
- All BA employees must be given valid ID card issued by BA cell of Discom who will check statutory compliances before issuing ID cards.
- BA shall not employ a new workman without training and issue of ID card.
- BA shall conduct safety audits & inspections as per Discom procedures.
- BA shall provide proper PPEs as per CSM F-8 ensure periodic inspection of PPE, Tools and tackles to ensure their serviceability.
- BA shall ensure the adherence to standard operating procedures or guidelines laid down by the Discoms.
- BA shall ensure that no job shall be carried out without efficient supervision.
- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident, or accident to engineer in-charge and SAFETY team of the Discom.
- BA shall provide safety performance and Safety MIS to engineer in-charge and Discom SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- BA safety staff shall work as per the guidance of the Discom safety department and functionally report Safety Head of Discom. Any leaves by safety staff of the BA shall have to approved by Discom Safety Department.
- BA shall ensure to depute Safety Staff for managing safety in worksites. In case the BA has been awarded work in more than one area power system, then the following safety structure will be adopted.
- Safety manager and Safety engineer must be having PDIS or ADIS.

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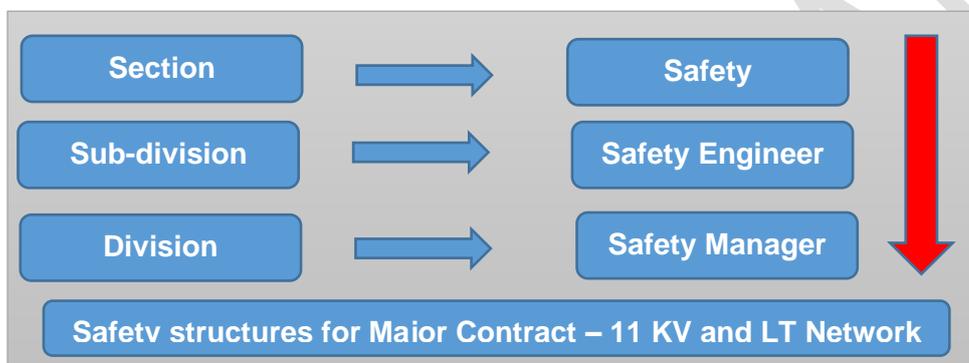
14.0 Safety Conditions for maintenance of 11 KV and LT Network.

A BA awarded a major contract work of maintenance of 11 KV and LT Network in area of a power system will be required to fulfil the following conditions:

- Availability of Discharge Rods - Minimum 6 Nos. in each PSS/FCC and maintenance vehicle, fit for purpose and in good conditions and defective rods are removed from service.
- Availability of Neon tester - Minimum one Neon Tester in each PSS/FCC/ Maintenance Vehicle, in good and working condition and defective or non-standard neon testers are removed from service.
- Electrical hand Gloves - Minimum two sets of 33 KV and two sets of 11 KV in each PSS/Maintenance vehicles and two sets of LT hand gloves at each FCC.
- The BA linemen must be having required ELBO certification for the voltage level involved.
- BA shall provide Safety Policy, Safety Objectives, Organogram showing structure and responsibility of Safety management of his company and shall document the work practices and procedures in terms of Safety Management.
- BA shall comply with all statutory requirements like applicable acts, regulations, codes of practice, OHSAS Standards, Labour laws, etc.
- BA shall abide by Safety manuals and guidelines of Discom issued from time to time.
- BA shall ensure safety training and induction program for the employees. The BA employees must carry safety training card / competency card to the worksite and produce the card on demand.
- All BA employees must be given valid ID card issued by BA cell of Discom who will check statutory compliances before issuing ID cards.
- BA shall not engage new workman without training and issue of ID card.
- PSS operator shall not be involved in maintenance activities.
- BA shall conduct safety audits & inspections as per Discom procedures.
- BA shall provide proper PPEs as per CSM F-8 ensure periodic inspection of PPE, Tools and tackles to ensure their serviceability.
- The BA shall participate in Safety promotional activities like celebration of Lineman day on 4th March, National Fire Service Day on 14th April and Theme based safety campaigns undertaken by the Discoms every month.
- BA to ensure that all LT complaints are routed through Call Centre and recorded in FCC. Rectification of fault shall be done only after call centre logging and with the knowledge of BA supervisor.
- No one will work alone or unsafely under public pressure or otherwise.
- BA shall ensure the adherence to standard operating procedures or guidelines laid down by the Discoms.
- BA shall ensure that no job shall be carried out without efficient supervision.

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- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident, or accident to engineer in-charge and SAFETY team of the Discom.
- BA shall provide safety performance and Safety MIS to engineer in-charge and Discom SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- BA safety staff shall work as per the guidance of the Discom safety department and functionally report Safety Head of Discom. Any leaves by safety staff of the BA shall have to approved by Discom Safety Department.
- BA shall ensure to depute Safety Staff - One safety supervisor per section, One safety engineer per sub-division and one safety manager per Division Safety manager and Safety engineer must be having PDIS or ADIS.



15.0 Safety Conditions for the major contract work in Civil Projects:

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

- BA shall provide Safety Policy, Safety Objectives, Organogram showing structure and responsibility of Safety management of his company and shall document the work practices and procedures in terms of Safety Management.
- BA shall comply with all statutory requirements like applicable acts, regulations, codes of practice, OHSAS Standards, Labour laws, etc.
- BA shall abide by Safety manuals and guidelines of Discom issued from time to time.
- BA shall ensure safety training and induction program for the employees. The BA employees must carry safety training card / competency card to the worksite and produce the card on demand.
- All BA employees must be given valid ID card issued by BA cell of Discom who will check statutory compliances before issuing ID cards.
- BA shall not employ a new workman without training and issue of ID card.
- BA shall conduct safety audits & inspections as per Discom procedures.
- BA shall provide proper PPEs as per CSM F-8 ensure periodic inspection of PPE, Tools and tackles to ensure their serviceability.
- BA shall ensure the adherence to standard operating procedures or guidelines laid down by the Discoms.
- BA shall ensure that no job shall be carried out without efficient supervision.
- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident, or accident to engineer in-charge and SAFETY team of the Discom.

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- The BA shall participate in Safety promotional activities like celebration of Lineman day on 4th March, National Fire Service Day on 14th April and Theme based safety campaigns undertaken by the Discoms every month.
- BA shall provide safety performance and Safety MIS to engineer in-charge and Discom SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- BA safety staff shall work as per the guidance of the Discom safety department and functionally report Safety Head of Discom. Any leaves by safety staff of the BA shall have to approved by Discom Safety Department.
- BA shall refer Construction Safety Manual of the Discom for details.
- BA shall ensure to depute a Safety Supervisor (for workforce up to 100 at site) / a safety engineer (for workforce up to 250 at site) / safety manager (for more than two safety engineers) for managing safety at the project site. In case the BA has been awarded more than one major contracts, then the following safety structure will be adopted.
- Safety Engineers and Safety Managers must be having PDIS or ADIS.



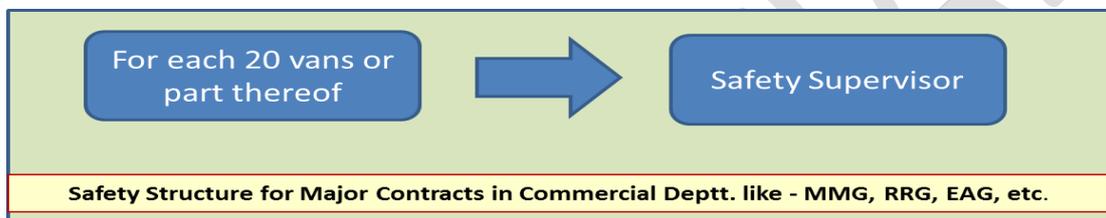
16.0 Safety Conditions for the major contract work in Commercial Department like - MMG, RRG, EAG, etc.:

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

- BA shall provide Safety Policy, Safety Objectives, Organogram showing structure and responsibility of Safety management of his company and shall document the work practices and procedures in terms of Safety Management.
- BA shall comply with all statutory requirements like applicable acts, regulations, codes of practice, OHSAS Standards, Labour laws, etc.
- BA shall abide by Safety manuals and guidelines of Discom issued from time to time.
- BA shall ensure safety training and induction program for the employees. The BA employees must carry safety training card / competency card to the worksite and produce the card on demand.
- All BA employees must be given valid ID card issued by BA cell of Discom who will check statutory compliances before issuing ID cards.
- BA shall not employ a new workman without training and issue of ID card.
- BA shall conduct safety audits & inspections as per Discom procedures.
- The BA shall participate in Safety promotional activities like celebration of Lineman day on 4th March, National Fire Service Day on 14th April and Theme based safety campaigns undertaken by the Discoms every month.
- BA shall provide proper PPEs as per CSM F-8 ensure periodic inspection of PPE, Tools and tackles to ensure their serviceability.

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- BA shall ensure the adherence to standard operating procedures or guidelines laid down by the Discoms.
- BA shall ensure that no job shall be carried out without efficient supervision.
- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident, or accident to engineer in-charge and SAFETY team of the Discom.
- BA shall provide safety performance and Safety MIS to engineer in-charge and Discom SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- BA safety staff shall work as per the guidance of the Discom safety department and functionally report Safety Head of Discom. Any leaves by safety staff of the BA shall have to be approved by Discom Safety Department.
- BA shall ensure to depute a Safety Supervisor for managing safety at worksite.
- The BA for the RRG work shall depute one Safety supervisor.



17.0 Safety Conditions for Major Projects in Distribution Network

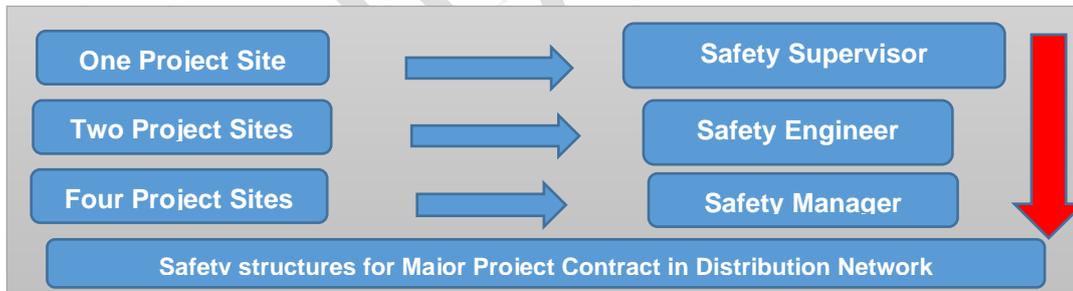
A BA awarded a major Projects in Distribution Network shall be required to fulfil the following conditions:

- Availability of Discharge Rods - Minimum 6 Nos. for each project site, fit for purpose and in good conditions and defective rods are removed from service.
- Availability of Neon tester - Minimum one Neon Tester in each project site, in good and working condition and defective or non-standard neon testers are removed from service.
- Electrical hand Gloves - Minimum one sets of 33 KV, 11 KV and LT in each project site.
- The BA linemen must be having required ELBO certification for the voltage level involved.
- BA shall provide Safety Policy, Safety Objectives, Organogram showing structure and responsibility of Safety management of his company and shall document the work practices and procedures in terms of Safety Management.
- BA shall comply with all statutory requirements like applicable acts, regulations, codes of practice, OHSAS Standards, Labour laws, etc.
- BA shall abide by Safety manuals and guidelines of Discom issued from time to time.
- BA shall ensure safety training and induction program for the employees. The BA employees must carry safety training card / competency card to the worksite and produce the card on demand.
- The BA shall participate in Safety promotional activities like celebration of Lineman day on 4th March, National Fire Service Day on 14th April and Theme based safety campaigns undertaken by the Discoms every month.
- All BA employees must be given valid ID card issued by BA cell of Discom who will check statutory compliances before issuing ID cards.
- BA shall not employ a new workman without training and issue of ID card.
- BA shall conduct safety audits & inspections as per Discom procedures.
- BA shall provide proper PPEs as per CSM F-8 ensure periodic inspection of PPE, Tools and tackles to ensure their serviceability.

- BA shall ensure the adherence to standard operating procedures or guidelines laid down by the Discoms.
- BA shall ensure that no job shall be carried out without efficient supervision.

Sr. No	Type of Audit	Frequency
1	Tool Bag and PPE audit	Weekly
2	First Aid Box Maintenance Record	Fortnightly
3	Fire Extinguisher Record (Applicable for the BA involved in major construction works and have storage of flammable material at worksite)	Monthly
4	Safety Talk Register	Weekly
5	Site Safety Audit	Daily

- BA shall ensure reporting of any unsafe act, unsafe conditions, near miss, incident, or accident to engineer in-charge and SAFETY team of the Discom.
- BA shall provide safety performance and Safety MIS to engineer in-charge and Discom SAFETY group periodically. Based on any non-confirmation to the safety procedures and guidelines, BA is liable to be negatively marked for his performance and suitable penalty will be imposed.
- The BA shall participate in Safety promotional activities like celebration of Lineman day on 4th March, National Fire Service Day on 14th April and Theme based safety campaigns undertaken by the Discoms every month.
- BA safety staff shall work as per the guidance of the Discom safety department and functionally report Safety Head of Discom. Any leaves by safety staff of the BA shall have to approved by Discom Safety Department.
- BA shall ensure to depute Safety Staff for managing safety in worksites. One safety supervisor per project site or 100 persons, one safety engineer for 2 project sites of 250 persons, and one safety manager for four project sites or 500 persons.
- Safety manager and Safety engineer must be having PDIS or ADIS.



18.0 Schedule of Safety Audits by BA Safety Staff

Safety Undertaking of BA by way of Affidavit

I _____ s/o _____ R/o _____ (AUTHORIZED REPRESENTATIVE/PARTNER/DIRECTOR/PROPRIETOR) of M/S _____ (name of company/firm) having its office at (Complete address of Company), authorized vide power

The Tata Power Company Ltd	TPCODL		TPNODL	Appendix 3 to CSCC Safety Terms and Conditions
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TATA POWER				

of attorney dated -----/Board resolution dated----/letter of authority dated----, hereinafter referred to as **Contractor [or Business Associate (BA)]** which expression shall, unless it be repugnant to or inconsistent with the meaning or context thereof, be deemed to include its heirs, executors, administrators, and assigns do hereby affirm and undertake as under :

1. The present undertaking shall remain in force from the date of execution of contract and shall be valid till the date of termination of the said contract by either party. The undertaking is binding on me (contractor) as well as my sub-contractor and its employees, representatives etc.
2. That I (the contractor) will be responsible and liable to comply and abide by all the safety rules, instructions and regulations as may be specified and laid down by the Discom to achieve its goal of Zero for on-site incidences.
3. That the Contractor shall be fully responsible for ensuring occupational health and safety of its employees, representatives, agents as well as of its subcontractor's employees, at all times during the discharge of their respective obligations under the contract including any methods adopted for performance of their tasks / work.
4. That Contractor shall ensure ,at its own expense to arrange for and procure, implement all requisite accident prevention tools, first aid boxes, personal protective equipment, fire extinguisher, safety training, Material Safety Data Sheet, pre-employment medical test, etc. for operations & activities including as & when so specified by Discom specifically. , failing which Discom shall be entitled, but not obliged, to provide the same and recover the actual cost thereof from the Contractor's payments.
5. That the Contractor shall engage adequate and competent Safety – Supervisor / Engineer / Manager / Skilled persons at site as per the Para 5 (Qualification and experience of safety personnel) and Annexure 3 of Contract Safety Management.
6. That the Contractor shall engage the competent Site – Supervisor with each group of workers for safe and correct workmanship, proper co-ordination of material and site work as per contract.
7. That the Contractor shall immediately replace supervisor in case it is found to be not up to the level of skill and experience required, but any such replacement shall be only with the prior concurrence of the Discom representative.

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8. That the Contractor and its subcontractors shall abide by all the safety guidelines as per Safety Manual, Contract Safety Management and other guidelines issued from time to time by Discom during the contract period.
9. That in case the Contractor and/or any of its Subcontractor fail to ensure the compliance as required in terms of this undertaking the Contractor shall keep and hold Discom / its directors / officers / employees indemnified against any / all losses / damage / expense / liability / fines / compensation / claims / action / prosecutions or the like which might be suffered by Discom or to which Discom might get exposed to as a result of any breach /wilful negligence /deliberate default on the part of the Contractor /Subcontractor in complying with the same. Contractor shall also furnish any press release, clarification etc. if sought by Discom for any near miss or safety violations, accidents, which are attributable to fault of Contractor.

DEPONENT

VERIFICATION

Verified aton this _Day of _____ 20__ that the contents of the above affidavit are true and correct and nothing material has been concealed therefrom

ANNEXURE TO
Appendix 3: Safety Terms and Conditions
(Document No - TPSMS/GSR/STC/009 REV 05)

***(Excerpts of Tata Power Safety Code of Conduct as relevant for
Safety Terms & Conditions)***

(A) Definitions

- **Order Manager/Engineer in charge:** Order Manager/Engineer in charge is the Tata Power-Division /DISCOM representative, who has the ownership of the given job.
- **Site Safety Management Plan:** It is the safety plan agreed between Contractor and Tata Power-Division/DISCOM. It will contain the entire job specific safety requirement and will be signed by the contractor.
- **Contractor/Business Associate/Vendor (BA):** An individual or a company that provides services to Tata Power-Division/DISCOM under a signed contract.
- **Emergency:** It is a serious, unexpected, or dangerous situation requiring immediate action, which may result in *loss of life*, 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 and approved by adequate authority of MB level or above.
- **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 AI-ML, expert for transmission and distribution network, expert for civil works, expert on transformers, expert for PSCC, expert for equipment overhaul etc.
- **CEO/Chief/Head of division/Unit/Utility:** Business in charge who is overall custodian of the Tata Power-Division/DISCOM.
- **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 14 of this document.
- **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.
- **Low Risk Jobs:** Any job or its activities are considered as Low or Very low risk while Order manager calculated it by applying “Tata Power Hazard Identification and Risk Analysis” procedure and found it under Low or Very Low category.

(B) Safety performance retention(R7):

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. (R7)

Risk Category-(R7)	Contract Value	Retention Amount (%)
<i>Very high/High risk job/ Medium Risk jobs</i>	Up to 10 Lakhs	2.5
<i>Very high/High risk job/ Medium Risk jobs</i>	10 – 50 Lakhs	2
<i>Low/Very Low Risk jobs</i>	10 – 50 Lakhs	1
<i>Very high/High risk job</i>	0.5 to 10 Cr	2
<i>Medium Risk jobs</i>	0.5 to 10 Cr	1.5
<i>Low/Very Low Risk jobs</i>	0.5 to 10 Cr	1
<i>Very high/High risk job</i>	>10 Cr	1.5
<i>Medium Risk jobs</i>	>10 Cr	1

This safety retention shall be waived for Contractors who have either submitted a Contract Performance Bank Guarantee or have a retention from each running bill for an amount not less than 10% of each bill subject to the express undertaking / understanding that if there are any deductions required to be made for safety non-performance as per the Safety Performance Score, then Tata Power shall recover any such deductions against safety non-performance directly from the monthly bills / final settlement as the case may be failing which it shall be within its right to recover such sum from accounts payable or the CPBG or the retention of the Contractor available with Tata Power for the said contract or any other contract between the Contractor and Tata Power.

(C) Safety Performance Evaluation & Responsibility of Business Associate / Contractor:

During the time of job execution, regular site inspection will be carried out by the Tata Power-Division / DISCOM officials to evaluate monthly safety performance of the contractor and monthly score will be maintained by the Order Manager. Violations will be dealt as per **CSM F12 Safety Violation Penalty Criteria**.

1. During the progress of the work, concerned site Supervisor/Engineer/Safety representative will visit and inspect the work site regularly and evaluate the safety performance of the contractor based on matrix **Appendix 13** and apply the Consequence management policy/Penalty criteria as applicable.
2. The evaluation criteria include Lead Indicators such as percentage of workers trained in TPSDI, inspection of critical equipment. Lag indicators such as Fatalities, LWDC and man-days lost.
3. In case of job stoppage due to safety violations / unsafe observations at the site, no time extension from PO completion date shall be given to the contractor, if such delays are attributable to contractor.
4. 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 by Division Chief/CEO. This charge is over and above the retention amount. The committee will finalize penalty amount based on factors such as advice by statutory authorities, contract value and impact of accident etc.

5. Order Manager, Head of Business and functional Chief have the authority to terminate the contract as per **CSM F12 Safety Violation Penalty Criteria** Through contract department.

(D) Other Appendices are attached,

Appendix 6: CSM F6 - Safety Competency Assessment Form (Template).

(This is to be filled by Bidder and submit to Tata Power as part of bid submission).

Appendix 8: CSM F8 - PPE requirements-(R7)

Appendix 9: CSM F9 - Site Safety Management Plan / Method Statement (Template)

Appendix 12: CSM F12 - Safety Violation Penalty Criteria

Appendix 13: Checklist To Be Used During Site Visit

Appendix 14: Indicative List of High-Risk Jobs

---XXX---XXX---XXX---

Appendix 6: CSM F6 - Safety Competency Assessment 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 : -

Type of manpower	Qualification	Experience	Month 1	Month 2	Month 3
Project /AMC Manager(R7)						
Site In Charge						
Safety Manager						
Safety Officer						
Supervisors						
Technicians						
High Skilled workmen						
Skilled workmen						
Semiskilled workmen						
Lineman						
Helpers						
Drivers						
Unskilled						
<u>Others(R7)</u>						

Instruction to Bidders:

- i. Indicate the overall site manpower deployment schedule as above
- ii. Indicate direct or subcontracted employees by using color code given below:

Direct Bidder Employee – Green

Partly Direct / partly Subcontracted – Yellow

4.3.5 **Subcontracted – Red** *If subcontractor detail is not available at stage of Bid evaluation, then this can be agreed with Order manager or Engineer in charge before deployment Ensure that all sub-contractors follow the Tata Power Safety Procedure and agreed CSM F9 Site Safety Management Plan.R7*

- iii. Against each category, indicate minimum educational qualification and work experience

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- iv. Add rows to include other specialized manpower, if any.
- v. Extend columns to cover the entire duration of the proposed contract.
- vi. If the operation is in shifts, then indicate shift in charge and / or safety officers required for each shift 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	Year of manufacture	Remarks
1						
2						
3						
4						
5						
.....						

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 current and Last 3 Years			
	Current Year	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.

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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 Appendix 9)

5. PPE Requirement -R7

Division/DISCOM Requirement	Bidders Response
The Bidder/Vendor shall ensure that all PPE of Approved standards as per CSM F8 – PPE Requirements shall be always available and shall be used by his employees with no exception whatsoever. Bidders to also ensure Standard PPE matrix of Tata Power to be followed for all activities.	
10% Buffer stock of PPEs to be provided by bidders at each circle to meet any contingency	
Bidder will ensure that sample PPEs to be submitted/approved by Safety Department along with EIC at the time of submission of Safety bids for evaluation In case bidder manpower found using substandard or any PPEs which are not approved by the Tata Power-Division /DISCOM representative, then Tata Power-Division /DISCOM will provide the same to manpower deployed at the cost of bidders.	

6. Vehicle Deployment: Bidders to provide details of all vehicles deployed during execution of work-(R7)

S. No.	Vehicle No.	Vehicle Type	Location	EV/CNG/Diesel/Petrol	Year	Whether CNG endorsed on RC

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7. Crane Deployment-(R7): Bidders to provide details of crane to be deployed during the execution of work as and when required. Bidders to provide approved new gen crane ACE Model SX150, ACE FX150 and Escorts Model TRX 1550.

SI No	Crane No	Location	Year

8. Training Records-(R7): Bidders to provide training records of employees deployed for the execution of work during last one year. These training includes OHS (Occupational Health and Safety) Training, Training on SOP/Work Procedures and Medical Emergency trainings imparted at their own facility, cost, and expenses. Bidders to provide the following details:

Tata Power-Division /DISCOM Requirement	Bidders Response
Training records of employees at their own facility, cost, and expenses for last one year	
Training facility available with Bidders	
Future road map for enhancing the competency of workforce	

9. Rewards and Recognition-(R7): Bidders to provide the details of process deployed in their organization for sharing and resolution of safety concerns raised by their employees. Also, bidders to provide the details of Rewards and Recognition process in their organization for safety to encourage the morale of their workforce.

10. Management System Certification: -

Sr.No	Certification	Yes / No	If Yes, Year of Certification	If No, Target date for Certification
1	ISO 9001			
2	ISO 14001			
3	ISO 45001			
4	Any other (Specify....)			

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

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Appendix 8: CSM F8 - PPE requirements-(R7)

The Contractor shall ensure that the following PPE of Approved standards shall be always available and shall be used by his employees with no exception whatsoever. • PPE shall be conforming to BIS/DGMS/DIN specifications, in good condition and shall be comfortable to his employees, when used. This is indicative. For better clarification refer PPE procedure-TPSMS/GSP/PPE/023. as per safety terms and condition Appendix 3 CFM 3 in detail. R7

PPE Requirement

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/Gas cutters	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 / Linemen	Rubber hand gloves <i>with correct voltage rating and expiry date normally one year from Manufacturing date-(R7)</i> & Electrical resistant shoes, Safety helmet with induction strip to alert about presence of voltage for those linemen who climb the poles or work on electrical equipment
6	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, Work positioning attachment

PPE Type and Testing Frequency

Sl. No.	Name of PPE	IS / EN Standard	Testing Frequency	Remarks
01	Leather Safety Shoes (Color – Black) with PU toe cap.	IS:15298 (Part-2)	Monthly and visual check every day for any crack or damage in the leather or sole.	

02	HDPE Safety helmet with chin strap and ratchet type for adjustment for non-Electrical work	IS:2925-1984	Monthly and visual check every day for any crack in shell.	
03	Full body harness (Safety belt)	EN 361	Monthly and visual check every day of the bends and the harness.	
04	Electrical Safety Gloves	EN: 60903 CE marked	Weekly and visual check for any crack and blow test before every work.	Manufactured not beyond 12 months.
05	Full face visor with safety helmet	EN: 166 CE marked (Visor)	Monthly and visual check every day for any crack in shell.	Clear acrylic visor attached with safety helmet.
06	Fireproof jacket for chest protection		Monthly and visual check every day.	
07	Safety helmet with induction Strip for linemen and working for electrical work-Class E	EN 397/2012	Monthly and visual check everyday	Induction Strip alerts presence of voltage
08	Shorting clamps, crocodile clamps, Discharge Rod and Neon tester		Monthly and visual check everyday	For discharging the residual voltage and test before touch

Pictorial View of PPEs for reference purpose

Sl. No.	Name of PPE	IS / EN Standard	Picture
01	Leather Safety Shoes (Color – Black) with PU toe cap.	IS:15298(Part-2) and with test report of electrical resistance.	

02	<p>HDPE Safety helmet with chin strap and ratchet type for adjustment for Nonelectrical work and electrical work</p>	<p>IS:2925-1984/ EN 397/2012</p>	
03	<p>Full body harness (Safety belt) The straps at shoulder and thigh shall have full pad for comfort. The back shall be so designed that harness straps do not tangle with each other.</p>	<p>EN 361:2002 EN 358 : 2000 IS: 3521:1991/2002</p>	
04	<p>Electrical Safety Gloves – Composite type Soft electrical gloves as per size of individual.</p>	<p>EN: 60903 CE marked</p>	
05	<p>Full face visor with safety helmet</p>	<p>EN: 166 CE marked (Visor)</p>	
06	<p>Fireproof jacket for chest protection</p>		
08	<p>Reflective jacket to each workman</p>	<p>As per Tata Power standard</p>	

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These pictures are indicative. Actual product may vary.

Note:

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

Appendix 9: CSM F9 - Site Safety Management Plan / Method Statement

Site Safety Plan / Method Statement (Template)

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

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

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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 roles and responsibilities of all personnel involved in activity i.e., Site management staff including subcontractors' staff, Project Manager/Site Manager of principal contractor, Sub Contractor Site Manager, Project Engineer, Safety officer, Competent Supervisory Staff etc.)

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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).*

S. 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)*.

Fall Protection Measures: (Where Work at height cannot be avoided)	
Control Measures for Electrical Hazards	
Others Hazard if any (please provide details)	

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Hazardous Substances to be used in job: (Attach MSDS if required)	 Acute Toxic	 Health Hazard	 Corrosive	 Dangerous For the environment	 Oxidising	 Highly flammable	 Explosives
	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N

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, firefighting, 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*

Safety Helmet / Hard Hats		Safety Shoe / Safety Boots	
Gum Boot		Double Lanyard Safety Harness with work positioning attachment	
Electrical Hand gloves		Other hand gloves	
Eye protection		Respiratory protection	
Ear Protection		Electrical Arc flash suit	
Chemical resistant suit		Reflective Jackets	
Any Other		Any Other	

10.0 First Aid facilities and Nearby Hospitals Details

- Name of On Site First Aider
- First Aid Box Location
- Location of nearest hospital

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

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

Appendix 12: CSM F12 - Safety Violation Penalty Criteria

Major Violations and Escalation matrix--(R7)

Consequence of safety violation observed not related to incidents or accidents		Violations				
Sl. No.	<u>Safety Violation</u>	1st	2nd	3rd	4th	<u>Subsequent violation</u>
1	Working without required PPE such as Helmet/gloves/safety shoes/Safety harness etc.	A	B	C	D	Will Attract the same penalty as 4th violation
2	Working without proper tools and tackles	A	B	C	D	
3	Poor or bad condition of Crane/Hydra/Vehicle and/or Incompetent driver and/or helper).	B	C	D	E	Termination of Contract and blacklisting after repetition of violations (3 to 4 times as the case may be)
4	Improper Working at Height	B	C	D	E	
5	Untrained /unauthorized workman engaged in high-risk jobs	B	C	D	E	
6	Violation of SOP or WI or LOTO	C	D	E		
7	Working without PTW or LC / Without authorization / Without creating Safe Zone	C	D	E		

Legend	Action to be Taken	Responsibility	Penalty (INR)	Repeat Violations
A	Levy of Penalty	Order manager / EIC	5000	The no. of repeat violations shall be calculated cumulative during the contract period, not on a monthly basis
B	Memo to BA and Levy of Penalty	Order manager / EIC	10000	
C	Memo to BA and Levy of Penalty	Order manager / EIC	25000	
D	Memo to BA and Levy of Penalty	Order Manager / EIC	50000	
E	Memo to BA, Levy of Penalty, Termination of Contract, Blacklist	Order Manager / EIC	100000	

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Other Violations and Penalty

Penalty shall be imposed on the contractors under the following circumstances for breaching the contractual agreements. The list is not exhaustive, but indicative.

Sl. No	Description of Violation	Severity	Penalty (INR)
1.	Unhygienic/Bad condition of PPE	2	500
2.	Unsafe Act/Condition of Severity 4	4	4000
3.	Unsafe Act/Condition of Severity 5	5	5000
4.	No Earthing of Electrical equipment	5	5000
5.	Working without efficient supervision	4	4000
6.	Non-reporting of incidents	3	3000
7.	Starting the job without Toolbox Talk	4	4000
8.	Electric cable tied with metal wire / Use of damaged electrical cable / Use of two core cable	3	3000
9.	Rubber mat not available in front of electrical panels.	3	3000
10.	Inserting naked wire into the socket instead of a plug	5	5000
11	Inflammable materials stored inside PSS/FCC/Distribution Room	5	5000
12	Water accumulation found near electrical panels / equipment	5	5000
13	Grinding wheel/ Coupling/ Piling winch/other rotating parts without guard	4	4000
14	Inadequate illumination of working area	3	3000
15	Bringing inside PSS/FCC or any other work area any chemicals without approval.	5	5000
16	Loose materials in work area which can fall down or fly during a storm	5	5000
17	Misusing emergency facilities like fire hydrant line/ hose box/ spray system/ eye wash etc.	3	3000
18	Entering restricted areas like switch yard, hazardous material storage room etc. without authorization	3	3000
19	Not using 24 V lamp inside confined spaces	3	3000
20	Bypassing/overriding safety interlocks	5	5000
21	Working besides road without proper barricading and monitoring of traffic	5	5000

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22	Smoking in prohibited area (Closed Go-downs, Storage of flammable material, Storage of Gas cylinders, PSS , Offices etc.)	3	3000
23	Improper stacking of materials in Storage Yard	4	4000
24	Sleeping at workplace	3	3000
25	First aid box not available / in locked condition	2	2000
26	Appointment of subcontractor without his Safety Bid Evaluation and/or without the permission of engineer in charge or Order manager.	5	5% of order value
27	Bad Housekeeping with respect to TPSMS/GSP/GHK/022 <ul style="list-style-type: none"> • 1st Instant • 2nd instant • 3rd instant • 4th instant • Subsequent instants 	2	<ul style="list-style-type: none"> • 1000 • 2000 • 5000 • 10000 • 10000
28	Violations related to vehicles with respect to TPSMS/CSP/RSP/015. <ul style="list-style-type: none"> • Parking without wheel choke • Parking in undesignated area • Heavy vehicle without helper or co-driver • Seat belt not available / not used • Driver without license • Heavy vehicles without reverse horn • Using mobile phone while driving • Lights/mirrors not working /broken 	3	1000 per each violation
28	Violation in Gas cutting and Gas cylinder handling <ul style="list-style-type: none"> • Cylinder valve without guard • No flashback arrester • Leaky DA/Oxygen hose • Cylinders not kept in secured manner • Cylinder trolley not available • Cylinders are transported by manual rolling 	5	2000 per each violation
29	Violations in Lifting Operations w.r.t. to TPSMS/CSP/HEMS/005 <ul style="list-style-type: none"> • Hook latch missing • Load raised or swung over people or occupied areas of building • Persons standing within the swing area of the crane • No barricading of crane working area • Use of damaged lifting tools and tackles 	5	2000 per each violation

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	<ul style="list-style-type: none"> Lifting tools and tackles not tested / Test certificate expired Crane operator without proper license Angular loading Lifting / shifting heavy material without guide rope Using mobile phone during loading and unloading jobs 		
30	<p>Violation in Scaffolding work w.r.t. to TPSMS/CSP/SCAF/007</p> <ul style="list-style-type: none"> Unstable scaffolding/nonstandard Scaffolding in use Handrails/mid rails/toe guards missing Safety harness not anchored on fixed structure Opening found in working platform 	5	2000 per violation
31	<p>Violation in Excavation Work w.r.t. to TPSMS/CSP/EXS/002</p> <ul style="list-style-type: none"> Loose material falling into excavated pit Water logging in excavated pits / trenches Inadequate or no barricading Undercut / cave in found on sides of excavated pits 	4	2000 per violation
32	Caution boards, danger signs (luminescent /red) along with emergency contact number are not found displayed.	3	3000
34	Spillage of hazardous material/chemicals during transportation	4	4000

Penalty for Incidents / Accidents-(R7)

Consequence of incident / Accident		Incident / Accident				Action Required
Sr.No.	Type of Injury	1st	2nd	3rd	4th	
1	Major Injury (Bone injury or burn or hospitalization >48 hrs.) Non-fatal	F	F	G	G	Intolerable
2	Major Injury (Bone injury or burn or hospitalization >48 hrs.) Non-Fatal (Two or more non-Fatal in one event)	G	G	H		
3	Single fatality	G	H			
4	Multiple fatalities (Two or more fatalities in one event). Anywhere in Tata power.	H				

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Legend	Action to be taken	Responsibility	Penalty (INR)	The no. of violations shall be calculated cumulative during the contract period for all contracts in SBU, not on a monthly basis
F	Memo to BA and Levy of Penalty	Order Manager/Engineer in charge	200000	
G	Memo to BA and Levy of Penalty	Order Manager/Engineer in charge	500000	
H	Memo to BA, Levy of Penalty, Termination of Contract and Blacklisting the BA	Order Manager/Engineer in charge	1000000	

Appendix -13: CHECKLIST TO BE USED DURING SITE VISIT

Checklist to be used: During site visit to check the adequacy Safety systems.			
		Observation	Score* (1-5)
1	Check the adequacy of safety policy and Safety Management system of the contractor.		
2	Does the contractor have written down safety procedures?		
3	Check the records of Near miss, unsafe act, unsafe conditions, and incidents.		
4	Check the organization setup to implement the safety systems at site (safety officer, safety supervisor)		
5	Check whether safety meeting and toolbox talk carried out regularly and records maintained or not.		
6	Is the process of incident investigation adequate or not?		
7	Verify incident reporting and recording system		
8	Check the usage of equipment/tools and tackles.		
9	Check for housekeeping at site		
10	Check the use of PPEs and general behavior of workforce towards safety		
	Total Score		
	Site Visit Score		

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

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Appendix 14: Indicative List of High-Risk Jobs

Indicative high-risk jobs are given below. This is not an exhaustive list. This is only indicative.

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	Maintenance / Testing and Replacement of High Voltage (33 KV etc.) Switchyard equipment
6	Installation of Lifts
7	Installation of EOT Cranes
8	Tower Dismantling
9	Working on H Frame /Pole mounted Transformers
10	Excavation in operational Area having power cables in receiving station
11	Identification and spiking of cable / disconnection of cables from poles
12	Working on Electrical Panels
13	Working on live electrical switch yard, Material handling and equipment repair/installation.
14	All activities that require climbing on a pole/structures/Towers/Transformers
15	Cable laying and termination jobs
16	Excavation beyond 5 feet near existing building and structures
17	Working in confined Spaces
18	Stringing of new conductors over poles

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



(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018



CORPORATE SUSTAINABILITY POLICY

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

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

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



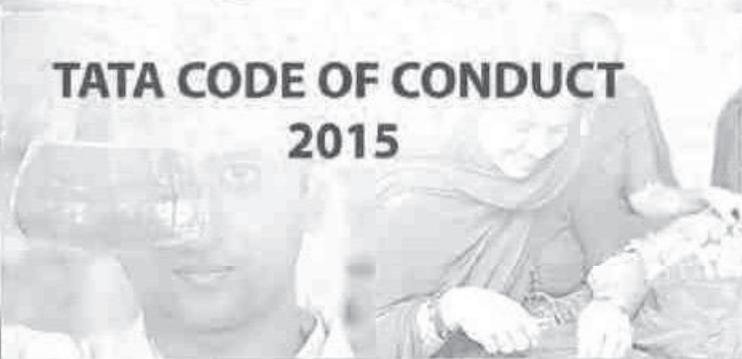
(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018





**TATA CODE OF CONDUCT
2015**



LEADERSHIP THAT INSPIRES

For over 100 years, the Tata group has been led by visionaries who have stayed true to the vision of the founder, Jamsetji Tata.

A vision that placed the greater good of society at par with business growth.

A vision that put into practice pioneering social initiatives that changed the way responsible business was run.

And a vision that brought into the group a strong social conscience.



We do not claim to be more unselfish, more generous or more philanthropic than other people. But we think we started on sound and straightforward business principles, considering the interests of the shareholders our own, and the health and welfare of the employees, the sure foundation of our success.

Jamsetji Tata
Founder of the Tata group
Chairman (1868 – 1904)

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FOREWORD

Tata companies have consistently adhered to the values and ideals articulated by the Founder for over 150 years. The Tata Code of Conduct was first formalized by Mr Ratan Tata. It articulates the Group's values and ideals that guide and govern the conduct of our companies as well as our colleagues in all matters relating to business. Today, the Code is a bedrock on which we base our individual, as well as leadership commitments to core Tata values.

The Tata Code of Conduct outlines our commitment to each of our stakeholders, including the communities in which we operate, and is our guiding light when we are sometimes faced with business dilemmas that leave us at ethical crossroads. The Code is also dynamic in that it has been periodically refreshed in order to remain contemporary and contextual to the changes in law and regulations. However it remains unaltered at its core.

Our stellar reputation and success as a business entity has been defined by the powerful commitment and adherence to the core values and principles expressed in this Code, by all our employees, directors and partners. I trust every Tata colleague and Tata company will continue to not only comply with the laws and regulations that govern our business interests around the world, but will continue to set new standards of ethical conduct that will generate deep respect and inspire emulation by others.

N. Chandrasekaran

21st February, 2017



A. OUR VALUES

TATA has always been values-driven. The five core values that underpin the way we conduct our business activities are:



INTEGRITY

We will be fair, honest, transparent and ethical in our conduct; everything we do must stand the test of public scrutiny.

UNITY

We will invest in our people and partners, enable continuous learning, and build caring and collaborative relationships based on trust and mutual respect.

RESPONSIBILITY

We will integrate environmental and social principles in our businesses, ensuring that what comes from the people goes back to the people many times over.

PIONEERING

We will be bold and agile, courageously taking on challenges, using deep customer insight to develop innovative solutions.

EXCELLENCE

We will be passionate about achieving the highest standards of quality, always promoting meritocracy.

These universal values serve as the foundation for the Tata Code of Conduct. They find expression within the value system of every Tata company.

B. SCOPE AND PURPOSE OF THIS CODE

1. This Code sets out how we behave with:
 - our employees, or those who work with us;
 - our customers;
 - the communities and the environment in which we operate;
 - our value-chain partners, including suppliers and service providers, distributors, sales representatives, contractors, channel partners, consultants, intermediaries and agents;
 - our joint-venture partners or other business associates;
 - our financial stakeholders;
 - the governments of the countries in which we operate; and
 - our group companies.
2. In this Code, “we or us” means our company, our executive directors, officers, employees and those who work with us, as the context may require.
3. The term “our group companies” in this Code typically means companies Tata Sons intends for this Code to apply to, and / or to whom Tata Sons has issued this Code.
4. This Code sets out our expectations of all those who work with us. We also expect those who deal with us to be aware that this Code underpins everything we do, and in order to work with us they need to act in a manner consistent with it.

REMEMBER...

It is our commitment to protect our reputation and our brand equity by adhering to the values and principles set out in this Code. By doing so, we strengthen our unique culture and identity.

OUR CORE PRINCIPLES



The Tata philosophy of management has always been, and is today more than ever, that corporate enterprises must be managed not merely in the interests of their owners, but equally in those of their employees, of the consumers of their products, of the local community and finally of the country as a whole.

J.R.D. Tata
Chairman, Tata Sons (1938 – 1991)

C. OUR CORE PRINCIPLES

1. We are committed to operating our businesses conforming to the highest moral and ethical standards. We do not tolerate bribery or corruption in any form. This commitment underpins everything that we do.
2. We are committed to good corporate citizenship. We treat social development activities which benefit the communities in which we operate as an integral part of our business plan.
3. We seek to contribute to the economic development of the communities of the countries and regions we operate in, while respecting their culture, norms and heritage. We seek to avoid any project or activity that is detrimental to the wider interests of the communities in which we operate.
4. We shall not compromise safety in the pursuit of commercial advantage. We shall strive to provide a safe, healthy and clean working environment for our employees and all those who work with us.
5. When representing our company, we shall act with professionalism, honesty and integrity, and conform to the highest moral and ethical standards. In the countries we operate in, we shall exhibit culturally appropriate behaviour. Our conduct shall be fair and transparent and be perceived as fair and transparent by third parties.
6. We shall respect the human rights and dignity of all our stakeholders.
7. We shall strive to balance the interests of our stakeholders, treating each of them fairly and avoiding unfair discrimination of any kind.
8. The statements that we make to our stakeholders shall be truthful and made in good faith.
9. We shall not engage in any restrictive or unfair trade practices.
10. We shall provide avenues for our stakeholders to raise concerns or queries in good faith, or report instances of actual or perceived violations of our Code.
11. We shall strive to create an environment free from fear of retribution to deal with concerns that are raised or cases reported in good faith. No one shall be punished or made to suffer for raising concerns or making disclosures in good faith or in the public interest.
12. We expect the leaders of our businesses to demonstrate their commitment to the ethical standards set out in this Code through their own behaviour and by establishing appropriate processes within their companies.
13. We shall comply with the laws of the countries in which we operate and any other laws which apply to us. With regard to those provisions of the Code that are explicitly dealt with under an applicable law or employment terms, the law and those terms shall take precedence. In the event that the standards prescribed under any applicable law are lower than that of the Code, we shall conduct ourselves as per the provisions of the Code.

REMEMBER...

"Good faith" means having a reasonable belief that the information you have provided is truthful. It does not mean having 'all the evidence' about the potential violation or case reported.

OUR EMPLOYEES



Once you got the best people, the people who shared our values and ideals, we left them free to act on their own. We do not fetter them. We encourage them and give them opportunities for leadership.

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

D. OUR EMPLOYEES

Equal opportunity employer

1. We provide equal opportunities to all our employees and to all eligible applicants for employment in our company. We do not unfairly discriminate on any ground, including race, caste, religion, colour, ancestry, marital status, gender, sexual orientation, age, nationality, ethnic origin, disability or any other category protected by applicable law.
2. When recruiting, developing and promoting our employees, our decisions will be based solely on performance, merit, competence and potential.
3. We shall have fair, transparent and clear employee policies which promote diversity and equality, in accordance with applicable law and other provisions of this Code. These policies shall provide for clear terms of employment, training, development and performance management.

Q & A

A job requirement entails extensive travel. One of the candidates has excellent relevant experience and qualifications. However, this candidate is a single parent. As a result, I feel such a situation would significantly hinder this candidate's ability to cope with the job requirement. What should I do?

In accordance with the Code, the decision to recruit an employee should be based upon merit. We cannot make a presumption that the candidate would not be able to meet the travel requirements of the job. All eligible candidates should be provided with equal opportunity to demonstrate or justify that they can cope with the travel requirements of the job. Being a single parent cannot be a ground to be discriminated against at any stage of recruitment or ongoing employment in our company.

REMEMBER...

We do not tolerate harassment in any form and therefore we expect every employee to discourage such misdemeanours in the workplace.

Dignity and respect

4. Our leaders shall be responsible for creating a conducive work environment built on tolerance, understanding, mutual cooperation and respect for individual privacy.
5. Everyone in our work environment must be treated with dignity and respect. We do not tolerate any form of harassment, whether sexual, physical, verbal or psychological.
6. We have clear and fair disciplinary procedures, which necessarily include an employee's right to be heard.
7. We respect our employees' right to privacy. We have no concern with their conduct outside our work environment, unless such conduct impairs their work performance, creates conflicts of interest or adversely affects our reputation or business interests.

Human rights

8. We do not employ children at our workplaces.
9. We do not use forced labour in any form. We do not confiscate personal documents of our employees, or force them to make any payment to us or to anyone else in order to secure employment with us, or to work with us.

Bribery and corruption

10. Our employees and those representing us, including agents and intermediaries, shall not, directly or indirectly, offer or receive any illegal or improper payments or comparable benefits that are intended or perceived to obtain undue favours for the conduct of our business.

REMEMBER...

Violation by even a single employee of any law relating to anti-bribery, anti-corruption, anti-competition, data privacy, etc. could result in severe financial penalties and cause irreparable reputational damage to the company.

Gifts and hospitality

11. Business gifts and hospitality are sometimes used in the normal course of business activity. However, if offers of gifts or hospitality (including entertainment or travel) are frequent or of substantial value, they may create the perception of, or an actual conflict of interest or an 'illicit payment'. Therefore, gifts and hospitality given or received should be modest in value and appropriate, and in compliance with our company's gifts and hospitality policy.

Freedom of association

12. We recognise that employees may be interested in joining associations or involving themselves in civic or public affairs in their personal capacities, provided such activities do not create an actual or potential conflict with the interests of our company. Our employees must notify and seek prior approval for any such activity as per the 'Conflicts of Interest' clause of this Code and in accordance with applicable company policies and law.

REMEMBER...

As a general rule, we may accept gifts or hospitality from a business associate, only if such a gift:

- has modest value and does not create a perception (or an implied obligation) that the giver is entitled to preferential treatment of any kind;
- would not influence, or appear to influence, our ability to act in the best interest of our company;
- would not embarrass our company or the giver if disclosed publicly.

The following gifts are never appropriate and should never be given or accepted:

- gifts of cash or gold or other precious metals, gems or stones;
- gifts that are prohibited under applicable law;
- gifts in the nature of a bribe, payoff, kickback or facilitation payment*;
- gifts that are prohibited by the gift giver's or recipient's organisation; and
- gifts in the form of services or other non-cash benefits (e.g. a promise of employment).

(*'Facilitation' payment is a payment made to secure or speed up routine legal government actions, such as issuing permits or releasing goods held in customs.)

Working outside employment with us

13. Taking employment, accepting a position of responsibility or running a business outside employment with our company, in your own time, with or without remuneration, could interfere with your ability to work effectively at our company or create conflicts of interest. Any such activity must not be with any customer, supplier, distributor or competitor of our company. Our employees must notify and seek prior approval for any such activity as per the 'Conflicts of Interest' clause of this Code and in accordance with applicable company policies and law.

Integrity of information and assets

14. Our employees shall not make any wilful omissions or material misrepresentation that would compromise the integrity of our records, internal or external communications and reports, including the financial statements.
15. Our employees and directors shall seek proper authorisation prior to disclosing company or business-related information, and such disclosures shall be made in

accordance with our company's media and communication policy. This includes disclosures through any forum or media, including through social media.

16. Our employees shall ensure the integrity of personal data or information provided by them to our company. We shall safeguard the privacy of all such data or information given to us in accordance with applicable company policies or law.
17. Our employees shall respect and protect all confidential information and intellectual property of our company.
18. Our employees shall safeguard the confidentiality of all third party intellectual property and data. Our employees shall not misuse such intellectual property and data that comes into their possession and shall not share it with anyone, except in accordance with applicable company policies or law.
19. Our employees shall promptly report the loss, theft or destruction of any confidential information or intellectual property and data of our company or that of any third party.

Q&A

I am an accountant in the finance department of my company. Due to my artistic skills, I received an offer to pen cartoons for a children's publication for which I would receive compensation. I plan to undertake this activity during week-ends. What should I do before accepting this offer?

Before accepting the offer, you should ascertain whether the company policies and rules require you to make a disclosure to your supervisor so that the company may determine whether your undertaking this activity adversely affects our company's interests. On confirmation from the company that it does not do so, you would be free to take up the activity. It is also your duty to bring to the attention of the company whenever there is any change in the situation you have disclosed.

20. Our employees shall use all company assets, tangible and intangible, including computer and communication equipment, for the purpose for which they are provided and in order to conduct our business. Such assets shall not be misused. We shall establish processes to minimise the risk of fraud, and misappropriation or misuse of our assets.
21. We shall comply with all applicable anti-money laundering, anti-fraud and anti-corruption laws and we shall establish processes to check for and prevent any breaches of such laws.

Insider trading

22. Our employees must not indulge in any form of insider trading nor assist others, including immediate family, friends or business associates, to derive any benefit from access to and possession of price sensitive information that is not in the public domain. Such information would include information about our company, our group companies, our clients and our suppliers.

Q & A

Our company has recently announced the launch of a new business initiative. In connection with this, your friend who is a journalist with a leading business newspaper has asked you to provide some information that he could cover in his forthcoming article. He has promised not to quote you, or reveal your identity. Should you be giving him this information?

No. You should not be sharing information of this nature with the media, even if it is assured that the source would remain anonymous. Only authorised personnel in the company are permitted to speak to the media and provide information of this nature.

Our company has a “Use of Social Media” policy that lays down the “dos and don’ts” for use of social media even if you may access such media on your own time. Why is there such a policy?

External communication is a serious matter. It must be carefully managed because information put out with reference to our company or its businesses needs to be clear, truthful and not violate any undertakings we have given to other parties. In each business there are managers nominated to authorise and make different types of statements to the outside world. These managers should be consulted about any request for information you may receive or information you think we should give out.

In using social media, in particular blogs or social networking sites, you should exercise great caution while talking about our company or the business we do. It may feel like you are chatting with friends or expressing a personal opinion but even while doing so you cannot share any confidential information of our company.

REMEMBER...

We must respect the property rights of others by never misusing their assets, intellectual property or trade secrets, including the copying or downloading of unauthorised software, trademarks, copyrighted material or logos. We should never make unauthorised copies of computer software programs or use unlicensed personal software on company computers.

Prohibited drugs and substances

23. Use of prohibited drugs and substances creates genuine safety and other risks at our workplaces. We do not tolerate prohibited drugs and substances from being possessed, consumed or distributed at our workplaces, or in the course of company duties.

Conflicts of interest

24. Our employees and executive directors shall always act in the interest of our company and ensure that any business or personal association *including close personal relationships* which they may have, does not create a conflict of interest with their roles and duties in our company or the operations of our company. Further, our employees and executive directors shall not engage in any business, relationship or activity, which might conflict with the interest of our company or our group companies.

25. Should any actual or potential conflicts of interest arise, the concerned person must immediately report such conflicts and seek approvals as required by applicable law and company policy. The competent authority shall revert to the employee within a reasonable time as defined in our company's policy, so as to enable the concerned employee to take necessary action as advised to resolve or avoid the conflict in an expeditious manner.

26. In the case of all employees other than executive directors, the Chief Executive Officer / Managing Director shall be the competent authority, who in turn shall report such cases to the Board of Directors on a quarterly basis. In case of the Chief Executive Officer / Managing Director and executive directors, the Board of Directors of our company shall be the competent authority.

Q & A

You are responsible for maintaining our company's customer database. One of your friends is starting a business venture and requests you to share a few particulars from this database for marketing purposes of his business. He assures you that he would keep the data as well as his source confidential. Should you do so?

No. You should respect the confidentiality of customer information and not share any part of the database with any person without due authorisation.

You have access to revenue numbers of different business units of our company. While having a conversation with you over evening drinks, your friend enquires about the financial performance of our company. You do not share detailed information with your friend, but share approximate revenue figures. Is this conduct of yours correct?

No, it is not. You are not permitted to share financial information of our company with others who do not need to know this information. Financial information should always be safeguarded and disclosed only on a need-to-know basis after obtaining requisite approvals. Sharing of any price sensitive information that is not generally available with the public could also lead to violation of applicable insider trading laws.



27. Notwithstanding such or any other instance of conflict of interest that exists due to historical reasons, adequate and full disclosure by interested employees shall be made to our company's management. At the time of appointment in our company, our employees and executive directors shall make full disclosure to the competent authority, of any interest leading to an

actual or potential conflict that such persons or their immediate family (including parents, siblings, spouse, partner, children) or persons with whom they enjoy close personal relationships, may have in a family business or a company or firm that is a competitor, supplier, customer or distributor of, or has other business dealings with, our company.

REMEMBER...

A conflict of interest could be any known activity, transaction, relationship or service engaged in by an employee, his/her immediate family (including parents, siblings, spouse, partner, and children), relatives or a close personal relationship, which may cause concern (based upon an objective determination) that the employee could not or might not be able to fairly perform his/her duties to our company.

Examples of Potential Conflicts of Interest

A conflict of interest, actual or potential, arises where, directly or indirectly, an employee or executive director:

- (a) engages in a business, activity or relationship with anyone who is party to a transaction with our company;
- (b) is in a position to derive an improper benefit, personally or for any family member or for any person in a close personal relationship, by making or influencing decisions relating to any transaction;
- (c) conducts business on behalf of our company or is in a position to influence a decision with regard to our company's business with a supplier or customer where a relative of, or a person in close personal relationship with, an employee or executive director is a principal officer or representative, resulting in a personal benefit or a benefit to the relative;
- (d) is in a position to influence decisions with regard to award of benefits such as increase in salary or other remuneration, posting, promotion or recruitment of a relative or a person in close personal relationship employed in our company or any of our group companies;
- (e) undertakes an activity by which the interest of our company or our group companies can be compromised or defeated; or
- (f) does anything by which an independent judgement of our company's or our group companies' best interest cannot be exercised.



28. If there is a failure to make the required disclosure and our management becomes aware of an instance of conflict of interest that ought to have been disclosed by an employee or executive director, our management shall take a serious view of the matter and consider suitable disciplinary action as per the terms of employment. In all such matters, we shall follow clear and fair disciplinary procedures, respecting the employee's right to be heard.

Examples of activities normally approved (post-disclosure) as per applicable company policy

Acceptance of a position of responsibility (whether for remuneration or otherwise) in the following cases would typically be permitted, provided the time commitments these demand do not disturb or distract from the employee's primary duties and responsibilities in our company, and are promptly disclosed to the relevant competent authority:

- (a) Directorships on the Boards of any of our group companies, joint ventures or associate companies.
- (b) Memberships/positions of responsibility in educational/professional bodies, where such association will promote the interests of our company.
- (c) Memberships or participation in government committees/bodies or organisations.

Q & A

You are in a relationship with a colleague who has been recently moved into your team and would now be reporting to you. What should you do?

Romantic or close personal relationships with another employee where a reporting relationship exists and one is responsible for evaluating the other's performance, is likely to create a conflict of interest. In such a situation, you would need to report the potential conflict to your supervisor.

Your company is submitting a proposal to a company in which you were previously employed. You have confidential information pertaining to your previous employer, which you believe will help your present employer in winning the contract. Should you share this information?

No. You should not share this information with your company since it relates to confidential information of a third party. Your company respects its employees' duty to protect confidential information that they may have relating to their previous employers.

You are the purchasing manager in the procurement department of your company. You receive an invitation from a supplier to attend a premier sporting event as her guest. This particular supplier is one of the vendors who has submitted a proposal for an open tender issued by your company. Should you accept the invitation?

No. You should not accept the invitation in this instance. Since you are in a key decision-making role for the tender, any unusual benefit that you receive could be perceived as an inducement that could compromise your objectivity.

OUR CUSTOMERS



We have continued to enjoy prosperity, even with adverse times to fight against. Our relations with all concerned are the most friendly. We have maintained the same character for straight-forward dealing with our constituents and customers. Our productions have continued to be of the same high quality, and therefore command the best reputation and realise the highest prices. ... I mention these facts only to point out that with honest and straight-forward business principles, close and careful attention to details, and the ability to take advantage of favourable opportunities and circumstances, there is a scope for success.

Jamsetji Tata
Founder of the Tata group
Chairman, Tata Sons (1868 – 1904)

E. OUR CUSTOMERS

Products and services

1. We are committed to supplying products and services of world-class quality that meet all applicable standards.
2. The products and services we offer shall comply with applicable laws, including product packaging, labelling and after-sales service obligations.
3. We shall market our products and services on their own merits and not make unfair or misleading statements about the products and services of our competitors.

Export controls and trade sanctions

4. We shall comply with all relevant export controls or trade sanctions in the course of our business.

Fair competition

5. We support the development and operation of competitive open markets and the liberalisation of trade and investment in each country and market in which we operate.
6. We shall not enter into any activity constituting anti-competitive behaviour such as abuse of market dominance, collusion, participation in cartels or inappropriate exchange of information with competitors.
7. We collect competitive information only in the normal course of business and obtain the same through legally permitted sources and means.

Dealings with customers

8. Our dealings with our customers shall be professional, fair and transparent.
9. We respect our customers' right to privacy in relation to their personal data. We shall safeguard our customers' personal data, in accordance with applicable law.

Q&A

You are the Regional Sales Manager of our company. You have become a member of an “informal group”, on an instant messaging service, whose members are the regional sales heads of our company’s competitors. The administrator of the group has requested an in-person meeting to informally discuss market conditions and brainstorm on “pricing strategy” from an industry perspective. What should you do?

Any meeting with competitors, especially to discuss “pricing strategy”, could be an attempt to promote an anti-competitive practice or manipulate prices. You should respond by declining this invitation and exiting the “informal group”. You should also report this incident to your supervisor and your Legal department.

You are attending a customer meeting with a colleague, and your colleague makes an untruthful statement about the company’s services. What should you do?

You should assist your colleague in correcting the inaccuracy during the meeting if possible. If this is not possible, raise the issue with your colleague after the meeting to enable him/her or the company to correct any misrepresentation made to the customer.

While working on a customer project, you receive a call from your colleague. He used to manage that customer account before you took over his role. He recalls that he had worked with the customer on developing a new ordering system which he thinks would be beneficial for another customer and requests you to send him the project details. What should you do?

You must not share this information without specific approval of the customer; you are not permitted to use a customer’s assets, including software, for another customer or for any personal use.

REMEMBER...

Striving for excellence in the standards of our work and in the quality of our goods and services is a core Tata value. It is the unwavering practice of this value that builds and sustains customer trust in our brand.

OUR COMMUNITIES AND THE ENVIRONMENT



In a free enterprise, the community is not just another shareholder in business but is in fact the very purpose of its existence.

Jamsetji Tata

Founder of the Tata group
Chairman, Tata Sons (1868 – 1904)

F. OUR COMMUNITIES AND THE ENVIRONMENT

Communities

1. We are committed to good corporate citizenship, and shall actively assist in the improvement of the quality of life of the people in the communities in which we operate.
2. We engage with the community and other stakeholders to minimise any adverse impact that our business operations may have on the local community and the environment.
3. We encourage our workforce to volunteer on projects that benefit the communities in which we operate, provided the principles of this Code, where applicable, and in particular the 'Conflicts of Interest' clause are followed.

The environment

4. In the production and sale of our products and services, we strive for environmental sustainability and comply with all applicable laws and regulations.
5. We seek to prevent the wasteful use of natural resources and are committed to improving the environment, particularly with regard to the emission of greenhouse gases, consumption of water and energy, and the management of waste and hazardous materials. We shall endeavour to offset the effect of climate change in our activities.

OUR VALUE-CHAIN PARTNERS



If we had done some of the things that some other groups have done, we would have been twice as big as we are today. But we didn't, and I would not have it any other way.

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

(on the pace of expansion of the Tata group in the 1960s and 70s)



G. OUR VALUE-CHAIN PARTNERS

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

Q & A

You head the procurement function in our company. You have tight budgetary constraints for a project that you are working on. In order to complete the project within the targeted costs, you intend to request your supplier to provide you an exceptional discount on this project order on the understanding that you would “make it up to him” in future orders. Would you be violating the Code?

Yes, you would. Inducement in any form, including future benefits to the supplier, could compromise your ability to act objectively and in the best interests of the company and therefore must be avoided.

REMEMBER...

Our value-chain partners would include our suppliers and service providers, distributors, sales representatives, contractors, channel partners, consultants, intermediaries and agents; joint-venture partners and other business associates.



OUR FINANCIAL STAKEHOLDERS



Ethical behaviour in business – in every sphere and with all constituents – has been the bedrock on which the Tata group has built, and operates, its enterprises. This has been an article of faith for the group ever since its inception, a fundamental element of our cherished heritage and the essence of our way of life.

Ratan Tata

Chairman, Tata Sons (1991 – 2012)

H. OUR FINANCIAL STAKEHOLDERS

1. We are committed to enhancing shareholder value and complying with laws and regulations that govern shareholder rights.
 2. We shall inform our financial stakeholders about relevant aspects of our business in a fair, accurate and timely manner and shall disclose such information in accordance with applicable law and agreements.
 3. We shall keep accurate records of our activities and shall adhere to disclosure standards in accordance with applicable law and industry standards.
-

GOVERNMENTS



Business, as I have seen it, places one great demand on you; it needs you to impose a framework of ethics, values, fairness and objectivity on yourself at all times. It is not easy to do this; you cannot impose it on yourself forcibly because it has to become an integral part of you.

Ratan Tata

Chairman, Tata Sons (1991 – 2012)

I. GOVERNMENTS

Political non-alignment

1. We shall act in accordance with the constitution and governance systems of the countries in which we operate. We do not seek to influence the outcome of public elections, nor to undermine or alter any system of government. We do not support any specific political party or candidate for political office. Our conduct must preclude any activity that could be interpreted as mutual dependence/favour with any political body or person, and we do not offer or give any company funds or property or other resources as donations to any specific political party, candidate or campaign.

Any financial contributions considered by our Board of Directors in order to strengthen democratic forces through a clean electoral process shall be extended only through the Progressive Electoral Trust in India, or by a similar transparent, duly-authorized, non-discriminatory and non-discretionary vehicle outside India.

Government engagement

2. We engage with the government and regulators in a constructive manner in order to promote good governance. We conduct our interactions with them in a manner consistent with our Code.
3. We do not impede, obstruct or improperly influence the conclusions of, or affect the integrity or availability of data or documents for any government review or investigation.

OUR GROUP COMPANIES



I do not think anyone was on par with Jamsetji as an industrial visionary. But that is not the sole reason why I have been an admirer of Jamsetji.

The major reason was his sense of values, sterling values, which he imparted to this group. If someone were to ask me, what holds the Tata companies together, more than anything else, I would say it is our shared ideals and values which we have inherited from Jamsetji Tata.

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

J. OUR GROUP COMPANIES

1. We seek to cooperate with our group companies, including joint ventures, by sharing knowledge, physical resources, human and management resources and adopting leading governance policies and practices in accordance with applicable law including adherence to competition law, where relevant.
2. We shall strive to achieve amicable resolution of any dispute between us and any of our group companies, through an appropriate dispute resolution mechanism so that it does not adversely affect our business interests and stakeholder value.
3. We shall have processes in place to ensure that no third party or joint venture uses the TATA name/brand to further its interests without proper authorisation.
4. Our Board of Directors shall consider for adoption policies and guidelines periodically formulated by Tata Sons and circulated to group companies.

Q & A

You are in the process of selecting potential vendors for an IT project in our company. In the final shortlist of two companies, one is a new start-up with limited references and a lower price-quotation, while the other is a Tata company with thirty years of implementation experience and good references, but a marginally higher quote for the same job. With all other parameters of choice being nearly equal, which company should you select for the job?

While price is undoubtedly an important criterion for decision making, it is clearly not the only one to be evaluated. You may also need to consider good customer references, proven track record and shared value systems in order to decide on your IT partner.

You are in the process of selecting potential vendors for a project. One of the three finalists is a group company. In reviewing the final proposals, you rank the group company second out of the three proposals based on pricing and total cost of ownership, and select the first-ranked vendor. Is this the right decision?

Yes. You should select the vendor that, on its own merits, is the vendor that is most appropriate for your company's requirements. You should not select a group company only because of its affiliation.

RAISING CONCERNS

We encourage our employees, customers, suppliers and other stakeholders to raise concerns or make disclosures when they become aware of any actual or potential violation of our Code, policies or law. We also encourage reporting of any event (actual or potential) of misconduct that is not reflective of our values and principles.

Avenues available for raising concerns or queries or reporting cases could include:

- immediate line manager or the Human Resources department of our company
- designated ethics officials of our company
- the 'confidential reporting' third party ethics helpline (if available)
- any other reporting channel set out in our company's 'Whistleblower' policy.

We do not tolerate any form of retaliation against anyone reporting legitimate concerns. Anyone involved in targeting such a person will be subject to disciplinary action.

If you suspect that you or someone you know has been subjected to retaliation for raising a concern or for reporting a case, we encourage you to promptly contact your line manager, the company's Ethics Counsellor, the Human Resources department, the MD/CEO or the office of the group's Chief Ethics Officer.

Q & A

My supervisor has asked me to do something which I believe may be illegal. I am afraid if I do not do what I am told, I could lose my job. Should I do it?

No. Breaking the law is never an option. Discuss the situation with your supervisor to be certain that you both understand the facts. If your concerns are not resolved, contact a higher level supervisor, the Ethics Counsellor, the Legal department or report them via the company's confidential reporting system, if available.

I feel that my supervisor is treating me unfairly for reporting a concern to the Ethics Counsellor. What should I do?

Retaliation against anyone who raises a concern is a violation of the Code. You should therefore promptly report this action of your supervisor to the Ethics Counsellor or the MD/CEO of your company or via the company's confidential reporting system, if available.

ACCOUNTABILITY

This Code is more than a set of prescriptive guidelines issued solely for the purpose of formal compliance. It represents our collective commitment to our value system and to our core principles.

Every person employed by us, directly or indirectly, should expect to be held accountable for his/her behaviour. Should such behaviour violate this Code,

they may be subject to action according to their employment terms and relevant company policies.

When followed in letter and in spirit, this Code is *'lived'* by our employees as well as those who work with us. It represents our shared responsibility to all our stakeholders, and our mutual commitment to each other.

SPEAK UP...

If you are unsure whether a particular action you are about to take is consistent with the principles set forth in the Code, ask yourself:

- Could it directly or indirectly endanger someone or cause them injury?
- Is it illegal/unlawful or out of line with our policies and procedures?
- Does my conscience reject it? Does it conflict with my personal values?
- Would I feel uncomfortable if the story appeared in the media? Would it shame my company, spouse, partner, parent or child?
- Does it 'feel' wrong?

If the answer to any of these questions is "Yes", please stop and consult your reporting manager, the Ethics Counsellor, the Human Resource department, the Legal department or any member of the senior management team, to assist you in making the decision.

When faced with a dilemma: Stop, Think, Act Responsibly

NOTE

The Code does not provide a comprehensive and complete explanation of all expectations from a company standpoint or obligations from a stakeholder standpoint.

Our employees have a continuing obligation to familiarise themselves with all applicable law, group-level advisories and policies, company-level policies, procedures and work rules as relevant. For any guidance on interpretation of the Code, we may seek support from our company's Ethics Counsellor or from the group's Chief Ethics Officer, as appropriate.

All joint ventures are encouraged to adopt the Tata Code of Conduct (TCOC) or a code of conduct that incorporates all elements of the TCOC.

This version of the Tata Code of Conduct supersedes all earlier versions and associated documents and stands effective from 29th July, 2015.

For any query or clarification on the Code, please contact the office of the group's Chief Ethics Officer via email at: ethicsoffice@tata.com.



TATA CODE OF CONDUCT – 2015

I acknowledge that I have received the Tata Code of Conduct.

I have read the Tata Code of Conduct and I acknowledge that as a Tata employee, I am required to comply with the guidelines described therein and failure to do so may subject me to action as per my employment terms and relevant company policies.

If I have a concern about a violation, or a potential violation of the Tata Code of Conduct, I understand that there are channels available to me in my company to report such concerns. By making use of these channels when necessary, I will play my part in maintaining the high ethical standards to which we hold ourselves.

Signature: _____

Date: _____

Name: _____

Department: _____

Address: _____

(Please submit this declaration to your Ethics Counsellor or the Human Resource department of your company.)







For further information on the Code please contact:
 The Ethics Office,
 Tata Sons Ltd.,
 Bombay House,
 24, Homi Mody Street,
 Mumbai – 400001, India.
 Email: ethicsoffice@tata.com



Technical Specifications

CONFIDENTIAL

	<p align="center">THE TATA POWER COMPANY LIMITED T&D (ENGINEERING)</p> <p align="center">Specification for 110kV, 40MVAr Capacitor bank at Salsette Receiving station in Mumbai</p>	<p align="center">TE/SP/0044/FY25</p> <p align="center">Rev A</p> <p align="center">Page 1 of 26</p>
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Document Title: Specification for 110kV, 40MVAr Capacitor bank at Salsette Receiving station

Document No: TE/SP/0044/FY25

TATA POWER

The Tata Power Company Limited

Engineering (T&D), The Tata Power Company Limited, Dharavi Receiving Station, Near Shalimar Industrial Estate Matunga, Mumbai-400019.

Revision	Date	Description	Approvals		
			Prepared By	Checked By	Approved By
A	17-04-2025	Issued For Review & Comment	RT	VK	SKV
				Vishalk	 020525

TE/SP/0044/FY25 Rev: A Date:17-04-2025	TECHNICAL SPECIFICATIONS Specification for 110kV, 40MVAR Capacitor bank at Salsette Receiving station	Section-A Page 2 of 26
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SECTION-A

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CHECK LIST FOR DOCUMENTS TO BE SUBMITTED ALONG WITH THE BID

S No	Document Name	Submitted by Bidder Yes / No
1	Signed copy of bid document as a token of acceptance	
2	Dully filled in schedules, listed in section 'C'. i.e. Schedule C1 to C9 – Attached	
3	Qualifying Requirement with supporting documents	
4	Quality Assurance Plan (QAP), Manufacturing Quality Plan (MQP), Field Quality Plan (FQP) as applicable.	
5	General Arrangement Drawings for equipment offered	
6	Filled up Data Sheets – Attached as Annexure	
7	Type Test Reports of all equipments under supply	

TE/SP/0044/FY25 Rev: A Date:17-04-2025	TECHNICAL SPECIFICATIONS	Section-A Page 4 of 26
	Specification for 110kV, 40MVAr Capacitor bank at Salsette Receiving station	

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A1 INTENT OF SPECIFICATION

- 1.1. Tata Power Company Limited (Tata Power) herein called the "OWNER" or "PURCHASER", proposed to install and commission the 1 no. of 110kV, 40MVA_r Capacitor Bank at Salsette R/S in Mumbai, with its associated equipment.

The specification comprised of two sections viz. Section-A & Section-B. In case of conflict between Section-A & B, the Section-A shall supersede Section-B.

A2 PROJECT INFORMATION

1. Location : Salsette R/S. Lake Road,
Bhandup W, Mumbai 400078
Maharashtra, India
2. Altitude : Less than 1000m above sea
3. Temperatures:
 - a) Maximum dry bulb temp. : 45°C
 - b) Minimum dry bulb temp. : 8°C
 - c) Design temp for electrical
Equipment /device : 50°C
 - d) Design humidity : 95%
4. Relative humidity
 - a) Maximum during Monsoon : 100%
 - b) Minimum during December to
January : 22%
5. Rainfall : Annual average rainfall is about
2500 to 4000mm (most of which
occurs during the monsoon
season from June to September
6. Wind data

Calculations for wind effect shall be in accordance with IS:875 (Part 3) taking into account the following:

 - i. Basic wind speed = 44m/sec
 - ii. Factor K1,K2,K3 = as per IS 875 Part-3

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- iii. Category of terrain = as per IS 875
- 7. Auxiliary Supply
 - a) Power devices : 415V, 3 Phase, 3 wire, 50 Hz AC System (voltage variation $\pm 10\%$, frequency variation $\pm 5\%$, ambient variation $\pm 10\%$).
 - b) Control devices : 110 V, 2 wire, centrally grounded
: DC System. (voltage variation $\pm 10\%$)
- 8. Seismic Data : The proposed site is located in seismic zone III as per the Indian standard IS 1893 and importance factor of 1.75.
- 9. Air Quality : Atmosphere polluted with industrial gases and wastes because of proximity to petroleum refineries and fertilizer complex.
- 10. Earthing : Solidly earthed system.

1.2 Design System Parameters

The equipment's and system shall be designed to meet the following major Technical Parameters as brought out hereunder.

Sr No	Description of Parameters	Parameter
1.	System operating Voltage (Nominal Voltage) Un	110 kV
2.	Highest System continuous voltage Us	121 kV
3.	Highest Voltage for Equipment Um	145 kV
4.	Rated frequency (Hz)	50 Hz
5.	No of Phase	3
6.	Design ambient temperature	50 deg C
7.	Rated Insulation Levels Full wave impulse withstand voltage (8/20 micro sec)	650 kVp
8.	One-minute power frequency dry and wet withstand voltage (RMS)	275 kV
9.	Minimum creepage distance for all insulators	31mm/kV
10.	Minimum clearances as per CBIP Phase to Phase Phase to Earth	1300 mm 1300mm
11.	System Short circuit current & time	40kA, 3sec
12.	System Neutral Earthing	Solidly earthed

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A3. SCOPE OF WORK

This specification covers the following scope of work:

- 3.1. Design, engineering, manufacture, factory inspection, testing at works, route survey, transport to site, supply, testing and commissioning, supervisory services during unloading and erection of Capacitor bank and its associated equipments (Series reactor, NCT, Lightning arrestor, Bus post insulators, clamps, connectors, busbar, conductor etc) along with supply of supporting structure at site with standard engineering practices, IS & IEC standards.
- 3.2. Capacitor bank shall be fed through 110kV cable from switchyard bay upto cap bank end. Further, the cable sealing end with support structure shall be accommodated in capacitor bank layout. The 110kV cable and cable sealing end with its support structure shall be in owners scope. However, bidder shall supply clamp and connector from the stud of CSE and conductors onwards to complete cap bank.
- 3.3. Supply of all the necessary components and accessories for the satisfactory performance of capacitor bank shall be in bidders scope including Base insulator, interconnecting bus bar, conductors, support structure and necessary terminal / clamp / connector.
- 3.4. Space available at site is 20m x 10m. Bidder to visit the site and according to the space available shall confirm to accommodate capacitor bank and its associated equipment in the available space.
- 3.5. All support structures (hot dip galvanized structural steel), base frames required for installation of complete capacitor bank along with associated equipment shall be in bidders scope. The support structure shall be made up of hot dip galvanized structural steel as per relevant Indian standards.
- 3.6. Civil foundation shall be in Tata Power scope. However, bidder shall provide technical drawings and design details for foundation and layout for capacitor bank and its associated equipment (Current transformer, series reactor, Lightning arrestor), fencing, other civil work-related drawings/Layout for the successful commissioning of the project.
- 3.7. Submission of technical documentation related to design, installation, testing, operation & maintenance of the equipment for owner's review & approval.
- 3.8. Electrical inspectors' (EI) approval for capacitor bank plan section and charging shall be in Tata Power scope. However, bidder to survey the site to prepare plan section drawings as per site layout and provide to Tata Power for submission to EI office. Bidder to prepare the drawings in line with the requirement of EI office.
- 3.9. Bidder must agree for handing over, to Purchaser, all project related drawings in AutoCAD format only. The pdf versions of above drawings shall be submitted through Wrench for formal approval process.
- 3.10. Acceptance minimum quality requirements defined in Tata Power Standard Quality Plans & Standard Field Quality Plans of technical specifications
- 3.11. Demonstration / testing of the system at Bidder's works as per the approved MQP before dispatch of the system at site (FAT).

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- 3.12. Bidder should submit all the Type Test reports conducted for each equipment including capacitor units, support insulator, neutral current transformer, current limiting reactor, LA, busbar, clamps etc. The Type tests should have been carried out within the last five years from the date of bid submission. Tata Power will only accept the material if it is type tested by NABL accredited laboratory.
- 3.13. Adherence to General requirements of Quality Assurance & Inspection (attached with the specifications).
- 3.14. The bidder must confirm the technical & operational support for 25 years for the equipment being procured under this requirement.
- 3.15. The commissioning of the entire system being procured under this requirement as per project schedule shall be in bidder's scope.
- 3.16. Acceptance of Purchaser's preferred list of vendor / sub vendor / OEM, which will be shared as part of Technical Specifications. However, if Bidder introduces additional vendor/sub vendor the same will be evaluated separately. This vendor/sub vendor evaluation / assessment shall include (i) document verification; (ii) Bidders work / manufacturing facilities visit (iii) manufacturing capacity, details of works executed, works in hand, anticipated in future and the balance capacity available for present scope of works; (iv) details of plant and machinery, manufacturing and testing facilities, manpower and financial resources; (v) details of quality systems in place; (vi) past experience and performance; (vii) customer feedback; (viii) response to complaint.

It is not the intent of this specification to specify completely herein, all details of design, construction of storage systems. However, the equipment shall conform in all respects to high standards of engineering, design & workmanship.

A4 TERMINAL POINTS

NA

A5 EXCLUSIONS

1. 110kV bay & associated phase CT, breaker, isolator, and switchyard side gantry
2. Civil works
3. Earthing system
4. Fencing

A6 CODES AND STANDARDS

- 6.1. The design, manufacture and performance of equipment shall comply with all currently applicable statutes, regulations and safety codes in the locality where the equipment will be installed. Nothing in this specification shall be construed to relieve vendor of this responsibility.

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- 6.2. Unless otherwise specified, equipment shall conform to the latest applicable Indian or IEC Standards as given below:

Sr. no.	Brief Title	Ref. No. of Standard
1.0	IEC 60871 all parts	Shunt capacitors for ac power systems having a rated voltage above 1000 V
2.0	IS 2026-6, IEC-60076-6	Current limiting reactors
3.0	IS 3156 & IEC 61869-3	Voltage Transformers
4.0	IS 2705 (Part I-IV), IEC 61869-1 and IS-2705	Current Transformers
5.0	IS 51086 Part 4, IEC 60099 - 4	Lightning Arrestors
6.0	IEC 62217, 60815, 61462, 61109	Polymeric Insulators
7.0	IS 51086 Part 4, IEC 60099 Part 4	Lightning Arrestors
8.0	IS 5561	Connectors
9.0	IEC 60060 - 1 & 2, 60270	High voltage test techniques
10.0	IEC 60068 – 2	Environmental testing
11.0	IEC 60071-1 & 2	Insulation Co-ordination
12.0	IS 2629	Hot Dip Galvanising
13.0	CEA Measures relating to safety and Electric supply CEA Technical Standards for Construction of Electrical Plants and Electric Lines Regulations	For electrical clearances and layout design

A7 BIDDERS QUALIFYING REQUIREMENTS

As per Annexure-2 of specifications.

A8 PROJECT SCHEDULE

Bidder shall submit with the bid, a detailed Project Schedule covering the following based on the milestones tabulated below:

Sr. No.	Milestone *	Target
1.	PO placement	Zero date
2.	MDL & Project Detailed Project Execution Schedule submission & approval	Within 1 weeks from PO
3.	Drawing submission and approval	Within 3 weeks from PO

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4.	Inspection of equipment	Within 16 weeks from PO
5.	Delivery of equipment	Within 17 weeks from PO
6.	Completion of installation	Within 18 weeks from PO

A9 SUBMISSION BY BIDDER**With the Bid**

- a) Filled up Technical datasheet and Technical Deviations of Specifications (in attached Excel format – Excel soft file to be sent with Technical Bid) & in PDF
- b) Dully filled in schedules, listed in section 'C'.
- c) Quality Assurance Plan (QAP), Manufacturing Quality Plan (MQP), Field Quality Plan (FQP) General Arrangement Drawings for Capacitor Bank
- d) Catalogues of the equipment's offered
- e) Internal GA Drawings for Capacitor Bank
- f) Type test reports for same rating of all equipment
- g) Project Schedule / Manufacturing & Delivery schedule
- h) Schedule of Technical Deviations
- i) The attached Bill of Materials (BOM) and datasheets enclosed with the specification are indicative. The Bidders are expected to submit the detailed BOM mentioning the quantity, make, model and warranty.
- j) CT sizing calculation (Ratio and rated burden)

After award of contract

The following documents shall be submitted for Purchaser's approval during detailed engineering through Wrench system (Web based system of TATA Power). All drawings will be reviewed, commented and approved by TATA Power through Wrench system. Bidder shall nominate document manager for this activity and TATA Power will provide training on the same.

Master Document list (MDL) will be finalized to cover the whole project which should cover the following but not limited to.

- (a) Technical data sheets of all equipment's covered under this specification.
- (b) GA drawings of all Items
- (c) Plan & section drawings for each equipment
- (d) Manufacturing Quality Plan (MQP), Field Quality plan (FQP)
- (e) Bidder to submit Operation and maintenance manual (2 copies)

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All above drawings / documents shall be submitted within 7 days of PO issue.

Bidder must agree for handing over, to Purchaser, all project related drawings in PDF version. The pdf versions of above drawings shall be submitted through Wrench for formal approval process.

A10 DETAILED TECHNICAL REQUIREMENT

A10.1 MECHANICAL

NA

A10.2 CIVIL AND ARCHITECTURAL

NA

A10.3 CONTROL INSTRUMENTATION AND AUTOMATION

NA

A10.4 ELECTRICAL

Design, engineering, manufacture, supply, inspection, testing at works, transport to site, preparation of drawings, testing and commissioning, supervisory services during unloading and erection of Capacitor bank and its associated equipments (Series reactor, NCT, Lightning arrestor, Bus post insulators, clamps, connectors, busbar, conductor etc) along with its supporting structure at site with standard engineering practices, IS & IEC standards. The support structures shall be hot dip galvanized stainless steel as per Indian standards.

The requirements of these equipment are as given below.

A. CAPACITOR BANK

110kV, 40MVAR, 3-phase, outdoor type Capacitor bank having internal fuse capacitor units suitable for installation at 110kV Busbar having continuous operating voltage of 121kV and highest voltage rating of equipment of 145kV. The rated reactive power of 40MVAR shall be guaranteed at 110kV voltage level. The capacitor bank shall be designed to operate continuously at voltage of 121kV. Bidders shall furnish the rated reactive power of capacitor bank at 121kV during bid submission. Two star connected ungrounded capacitor banks of 20MVAR each shall be connected in parallel to achieve 40MVAR at rated voltage.

The capacitor bank shall be suitable for operation as per various parameters mentioned in datasheet of the specification and suitable for mounting on hot dip galvanized structural steel to be supplied by the bidder. The supply of hot dip galvanized structural steel required

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for mounting capacitor units, LA, series reactor, neutral unbalance CT and other primary components required for 40MVAR capacitor bank shall be in bidders' scope

Each group of capacitor bank shall be connected in star formation, as per the protection scheme offered, with their neutral points ungrounded. All capacitor units in capacitor bank shall have exactly same rating including capacitance, MVAR, voltage, current etc.

The number of parallel unit in each series group shall be such that failure of one unit shall not result in failure of other parallel units due to voltage rise phenomena as per IEC standard.

The details of overvoltage imposed on remaining units with blowing off each internal fuse should be clearly mentioned. It should be clearly mentioned as how many elements can go off without the need to trip the capacitor bank.

Individual capacitors units of banks shall be self-contained, Outdoor types, having single or two bushings. The bushing shall be of polymer / porcelain type. The creepage distance of bushing shall not be less than 31mm/Kv.

Capacitor units shall be made of 100% polypropylene film, impregnated with non-PCB type, non toxic, chemical properties should be such that contamination of environment from the point of view of bio degradability toxicity and bio concentration shall be minimum.

Each capacitor unit shall be provided with an internal discharge resistor designed to drain out the residual voltage up to 50 V within less than 5 min after disconnecting from supply. The complete capacitor bank terminal voltage shall reduce to less than 75V in 10 min from initial peak of $1.414 \times U_n$.

Each unit shall satisfactorily operate continuously at 130% of rated kVAR, including factors of over voltage, harmonic currents and manufacturing tolerances. The unit shall be capable of continuously withstanding satisfactorily any over voltage up to a maximum of 10% above the rated voltage.

Terminal and mounting arrangement may be accordance with manufacture's standard practice, but should comply CEA electrical clearances, Safety regulations, recommended layouts and safe working practices.

The containers of capacitors units shall be of sufficiently thick sheet of stainless steel, painted with suitable anti- rust paint as per the manufacturer's standard practice.

The Capacitor bank details above shall be complete with its all associated equipments Series reactor, neutral unbalance CT (NUB CT), LA, polymeric insulators, hot dip

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galvanized support steel structures, connecting busbar, conductor, clamp and connectors and any other material required for satisfactory operation of capacitor bank.

The capacitor bank shall conform to latest IEC60871. Please refer to datasheet for specific parameter requirement.

B. SERIES REACTORS (Quantity – 06 nos)

1. The series reactor shall limit the inrush current due to parallel switching of capacitor banks on the same bus. Reactors shall also limit over loading due to presence of harmonics.
2. The reactor winding shall be electrolytic copper. Reactor shall have RTV silicon coating to withstand extreme pollution conditions at site and ensure long life
3. Reactor coils shall be dried and impregnated in epoxy resin under vacuum. Insulation class for reactor shall be Class-F.
4. The reactor coils and insulation shall be suitable for outdoor installation. The finish of the coils shall be smooth to prevent accumulation of rain water.
5. The rated inrush current shall not be less than the peak current that may occur in all recognized cases of switching the associated capacitor and any nearby capacitors due to system fault. Series Reactors are capable of withstanding the short circuit currents fed by cap bank.
6. The minimum continuous current rating of the reactors shall be compatible with the maximum permissible overload current (i.e. 1.3 times rated current) of capacitor bank. Total 6 nos of series reactor shall be provided one each on each star connected phases.
7. Bidder shall show magnetic clearances required surrounding the reactor and consider it in layout arrangement of complete capacitor bank.
8. The series reactors shall be complete in all respects including hot dip galvanizes steel structure, clamps, fixing bolts and nuts and other accessories and shall conform to IEC-60076-6.

C. NEUTRAL CURRENT TRANSFORMER (Quantity – 02 nos)

1. These CTs are to be connected in the neutral interconnection of two star banks of the same capacitor bank and shall have suitable ratio, accuracy and burden to cater to the relay and instrumentation load requirements. Two CTs shall be placed in neutral connection for redundancy of protection.

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2. The current transformer shall be polymeric, live tank, outdoor type, single phase, 50Hz, oil immersed, hermetically sealed, PS class.
3. Test tap point shall be provided for testing of CT insulation. The test tap point shall be kept grounded in service condition and during testing the ground cap shall be removed for accessing test point. The CT ratio should be suitable for detection of unbalance current with one unit failure.
4. The CTs shall be designed considering secondary lead length of 500m (from CT to protection panel) with 4sqmm, multi strand copper cable for relay protection.
5. These CTs shall be provided with adequate protection from transient over voltage, on both primary and secondary sides.
6. CT shall have following rating:
20-10/5A, $RCT \leq 2-1 \text{ ohm}$, $V_k \geq 600V @ 20A \text{ tap}$, $I_{mag} @ V_k/2 \leq 30 \text{ mA}$.
7. For detailed specification of Current transformer refer datasheet and standard specifications.

D. LIGHTNING ARRESTOR

1. Lightning arrestor shall be polymeric insulator, outdoor type.
2. Lightning Arrestors shall be of the hermetically sealed type and of self-supporting construction. They shall be suitable for mounting on steel structures. They shall be provided with pressures relief devices and shall be capable of withstanding the internal pressures developed during various discharges or should safety vent the internal pressures associated with arrestors failure without violent shattering.
3. All metal parts shall be of non-rusting and non-corroding metal. Bolts, Screws and pins shall be provided with lock washers, keys or equivalent locking facilities.
4. The grounding conductor also should be insulated from the structure and taken to the earth pit directly. Leakage current monitoring with counter device shall be placed in series of earth strip.
5. For lightning arrestor, the technical parameters given are based on users' analysis. However, bidder to confirm that selected LA parameters suffices the technical requirement of the project. If any change in parameter is required, bidder to clearly bring it out during bid stage with proper technical justification.
6. For detailed specification of refer datasheet and standard specifications.

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E. INTERCONNECTING BUSBAR / CONDUCTOR / CLAMPS / CONNECTORS

Busbar, conductors, clamps, connectors shall be air insulated and made of high conductivity, high strength, electrolytic grade Copper. Conductivity of Cu shall be 97% of IACS. As per IEC 60871-1 clause the connections should be designed to carry continuous current of 1.4 times the rated current and suitable for 40kA for 3sec short circuit current rating. The layout shall be designed considering there is no sag in the busbar due to its weight. Sufficient support insulator shall be provided in between to support busbar.

Bidder to provide the busbar sizing calculation and it shall be capable to withstand the short circuit current rating i.e. 40kA for 3sec. The clamps & connectors shall also be suitable for system short circuit level. The connecting bus bar shall be capable of withstanding the electrodynamic and thermal stresses which are caused by transient overcurrent of high amplitude and frequency which may occur when switching on.

F. BUSHING AND INSULATORS

Creepage distance of 31mm/kV shall be followed for all insulators at highest system voltage. Bushings shall be made of homogeneous, vitreous, porcelain of high mechanical and dielectric strength. All insulators shall be polymeric type and shatter proof. The bushing/insulator shall be one piece without any metallic flange joint.

G. ACCESSORIES

Bolts and nuts required to complete the commissioning of equipment shall be supplied by the bidder. Bolts and nuts shall be of minimum 8.8 grade galvanized iron type.

Any fittings or accessories which might not have been mentioned in the specification but which are usual or necessary in the equipment are to be provided by the bidder without extra cost. All equipment must be complete in all details whether mentioned in the specification or not.

Name Plate

Each Equipment shall be provided with non-rusting and non-corroding name plate bearing identification as per the applicable standards.

J MOUNTING RACKS:

The mounting racks shall be galvanized structural steel type. Mounting racks shall be complete with rack insulators foundation bolts and other hardware etc. for assembly into complete banks.

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The height of the racks of capacitor banks shall be such that for making electrical connection to the other equipment's electrical clearance is maintained. Also bidder to consider layout in such a manner that it is safe to work as per layout. Tata Power will evaluate bidders layout for safe working condition and will accept bidders layout or suggest suitable corrections for safe working conditions during operation and maintenance (O&M) of capacitor bank. Tata Power call shall be final in this case and bidder must adhere to safety in O&M requirements without any additional cost.

K PAINTING AND FINISH

All interiors and exteriors of tanks and other metal parts shall be thoroughly cleaned to remove all rust, scales, corrosion, grease or other adhering foreign matter. All steel surfaces in contact with insulating oil as far as accessible shall be painted with not less than two coats or heat resistant, oil insoluble, and insulating varnish. Steel surfaces exposed to the weather shall be given a priming coat of zinc chromate and two coats of final paint. All metal parts not accessible for painting shall be made of a corrosion resisting material. All machine finished or bright surfaces shall be coated with a suitable preventive compound and suitably selected to withstand tropical heat and extremes of weather. The paint shall not scale off or crinkle or be removed by abrasion due to normal handling.

In view of very humid climatic conditions, steel parts should be galvanized to prevent corrosion.

A11 LAYOUT REQUIREMENT

Bidder must visit site and comply to the space availability at site and adhere to the foot-print provided (20m x 10m area envisaged).

The following information shall be made available by the bidder before equipment installation to the owner for approval.

1. Site plan and location of the installation inside the substation.
2. Arrangement drawings showing clearly the location of the electrical equipment.

The bidder shall provide the layout plan with SLD, showing arrangement of bank and its associated equipment with proper electrical clearance is maintained.

A12 QUALITY ASSURANCE REQUIREMENT INCLUDING INSPECTION CATEGORIZATION

To ensure that a well-engineered and contractually compliant system is produced, **Bidder shall adhere to Approved Tata power SQP** for the preparation of all contract deliverables. The program shall provide for early detection of actual or potential deficiencies, timely and effective corrective action, and a method of tracking all such deficiencies.

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QUALITY REQUIREMENTS: Bidder to prepare and submit Manufacturing Quality Plan (MQP) and Field Quality Plan (FQP) for approval of Owner to ensure that a well-engineered and contractually compliant system is produced. The program shall provide for early detection of actual or potential deficiencies, timely and effective corrective action, and a method of tracking all such deficiencies.

- 10.1 Tata Power Standard Quality Plan (SQP) and Field Quality Plan (SFP) are attached with this specification defining minimum quality inspection and testing requirements during shop and site inspection respectively. Bidder to ensure that these requirements are compiled in MQP and FQP submitted for approval.

Factory Acceptance Test (FAT)

- a) Owner approved MQP shall be referred for shop inspection. The purpose is to ensure that the Bidder has interpreted the specified requirements correctly and that the FAT includes checking to the degree required by the user. The general philosophy shall be to deliver a system to site, only after it has been thoroughly tested and its specified performance has been verified, as far as site conditions can be simulated in a test lab.
- b) The purpose of Factory Acceptance Testing is to ensure trouble free installation at site. Prior to release for shipment of the equipment the Purchaser or his representative will witness Factory Acceptance Test (FAT) in which the system is checked against the specifications.
- c) Type and routine tests certificates shall be furnished. Tests for components shall be as per relevant standard specifications and approved MQP.
- d) System tests shall be performed on the completely assembled system. Type, routine and optional tests covered in the approved MQP and these specifications shall be conducted in addition to the system tests.
- e) Bidder shall incorporate all FAT comments prior to dispatch. After Bidder confirms that all changes have been incorporated, Purchaser's Office will issue Dispatch Clearance.
- f) The Test Reports as well as Test Certificates of OEM, third party, Bidder shall be submitted for approval / verification.
- g) FAT and Dispatch Clearance by the Purchaser shall not relieve the Bidder from complete responsibility for the total system and its performance subsequently.

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Bidder to refer enclosed quality requirement and confirm compliance to manufacturing quality plan (MQP/SQP) & Field quality plan (FQP/SFP) for the Capacitor bank and each associated equipment. Bidder to adhere to the approved vendor list of Tata Power.

A13 PERFORMANCE & GUARANTEE

A13.1 Safety requirement

All equipment, system and services covered under this specification shall comply with all latest applicable statutory regulations and safety codes in the locality where the Equipment is proposed to be installed. All equipments supplied shall conform to following electrical safety tests as per IEC 61010-1.

A13.2 Performance requirement

The performance test of complete capacitor bank and its associated equipments installation under this specification shall be carried out at site as required to demonstrate the guarantees.

Purchaser will participate in all performance tests. The Bidder shall notify the performance test schedule two weeks in advance before carrying out the tests.

The performance test requirements are as follows:

Commissioning Tests
Trial operations

1. Any special equipment, tools and tackles required for the successful completion of the performance tests shall be provided by the Bidder.
2. The Bidder shall prepare all test reports, in which the methods followed, instrument readings, graphs, observations, results obtained etc. shall be recorded. Duly signed detailed report shall be submitted to Purchaser's approval within one week time.
3. In case of performance test results deviate from the guaranteed values including the specified tolerance, the Bidder shall correct his equipment at no extra cost and repeat the performance tests. Purchase may retain the option of rejecting the equipment, and in the case of such option of rejection being exercised, the Bidder shall replace the entire equipment with new one which will meet the guaranteed parameters.

A13.3 PERFORMANCE & GUARANTEE TESTS

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1. Factory Acceptance Test (FAT) shall be carried by Vendor at factory in presence of Inspection Engineer.
2. Routine tests shall be carried out on all associated equipment as per relevant Indian Standards. Detailed test procedure for Routine/Acceptance tests shall be submitted for purchaser approval.

A13.4 TYPE TEST

1. All equipments being supplied under the project should have been type tested as per relevant IS/IEC standards. Certified copies of all type test reports as per Indian Standards shall be submitted for approval before technical discussion. Bidder shall include type test reports for all associated equipment for Capacitor bank as per standard quality plan of the equipment such as Capacitor unit, NCT, Reactor, Lightning Arrester etc.
2. One copy of the type test certificates carried out for each equipment as per Tata Power's Standard Quality Plan shall be furnished with the bid.

INSPECTION TESTING AND PERFORMANCE REQUIREMENTS ALONG WITH WARRANTY

- a) Bidder should follow owner approved MQP and specification requirements.
- b) Bidder to submit type test reports as per SQP for purchaser review along with technical bid.

Performance & Warranty Parameters

Capacitor bank shall be designed considering at least 25 years life from the date of supply for trouble-free & intervention-free operation. Bidder shall provide technical & operational support for complete cap bank during this period.

Warranty

- a) Warranty for complete cap bank with all accessories shall be for a period of 66 months from the date of supply or 60 months from date of commissioning whichever is earlier.
- b) During warranty period, in case of failure / defect / mal operation of any equipment supplied by bidder, it shall replace the equipment with new one without any cost implication to owner. Bidder to replace the faulty equipment within 10 working days.
- c) During warranty period, bidder shall cover the complete cost associated with the shipping of defective or failed items during warranty period. The new equipment, parts shall be delivered at site in good condition free of charge.

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Bidder shall extend all warranties / guarantees to the purchaser, provided by sub- Vendors, of duration longer than that in this specification

A13.5 SPARES

Bidder to consider mandatory spares list as mentioned in bill of material.

Apart from above mentioned list, Bidder to provide list of **recommended spares** required for trouble free operation of Capacitor Bank, if any during bid submission.

A13.6 TOOLS AND TACKLES

Bidder to provide tools and tackles for Erection, commissioning, condition monitoring / maintenance, if any.

DATA SHEET

Sr. No	Description	TATA Power specifications	Bidder's Specifications
	Name of the manufacturer / Bidder, Location of manufacturing		
A)	CAPACITOR BANK		
1.	Nominal voltage Un (kV)	110	
2.	Highest voltage for System Us (Kv)	121	
3.	Highest voltage for Equipment Um (Kv)	145	
4.	MVAR of the capacitor bank @ 110kV	40 MVAR	
5.	MVAR of the capacitor bank @ 121kV continuous rated	48.4 MVAR	
6.	Type of cooling	AN	
7.	Capacitance of the bank per phase in (micro farads)	Bidder to specify	
8.	Rated line current, amps @ 110kV	209.96 A	
9.	Rated line current, amps @ 121kV	230.95 A	
10.	Maximum permissible continuous overload voltage	1.1 x Us	
11.	Maximum permissible continuous overload current, amps	1.3 x Rated FLC	
12.	Maximum inrush current surge with the proposed reactor amps	Bidder to mention	
13.	Rated power-frequency withstand voltage [kV]	275	
14.	Rated lightning impulse withstand voltage [kVp]	650	
15.	Design Ambient temperature range (°C)	+5 to +50 (+5 / C)	
16.	System design as per Cap bank neutral kept ungrounded / floating	Yes	
17.	Capacitor losses in watts Initial Loss after (Average in operating loss 10,000 hours	Initial Loss bidder to mention	

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	ambient at 40 deg. C.)	Loss after 10,000 hours of energization	
	For complete bank of 40MVAR		
	For individual unit watts/KVAR		
18.	Discharge time to discharge from initial peak of (1.414 x Un) with:		
	Discharge by Internal discharge devices (at Individual unit terminals)	Terminal voltage less than 50V in less than 300 Sec	
19.	Overall dimensions of the capacitor bank	Bidder to specify	
20.	Layout and dimension drawings to be attached	Bidder to specify	
21.	Minimum clearances in the bank		
	Phase to phase, mm	1300mm	
	Live part to earth, mm	1300 mm	
22.	No. of additional units provided in the capacitor bank		
	B) CAPACITOR UNITS		
1.	Rated voltage, kV	Bidder to specify	
2.	Rated output, KVAR at 50 Hz	Bidder to specify	
3.	No. of bushing	1 or 2	
4.	Bushing material	Polymer / Porcelain	
5.	Container material	Stainless Steel	
6.	Dielectric medium	Non PCB non toxic oil	
7.	Guaranteed tan delta across bushing terminals	Bidder to specify	
8.	Guaranteed tan delta from bushing / winding to tank	Bidder to specify	
9.	Type of impregnate used	Non-PCB (PXE oil) non toxic	
10.	Pressure at which the impregnate is kept within the unit	Atmospheric	
11.	Flash point deg.C.	Bidder to specify	
12.	Permissible overload:	As per IS-13925	
	i. Voltage	110% of continuous	
	ii. Current	130% of rated current	
13.	Residual Voltage (V)	50	
14.	Discharge time (secs)	300	
15.	Discharge resistor (ohms)	Bidder to specify	
16.	No. of capacitor elements per unit capacitor (with No. of series/parallel elements per unit).	Bidder to specify	
17.	Percentage loss of capacitance at which an internally fused capacitor unit is considered	Bidder to specify	
18.	Capacitor Fuses (capacitor units should have internal fuses of tinned copper)	Bidder to specify	
19.	Type of fuse	Internal	
20.	Current and voltage rating of the fuse elements.	Bidder to specify	

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21.	Material of the fuse element.	Bidder to specify	
22.	Fuse characteristics current vs time.	Bidder to specify	
C) SERIES REACTORS			
1.	Approved Manufacture	Quality Power/ Shrihans Electricals	
2.	Type of reactor	Single phase Dry Type, air core, outdoor	
3.	Special coating	RTV silicon coating	
4.	Type of cooling	AN Cooled	
5.	Standard applicable	IS 2026-6	
6.	Rated Voltage kV		
7.	KVAR rating	Bidder to provide calculation for same	
8.	Rated Current, Amps	Bidder to specify	
9.	Rated short circuit capacity (kA)	16.66 x FLC	
10.	Rated duration of short circuit (sec)	2 sec	
11.	Rated power-frequency withstand voltage [kV]	275	
12.	Rated lightning impulse withstand voltage [kVp]	650	
13.	Design ambient temp (°C)	50	
14.	Insulation class	F	
15.	Reactance per phase : a)At rated current : b)At rated SC current:	Bidder to specify	
16.	Inductance per Phase a)At rated current (ohms) : b)At rated SC current (ohms):	Bidder to specify	
17.	Total losses at rated current at 50 Deg.C (KW)	Bidder to specify	
18.	Type of coil winding	Bidder to specify	
19.	Type of conductor	Electrolytic Copper	
20.	Minimum clearance to nearest metal part		
21.	Over voltage (continuous)	110% of continuous	
22.	Over load (continuous)	1.3 x rated FLC	
E Neutral Current Transformer:			
1.	Approved manufacturer	a) GE (Hosur, Bangalore) b) CGL (Nasik, Aurangabad) c) Pragati (Murbad) d) Mehru Electrical (Bhiwadi, RJ) e) Piffner India (Nasik)	
2.	Nominal voltage (kV)	110	

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3.	Highest voltage for equipment (kV)	145	
4.	Rated frequency (Hz)	50	
5.	Manufacturer's type designation and applicable standards	IEC 61869-1 & 2	
6.	Type of current transformer	Single phase, Outdoor, oil filled, hermetically sealed, live tank	
7.	Class of insulation	A	
8.	Insulator material	Polymeric type	
9.	Design type	Live tank	
10.	Design temperature (de C)	50	
11.	NCT details	20-10/5A, RCT \leq 2-1 ohm, $V_k \geq$ 600V @ 20A tap, $I_{mag} @ V_k/2 \leq$ 30 mA	
12.	Creepage distance of the insulator (total)	31kV/mm	
13.	Overload Current factor	100 x FLC	
14.	Overload duration	1 Sec	
15.	Rated one-minute power-frequency withstand voltage [kV]	275	
16.	Rated lightning impulse withstand voltage [kVp]	650	

120kV LA, 20kA, CL-IV: As per Section B. LA standard specification

Sr.no.	Description	Tata Power Requirement	Data given by Bidder
1.	Approved Manufacturer	CGL, Oblum	
2.	Standards applicable	IS 51086 Part 4, IEC 60099 Part 4	
3.	Rated Frequency	50Hz	
4.	Application	Outdoor	
5.	Type of Arrestors	Gapless	
6.	System voltage & Design Amb Temp	50 Deg C	
7.	Short circuit current at arrestor location (KA)	40 kA rms, 0.2 Sec	
8.	Maximum duration of earth fault (sec)	0.2 sec	
9.	Thermal stability	As per IEC 60099-4	

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Sr.no.	Description	Tata Power Requirement	Data given by Bidder
10.	Nominal Discharge Current, 8 x20 Microsecond wave (kA)	20 kA Heavy duty	
11.	Pressure relief class	Class – A / 40KA	
12.	Discharge class	Class – 4	
13.	Energy Wth In	10 kJ/kV	
14.	Peak current and virtual duration of peak (A/micro sec)	To be furnished by bidder	
15.	High current impulse (kA peak)	100kA	
16.	Rated voltage (kV)	120	
17.	Max. Continuous operating voltage- M.C.O.V (kV)	102	
18.	Resistive current (mA)	0.1mA<I _r <0.6mA	
19.	Capacitive current (mA)	0.2mA<I _c <3mA	
20.	Max Steep Current Impulse (kV)	To be furnished by bidder	
21.	Min Steep Current Impulse (kV)	To be furnished by bidder	
22.	Material of Housing	Polymeric	
23.	Creepage Distance (mm)	31 mm/ kV	
24.	Suitability for live washing	Required	
25.	Max PD at 1.05 x MCOV (pC)	<10	
26.	Rated one-minute power-frequency withstand voltage [kV]	275	
27.	Rated lightning impulse withstand voltage [kVp]	650	

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B-STANDARD SPECIFICATION

Refer Standard Technical specification for Scope of Work and Equipments

Annexure - Bidders Prequalifying Requirements for 110KV CAP BANK

S No	Parameter	Tata Power Requirement	Documents To be submitted by Vendor to ascertain meeting of Pre-qualification requirement
1	2	3	4
1	Infrastructure	Bidder must be an OEM of Capacitor units system, having manufacturing facility in India.	Self-undertaking to be submitted in this regard. Tata Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.
2	Supply and Experience	<p>Bidder should have supplied minimum 02 nos. of Capacitor bank at 110 kV above voltage level. The system supplied should have been in satisfactory commercial operation for a minimum period of 02 years as on scheduled date of the bid opening.</p> <p>"In case the bidder has a previous association with Tata Power for similar products and services, the performance feedback for that bidder by Tata Power shall only be considered irrespective of performance certificates issued by any other organization. Technical performance, delivery timelines, service and support records of past executed projects in Tata Power will be considered for technical evaluation of bidder."</p> <p>Indian Subsidiaries of global companies having plant in India are also eligible to bid if the qualification requirements stated above are met independently or in combination with the parent company. Declaration from parent company needs to be submitted.</p>	<p>Supply List & Performance Certificates from the utilities / clients</p> <p>Self-undertaking to be submitted in this regard. TATA Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.</p>
3	Type Test	<p>The bidder shall submit Type test reports obtained from NABL/ International Accredited Lab for the equipment / material offered. The type tests should have been conducted on the equipment / material of the same design.</p> <p>The type tests should have been conducted within 5 years prior to the date of bid opening. Time period for type test may be extended by another 5 years as a special case, if there is no change in design / material of construction (MOC). Full set type test reports shall be submitted without requirement of any non disclosure agreement.</p> <p>In case the type test reports furnished are not for the quoted equipment / material but for the equipment / material with higher voltage class and/or different capacity, then type test shall be carried out for the offered equipment / material from NABL / International Accredited Lab without any cost implication to the owner and the Type Test reports shall be submitted before despatch of the equipment / material.</p>	<p>Type Test Report.</p> <p>Undertaking that there is no change in design / material of construction (MOC) if Type Test Report older than 5 years but less than 10 years prior to date of bid opening has to be considered (if applicable)</p> <p>Undertaking that type test shall be carried out for the offered equipment / material from NABL / International Accredited Lab without any cost implication to the owner and the Type Test reports shall be submitted before despatch of the equipment / material, in case type test reports furnished are not for the quoted equipment / material but for the equipment / material with higher voltage class and/or different capacity, (if applicable)</p>
4	Commercial Capability		Copy of audited Balance Sheet and P&L Account to be submitted in this regard.
5	EPC Experience (If applicable)	<p>In case the package involves installation & commissioning of the equipment / material, then the bidder shall have the following experience:</p> <p>a) He should have successfully completed one single order of value (80% of estimated value of similar work in last three years) OR</p> <p>b) He should have successfully completed two single orders of value (50% of estimated value of similar work in last three years). OR</p> <p>c) He should have successfully completed three single orders of value (40% of estimated value of similar work in last three years).</p>	Performance Certificates from the utilities / clients (NOT APPLICABLE FOR THIS PROJECT)

SECTION-B

THE TATA POWER COMPANY LIMITED

STANDARD
TECHNICAL SPECIFICATION
FOR

EHV CLASS 145KV / 245KV OIL FILLED CURRENT TRANSFORMER
WITH COMPOSITE INSULATOR

(DOCUMENT NO - ENGG/ ELEC/STD-SPEC/066)



Tata Power

Engineering T&D

Rev. No	Date	Revision History	Prepared By	Checked By	Approved By (HOD)
R0	20-07-2017	Initial Specifications	UVSK	BK	AM
R1	06-08-2018	Revised for composite insulator, Standard CT ratios and inclusion of FMEA inputs	PP	PBT	AM
A	09-07-2019	Revision of QR and Addition of 245kV CT Types	PBT	SBL	AM
B	29.04.2020	Safety added, PQR revised	GPS	PBT	AM

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1. Introduction
2. Pre-Qualifying Requirements
3. System Description and Scope
4. Codes & Standards.
5. Design Requirements
6. Layout Requirements for the equipment
7. Safety Requirements
8. Operational and Maintenance Requirements
9. Technical Parameters of Equipment including DATA SHEET
10. Quality Requirements (including SQP and FQP)
11. Inspection, Testing and Performance Requirements along with Warranty
12. Spares
13. Data Submission by Bidder
 - 12.1 With the Bid
 - 12.2 After award of contract

Annexure - 1: PQR

Annexure - 2: Standard Quality Plan of EHV Current Transformer

Annexure - 3: Standard FQP for EHV Current Transformer

Annexure - 4: Standard Sampling plan for switchyard equipments

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	SPECIFICATION FOR EHV CLASS 145 / 245KV CURRENT TRANSFORMER WITH COMPOSITE INSULATOR	

1. INTRODUCTION

The Technical specification covers the Design, Engineering, Manufacturing, Testing, Inspection, Supply, and transport to Site & Providing Technical Support during Installation of EHV class, Oil filled, 145 / 245 kV, Live tank, Outdoor type Current transformers with Composite Insulator.

2. PRE-QUALIFYING REQUIREMENTS

Please refer Annexure- 1

3. SYSTEM DESCRIPTION AND SCOPE

The scope covers

- 3.1. Engineering, Design, manufacturing, testing, certifications, Supply, Transportation of 145 / 245kV Live tank Current Transformers as mentioned below with Composite Insulator as per IEC / IS and standard engineering practices. All the necessary accessories, for the satisfactory performance of Current Transformer shall be supplied.

Type 1 – 145kV CT - Transmission

Core No	I	II	III	IV
Primary Current (A)	800-1200-2000	800-1200-2000	800-1200-2000	800-1200-2000
Sec Current (A)	5	5	5	5
Primary Terminal	P1-P2	P1-P2	P1-P2	P1-P2
Sec-Terminal	1S1-1S2-1S3-1S4	2S1-2S2-2S3-2S4	3S1-3S2-3S3-3S4	4S1-4S2-4S3-4S4
Accuracy class	5P	5P	0.2S	PS
Burden	40-60-100	40-60-100	40-60-100	---

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Core No	I	II	III	IV
ISF	---	---	≤5	---
ALF	20	20	---	---
Knee Point Voltage (V)	---	---	---	≥800/1200/2000
I exc (Max) at $V_k/2$ (mA)	---	---	---	≤ 30 mA @2000/5
RCT at 75 °C (Ohms)	---	---	---	≤ 2 Ohms @2000/5
Application	Main Protection	Main Protection	Metering	Bus-Fault Protection

Type 2 – 145 kV CT – Hydro (Khopoli and Bhivpuri Generating stations)

Core No	I	II	III	IV
Primary Current (A)	400-800-1200	400-800-1200	400-800-1200	400-800-1200
Sec Current (A)	5	5	5	5
Primary Terminal	P1-P2	P1-P2	P1-P2	P1-P2
Sec-Terminal	1S1-1S2-1S3-1S4	2S1-2S2-2S3-2S4	3S1-3S2-3S3-3S4	4S1-4S2-4S3-4S4
Accuracy class	5P	5P	0.2S	PS
Burden	20-40-60	20-40-60	20-40-60	---
ISF	---	---	≤5	---
ALF	20	20	---	---
Knee Point Voltage (V)	---	---	---	≥400/800/1200
I exc (Max) at $V_k/2$ (mA)	---	---	---	≤30 mA @ 1200 /5
RCT at 75 °C (Ohms)	---	---	---	≤1.0 ohm @1200/5
Application	Main Protection	Main Protection	Metering	Bus-Fault Protection

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Type 3 – 145kV CT (Jobobera Generating station - for GT & ICT bay)

Core No	I	II	III	IV	V
Primary Current (A)	400-800	400-800	400-800	400-800	500-1000-2200
Sec Current (A)	1	1	1	1	1
Primary Terminal	P1-P2	P1-P2	P1-P2	P1-P2	P1-P2
Sec-Terminal	1S1-1S2-1S3	2S1-2S2-2S3	3S1-3S2-3S3	4S1-4S2-4S3	4S1-4S2-4S3-4S4
Accuracy class	PS	5P	0.2S	0.2S	PS
Burden	--	30 @ 400 A	30 @ 400 A	30 @ 400 A	---
ISF	---	---	≤5	≤5	---
ALF	--	20	---	---	---
Knee Point Voltage (V)	≥500-1000	---	---	---	≥500-1000-2000
I exc (Max) at Vk/2 (mA)	30-15	---	---	---	60-30-15
RCT at 75 °C (Ohms)	2-4	---	---	---	2.5-5-10
Application	Main Protection	Main Protection	Metering	Metering	Bus-Fault Protection

Type 4 – 145kV CT (Jobobera Generating station - for Line & ST bay)

Core No	I	II	III	IV	V
Primary Current (A)	500-1000	500-1000	500-1000	500-1000	500-1000-2000
Sec Current (A)	1	1	1	1	1
Primary Terminal	P1-P2	P1-P2	P1-P2	P1-P2	P1-P2
Sec-Terminal	1S1-1S2-1S3	2S1-2S2-2S3	3S1-3S2-3S3	4S1-4S2-4S3	4S1-4S2-4S3-4S4
Accuracy class	PS	5P	0.2S	0.2S	PS
Burden	--	30 @ 500 A	30 @ 500 A	30 @ 500 A	---
ISF	---	---	≤5	≤5	---
ALF	--	20	---	---	---
Knee Point Voltage (V)	≥500/1000	---	---	---	≥500/1000/2000
I exc (Max) at Vk/2 (mA)	30-15	---	---	---	60-30-15
RCT at 75 °C (Ohms)	2.5-5	---	---	---	2.5-5-10

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Core No	I	II	III	IV	V
Application	Main Protection	Main Protection	Metering	Metering	Bus-Fault Protection

Type 5 – 245kV CT (Hydro – Bhira Generating Station – 220kV bay)

Core No	I	II	III	IV	V
Primary Current (A)	1500	1500	1500	1500	1500
Sec Current (A)	1	1	1	1	1
Primary Terminal	P1-P2	P1-P2	P1-P2	P1-P2	P1-P2
Sec-Terminal	1S1-1S2	2S1-2S2	3S1-3S2	4S1-4S2	5S1-5S2
Accuracy class	PS	PS	0.2S	PS	PS
Burden	---	---	15 @ 1500 A	---	---
ISF	---	---	≤5	---	---
ALF	---	---	---	---	---
Knee Point Voltage (V)	≥1500	≥1500	---	≥1500	≥1500
I exc (Max) at V _k /2 (mA)	<15	<15	---	<15	<15
RCT at 75 °C (Ohms)	10	10	---	10	10
Application	Main Protection	Main Protection	Metering	Back-up Protection	Bus-Fault Protection

Type 6 – 245kV CT (Hydro – Bhira Generating Station – BPSU GT bay only)

Core No	I	II	III	IV
Primary Current (A)	600	600	600	600
Sec Current (A)	1	1	1	1
Primary Terminal	P1-P2	P1-P2	P1-P2	P1-P2
Sec-Terminal	1S1-1S2	2S1-2S2	3S1-3S2	4S1-4S2
Accuracy class	PS	PS	PS	PS
Burden	---	---	---	---
ISF	---	---	---	---
ALF	---	---	---	---

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Core No	I	II	III	IV
Knee Point Voltage (V)	>=300	>=300	>=300	>=300
I exc (Max) at Vk (mA)	<100	<100	<100	<100
RCT at 75 °C (Ohms)	3	3	3	3
Application	Main Protection	Main Protection	Back-up Protection	spare

- 3.2. Engineering, Design, Manufacturing & Supply of fixed & flexible tinned copper clamp with bimetallic strip (as required) on both sides
- 3.3. Demonstration / testing of the system at Bidder's works as per the approved Tata Power SQP (attached with the specifications) before dispatch of the system at site (FAT).
- 3.4. Bidder to depute people for supervision & validation of commissioning check points & site equipment test results during Installation, testing & commissioning of the CT as per Tata Power approved Standard Field Quality Plan (attached with the specifications). The technical expert shall be involved until the equipment is commissioned & handed over.
- 3.5. Submission of technical documentation related to design, installation, testing, operation & maintenance of the equipment and submission of Test Reports, job progress reports etc.
- 3.6. Submission of type test report for same rating CT as per relevant IS/ IEC standards, which is not more than 5 years old.
- 3.7. The bidder must confirm on their letterhead the technical support for next 25 years, for the equipment being procured under this requirement. Bidder shall provide minimum 5 years warranty for the equipment supplied.
- 3.8. Acceptance of Purchaser's preferred list of vendor / sub vendor / OEM, which will be shared as part of Technical Specifications. However, if Bidder introduces additional vendor/sub vendor the same will be evaluated separately. This vendor/sub vendor evaluation / assessment shall inter-alia include (i) document verification; (ii) Bidders work / manufacturing facilities visit (iii) manufacturing capacity, details of works executed, works in hand,

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anticipated in future and the balance capacity available for present scope of works; (iv) details of plant and machinery, manufacturing and testing facilities, manpower and financial resources; (v) details of quality systems in place; (vi) past experience and performance; (vii) customer feedback; (viii) response to complaint.

- 3.9. Acceptance (without any deviations) of minimum quality requirements defined in Tata Power Standard Quality Plans & Standard Field Quality Plans of technical specifications.

It is not the intent of this specification to specify completely herein, all details of design & construction of Current Transformer. However, the equipment shall conform in all respects to high standards of engineering, design & workmanship.

4. CODES & STANDARDS

- 4.1. The design, manufacture, performance testing and inspection of equipment shall comply with all currently applicable statutory regulations and safety codes in the locality, where the equipment will be installed. Nothing in this specification shall be construed to relieve the vendor of this responsibility.

- 4.2. Unless otherwise specified the equipment shall conform to the latest applicable IS, BS or IEC Standards.

- IS 2705 (Part I-IV) (Reaffirmed 2014) : Specifications for Current Transformers
- IEC 61869 (Part 1&2) : Instrument transformers
- IS 4201- 1983 (REAFFIRMED 2011) : Application guide for Current Transformer
- IS 5621- 1980 : Specifications for hollow porcelain insulators for use in electrical equipment
- IEC 61462 : Composite hollow Insulator – pressured and unpressurised
- IEC 60815-3: Polymeric insulators for A.C. systems

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- IEC 61109 (2008): Insulators for overhead lines- Composite suspension & tension Insulators for A.C. systems with a nominal voltage greater than 1000V- definitions, test methods and acceptance criteria.
- IS 335 : Specifications for insulating oil for transformers & switchgear
- IS 11322 : Method of partial discharge measurements in Instrument Transformers
- IS 2071 : Method of High Voltage Testing
- IS 16227-2016 : Instrument Transformers Part 2 Additional Requirements for Current Transformers
- IS 2486 : Specifications for clamp connectors
- IS 2062 - 2016 Specifications for GI /SS nut bolt, washer
- IS 226 : Structural steel (Standard Quality)
- IS 808 : Rolled steel beam, channel and angle sections.
- IS 961 : Structural steel (High tensile)
- IS 6639 : Hexagonal bolts for steel structures.
- IS 1852 : Specification for rolling and cutting, tolerances for hot rolled steel products.
- IS 2074 : Ready mixed paint. Red oxide zinc chrome and priming.
- IS 4759-1984: The members of the structure i.e. support structures, support channels, fasteners and internal channels in marshalling box shall be galvanised

Codes of practice

- IS 1893 : Recommendations for earthquake resistant design of structures

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- IS 4000 : Code of practice for assembly of structural joints using high tensile friction grip fasteners
- IS 2629 : Recommended practice for hot dipped galvanizing for iron and steel

5. **DESIGN REQUIREMENTS**

5.1 Construction of Current Transformer

- 5.1.1 Design, and construction of current transformers shall be sufficient to withstand the thermal and mechanical stresses resulting from the specified load currents and short circuit currents. The core laminations shall be of cold rolled grain-oriented silicon steel. The exciting current shall be as low as possible and the current transformer shall be capable of maintaining its rated accuracy for burdens and saturation limits. The cores used for protection shall produce undistorted secondary current under transient conditions at all ratios with specified CT parameters.
- 5.1.2 The current transformers shall be Single phase, Live tank, Oil filled, Hermetically sealed, Outdoor type with composite insulator. They shall be suitable for upright mounting on steel structures. They shall be provided with **nitrogen cushions**/stainless steel bellows. CTs shall be suitable for hot line washing. The current transformer winding shall be housed in Aluminium tank suitable for outdoor duty. Earthing arrangement shall be provided for CT tank.
- 5.1.3 The current transformer shall be complete with all accessories like primary and secondary terminals, weather proof terminal box for secondary connection, lifting lugs, terminal connectors, grounding terminals, name plate, Oil filling valve, oil sight glass, filling and draining plugs, Oil level indicator (Max, Min & Normal), silicon composite insulator, expansion bellow, oil sampling arrangement.
- 5.1.4 The Secondary terminals shall be brought out in a weatherproof terminal box (IP65 or IP55 with additional rain protection). The terminal box shall be provided with glands suitable for 1100V grade, steel wire armoured, PVC/XLPE sheathed multi-core 6Sq.mm stranded copper

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conductor cables. The secondary box shall have sufficient space for accommodating CT cables for all CT cores with cable gland arrangement.

- 5.1.5 Terminal connectors / clamps shall be supplied along with CT.
- 5.1.6 The maximum permissible temperature rise of the current transformer winding when carrying a primary current equal to the rated continuous current at rated frequency and with rated burden over an ambient temperature (not exceeding 50° C) and daily average not exceeding 40° C shall not exceed the limits as specified in case of Class E insulation.
- 5.1.7 Polarity marks shall be indelibly marked on the primary terminals of the instrument current transformer and on the secondary lead terminations at the associated terminal block.
- 5.1.8 Conductors used for primary winding shall be rigid, or else housed in rigid metallic shell. The current density of conductor shall not exceed the following values:
- a) Copper - 1.65 A/sq.mm
 - b) Aluminium / alloy - 1.00 A/sq.mm.
- 5.1.9 The Primary winding is made up of rigid Aluminium / Copper sections (of 99.9% conductivity) made up of rod/tube to withstand the mechanical stress developed due to short circuit forces. The minimum thickness of tinning shall be 1.5 microns.
- 5.1.10 The secondary winding (enamelled copper conductor) is evenly distributed over toroidal cores enclosed by a well-supported metal shell. The secondary winding leads are brought to the secondary terminal box through a metallic pipe.
- 5.1.11 Current Transformer shall be provided with engraved nameplate showing the particulars and diagram of the connections.
- 5.1.12 The core of the CTs shall be high grade non-ageing, electrical, CRGO silicon steel laminated steel of low hysteresis loss and high permeability. CT characteristics shall be such as to provide satisfactory protection for burdens ranging from 25% to 100% of rated burden over a range of 10% to 100% rated current in case of metering CTs and up to the accuracy limit factor/knee point voltage in case of protective CTs.

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5.1.13 Rated continuous current rating of CT shall be 120% of rated primary current (metering core). ISF / ALF at all ratios shall be less than five (5) for metering core.

5.1.14 The saturation factor of this core shall be low enough so as not to cause any damage to measuring instruments in the event of maximum short circuit current.

5.1.15 The CT secondary to be used for protective relaying purposes shall be of accuracy class and Knee Point Voltage as specified. The magnetization curve of the cores shall be furnished with tender.

5.1.16 CT characteristics shall be such as to provide satisfactory protection for burdens ranging from 25% to 100% of rated burden over a range of 10% to 100% rated current in case of metering CTs and up to the accuracy limit factor/knee point voltage in case of protective CTs.

5.1.17 Dissipation Factor (Tan Delta) of the CT primary winding shall be less than 0.4% @ 20 °C measured at 10kV.

5.2 Tank Fabrication

5.2.1 Tank shall be fabricated from Aluminium suitable for welding and of adequate thickness. The tank shall be designed to withstand mechanical shocks during transportation, vacuum filling of oil, and continuous internal pressure over normal hydrostatic pressure of oil and short circuit forces.

5.2.2 The construction of tank shall be designed to prevent ingress of water into or leakage of oil from the tank. All bolted connections shall be fitted with weatherproof, hot oil resistant gasket in between for complete oil tightness. All gasket used for sealing shall be of moulded rubber product, which is oil compatible e.g. Nitrile/ Neoprene Rubber. The O rings shall be moulded type and shall be of Viton material. No cork sheet shall be used. Tank fabrication drawings shall be submitted for approval before the manufacturing is taken up. The gasket / O rings shall be fitted in properly machined groove with adequate space for accommodating the gasket under compression.

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5.2.3 The supplier shall ensure that the sealing of the Current Transformer is properly achieved. In this connection, the arrangement provided by the supplier at various locations including the following ones shall be described, supported by sectional drawings.

- (a) Locations of emergence of primary and secondary terminals.
- (b) Interface between porcelain housing and metal tank/s
- (c) Cover of the secondary terminal box.

5.3 Insulator Housing

5.3.1 Core of the Silicon composite insulator should be manufactured from Boron free, Electrically Corrosion Resistant (ECR) grade fiber glass reinforced plastic (FRP) rod having at least 70% fibres by weight.

5.3.2 Hollow bushings shall be generally conforming to IEC 61462. The verticality and concentricity of bushings shall be perfect. The bushing / insulator of instrument transformer shall have a cantilever strength of not less than 3kN and 4kN, as per IEC 61869 for 145kV/245kV CT respectively. Cantilever strength of silicon composite insulators of CT shall be furnished in GTP.

5.3.3 The insulator housing shall be of 'Shatter proof' high quality Silicon Composite material. The Silicon sheds shall exhibit hydrophobic property. The insulator housing shall be of a single piece construction without any joints or coupling. It should be void free and should have high resistance to acid corrosion. The base polymer shall be 100% Silicon Rubber prior to the addition of reinforcing fillers. The composite insulator shall be designed to prevent bird-bite and mouse-bite damages.

5.3.4 Type test reports of insulator as per relevant IEC standards shall be submitted for purchase's review during bid analysis / detailed engineering stage.

5.4 Grounding Terminals

5.4.1 Two grounding terminals shall be provided on the tanks of current transformers, on opposite sides, for connecting Purchaser's 125 Sq.mm stranded copper grounding conductor.

5.5 Lifting Arrangement

5.5.1 Current transformers shall be provided with suitable lifting arrangement to lift the bushings and the tank.

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5.6 Insulating Oil

5.6.1 Current transformers shall be supplied complete with required quantity of insulating oil for installing at site. Insulating oil to be used for instrument transformer shall be of EHV grade and shall conform to IS: 335/ IEC 60296. Test results shall be furnished for oil indicating BDV, tan delta, PPM etc.

5.7 Fittings and Accessories

5.7.1 Current transformers shall be complete with necessary fittings and accessories, listed below shall be supplied. Any fitting, required essential other than those listed below shall also be supplied along with each Current Transformer without any extra cost to the purchaser:

- (a) Oil level gauge.
- (b) Oil filling hole and cap.
- (c) Pressure relieving device.
- (d) Phase terminal connectors.
- (e) Lifting lugs for core and windings, bushings and complete Current Transformers.
- (f) Tank earthing pads/terminals with necessary nuts, bolts and washers for connecting to purchaser's earth strip.
- (g) Name / Rating plate.

5.7.2 Necessary shock Indicators shall be supplied along with each oil filled Current Transformers during transportation.

5.8 Other requirements

5.8.1 Oil sampling arrangement on Current Transformer shall be provided to take sample for Dissolved Gas analysis. Oil sampling kit shall be offered along with Current Transformer. Procedure for oil sampling shall be provided during detailed engineering.

5.8.2 Rating and schematic diagram (name plate) shall include punching of Tan delta value @ 10kV UST mode in name plate (recorded during FAT) as reference value. In case of metering core (0.2S), use of auxiliary core / reactor to meet the ISF requirement, details of auxiliary core / reactor shall be indicated in GTP as well as include punching in name plate.

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6 LAYOUT REQUIREMENTS OF EQUIPMENT

- 6.1 The height of live terminals from the ground & Phase to Phase distance should be as per the IEC/IS Standards
- 6.2 Equipment to be grounded at two points

7 SAFETY REQUIREMENTS

The insulator housing shall be of 'Shatter proof' high quality Silicon Composite material.

8 OPERATIONAL AND MAINTENANCE REQUIREMENTS

- 8.1 Current transformers shall be provided with unthreaded stud terminals at top for connections to customer's bus comprising of IPS copper tube. The primary current terminals shall be of tinned copper.
- 8.2 The current transfer area of the terminals shall be adequate to meet the temperature rise requirements as per IEC 44-1/ IS: 2705 for CTs. The cross-section area of the terminal shall be indicated in the drawings.
- 8.3 Mechanical load test on primary terminals. Test reports are to be submitted as per IEC 60044-1
- 8.4 The burdens specified for different cores refer exclusively to connected burden and should exclude the bleeder resistances if any. Current transformer's guaranteed burdens and accuracy class are to be intended as simultaneous for all cores.
- 8.5 CTs shall be provided with a capacitance test tap in the HV lead to enable future monitoring of conditions of HV insulation. Tap point (Common) earthing shall be done inside the secondary terminal box.
- 8.6 Earthing terminal shall be provided in the secondary junction box for earthing of secondary winding of CT and Tap point.
- 8.7 The alignment and centre line of CT primary terminals shall be correct to avoid bending of connections.
- 8.8 The CT secondary terminal box shall be of Aluminium / MS/ HDG min 4 mm thick (suitable for IP65 or IP55 with additional rain protection) and shall be provided with collar to prevent

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entry of moisture & good neoprene gaskets designed to prevent entry of foreign particles. Junction box shall be sufficiently large to connect 1100V upgrade, 4Cx6 Sq.mm cables through cable glands for all the secondary cores.

- 8.9 CT secondary terminals shall be terminated to stud type non-disconnecting terminal blocks inside the terminal box. CT secondary terminals shall be provided with lock nuts on both sides (if the terminals are not molded type design). The secondary box shall have enough space for accommodating CT cables for all CT cores with cable gland arrangement. At least 20% spare terminals will be provided.
- 8.10 All ferrous parts exposed to atmosphere (if any) should be hot dip galvanized and it shall be min 120 micron thickness.
- 8.11 Tank welding joints shall be painted by cold rolled zinc paint. Tank welding to be carried out at least by level II certified welder. Dye penetration test to be carried out on root joint and document evidence to be produced at the time of inspection.
- 8.12 Supplier to carry out the leakage test on all transformer tanks for not less than 24 hrs on all CTs. For Tata Power shall witness leakage test for 8 hrs on the CTs during final inspection.
- 8.13 Torque marking on all connection / bolted joints with permanent marker.

9 TECHNICAL PARAMETERS OF EQUIPMENT INCLUDING DATA SHEET

GENERAL REQUIREMENT			
Sr.No	Description	Requirement	
		145kV	245kV
	Applicable Standards	IEC 61869 – 1 & 2 / IS 2705	
1	Type	Single Phase, Live Tank, hermitically sealed	
2	3 phase system voltage Normal	110 kV	220 kV

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	Highest system voltage	145 kV	245 kV
3	Rated frequency [Hz]	50 Hz	
4	Number of Cores with primary current, Accuracy class, secondary current and other parameters	Refer Technical specifications	
5	Method of Earthing the system	Solidly Grounded	
6	Class of Insulation	A for Oil	
7	Max temperature rise of winding	Within limits as specified in IEC 61869 standard	
8	Cantilever strength of CT at terminal	As specified in IEC 61869	
9	Type of Mounting	Pedestal type	
10	Type of tank	Live Tank	

SPECIFIC REQUIREMENT

1	Make / Model	By bidder
2	Design Temperature	50°C
3	Rated continuous thermal current	120% of Rated primary current
4	Altitude range for operation	Up to 1000m above MSL
5	Ambient Temperature range [°C] for operation	-25°C to 50°C
6	Rated short-time thermal current [kA]	40kA for 145 kV system 40 / 50kA for 245 kV system
7	Rated duration of short circuit [s]	3 seconds
8	Insulation	EHV grade Transformer Oil conform to IS 335 / IEC 60296
9	Dissipation factor (Tan Delta) of Primary winding	≤ 0.4% during FAT and SAT

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10	Design	Explosion proof	
11	Seismic withstand	0.3g in the horizontal direction and 0.15g in the vertical direction	
12	Rated dynamic current withstand[kA]	100 kA	100 kA
13	Basic Insulation		
a)	Rated one-minute power-frequency withstand voltage [kV]	275 kV	460 kV
b)	Rated (1.2/50micro-sec) lightning impulse withstand voltage [kVp]	650 kVp	1050 kVp
14	Radio interference voltage, 1.1 Um/ 3 under the test and measuring conditions described in IEC 60044-1:2003 , Clause 7.5.	< 2500 micro V	< 2500 micro V
15	One-minute Power Frequency withstand voltage (secondary) metering and protection cores	3 kV	
16	Partial discharge level (pC)	Not exceeding 10 pC	
17	ISA / ALF at all ratios for metering core	< 5.0	
18	Insulator type	composite insulator consists of an FRP-tube with silicone sheds (grey colour)	
19	Creepage distance [mm/ kV]	31 mm/kV	
20	Ingress Protection Secondary TBs /JBs	IP65/ IP 55 with additional rain protection	
21	All ferrous metal parts exposed to atmosphere shall be hot dip galvanized, required min thickness shall be	80 Micron	

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10 QUALITY REQUIREMENTS (QAP & SQP)

10.1 To ensure that a well-engineered and contractually compliant system is produced, **Bidder shall adhere to Approved Tata power SQP** for the preparation of all contract deliverables. The program shall provide for early detection of actual or potential deficiencies, timely and effective corrective action, and a method of tracking all such deficiencies.

10.2 **QUALITY REQUIREMENTS:** Bidder to prepare and submit Manufacturing Quality Plan (MQP) and Field Quality Plan (FQP) for approval of Owner to ensure that a well-engineered and contractually compliant system is produced. The program shall provide for early detection of actual or potential deficiencies, timely and effective corrective action, and a method of tracking all such deficiencies.

10.3 Tata Power Standard Quality Plan (SQP) and Field Quality Plan (SFP) are attached with this specification defining minimum quality inspection and testing requirements during shop and site inspection respectively. Bidder to ensure that these requirements are compiled in MQP and FQP submitted for approval.

Annexure - 2: Standard Quality Plan of EHV Current Transformer

Annexure - 3: Standard FQP for EHV Current Transformer

Annexure – 4: Standard Sampling plan for switchyard equipments

Factory Acceptance Test (FAT)

- a) Owner approved MQP shall be referred for shop inspection. The purpose is to ensure that the Bidder has interpreted the specified requirements correctly and that the FAT includes checking to the degree required by the user. The general philosophy shall be to deliver a system to site, only after it has been thoroughly tested and its specified performance has been verified, as far as site conditions can be simulated in a test lab.
- b) The purpose of Factory Acceptance Testing is to ensure trouble free installation at site. Prior to release for shipment of the equipment the Purchaser or his representative will

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witness Factory Acceptance Test (FAT) in which the system is checked against the specifications.

- c) Type and routine tests certificates shall be furnished. Tests for components shall be as per relevant standard specifications and approved MQP.
- d) System tests shall be performed on the completely assembled system. Type, routine and optional tests covered in the approved MQP and these specifications shall be conducted in addition to the system tests.
- e) Bidder shall incorporate all FAT comments prior to dispatch. After Bidder confirms that all changes have been incorporated, Purchaser's Office will issue Dispatch Clearance.
- f) The Test Reports as well as Test Certificates of OEM, third party, Bidder shall be submitted for approval / verification.
- g) FAT and Despatch Clearance by the Purchaser shall not relieve the Bidder from complete responsibility for the total system and its performance subsequently.

11 INSPECTION, TESTING AND PERFORMANCE REQUIREMENTS ALONG WITH WARRANTY

- a) Bidder should follow owner approved MQP and specification requirements.
- b) Bidder to submit type test reports as per SQP for purchaser review along with technical bid.

Performance Guarantee Parameters

- a) Satisfactory operation of the system offered shall be guaranteed for 5 years from the date of taking over of system by purchaser after SAT including trouble-free & intervention-free operation.
- b) Bidder shall undertake to repair or replace any part, which is defective or unequal to the rated duties due to faulty materials, design or workmanship.

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Warranty

- a) Bidder shall warrant that the equipment hardware is free of defects in material and workmanship or faults in design, in so far as the equipment fails to meet the requirements of this technical specification, for a period of 60 months from the date of final acceptance by the purchaser after completion of 30 days trouble free operation.
- b) With respect to defects in equipment part, Bidder's liability is to make good by replacing the faulty equipment. It is the responsibility of the Bidder to replace the faulty equipment within 30 working days.
- c) The Bidder will cover the cost associated with the shipping of defective or failed items during warranty period. The new equipment, parts shall be delivered free of charge.
- d) Bidder shall extend all warranties / guarantees to the purchaser, provided by sub-Vendors, of duration longer than that in this specification

12 MANDATORY SPARES

Not Applicable

Bidder to provide list of **recommended spares** required for trouble free operation of Current Transformer, if any.

13 TOOLS AND TACKLES

Bidder to provide **tools and tackles (as per BOQ)** for condition monitoring / maintenance of Current Transformer, if any.

14 DATA SUBMISSION BY BIDDER

14.1 With the Bid.

- a) Filled up Technical datasheet and Technical Deviations of Specifications
- b) Confirmation to Standard Quality Plan
- c) General Arrangement Drawings for CT

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- d) Internal GA Drawings for CT
- e) Schematic diagram for Control Circuit of the CT
- f) Type test reports for same rating of CT
- g) Supply list of same or higher rating CTs in last 5 years
- h) Confirmation on technical support for next 25 years.

14.2 After award of contract

- a) General outline dimension drawing of current transformers furnishing front and side elevation, top and bottom plan, views showing all accessories, mounting arrangement on steel structures, spacing and size of the bolts, total creepage distance of bushing, sealing arrangement, MOC, make of components, electrical diagram for primary and secondary connections with polarity mark, terminal arrangement for secondary terminal box, size of primary terminals, grounding terminals and lifting lugs, quantity of insulating oil, net and shipping weight, shipping dimension etc.
- b) Internal GA for equipment offered indicating condenser core, conductor assembly, core assembly, Oil filling plug, Oil sampling arrangement, MOC, make of components etc.
- c) Name and rating plate diagram of CT
- d) Detail view of core, winding assembly, winding connections and tappings.
- e) Guaranteed Technical particulars (GTP) and Bill of Material (BOM)
- f) General outline dimension drawing of Secondary Terminal box furnishing front and side elevation, top and bottom plan, views showing all accessories, mounting arrangement on steel structures, spacing and size of the bolts, sealing arrangement, MOC, make of components, terminal arrangement, CX or Tan Delta point, grounding terminals arrangement etc.
- g) Type test reports for same rating CT
- h) Manufacturing Quality Plan & Field Quality Plan

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- i) O&M Manual & Recommended Commissioning checklist

All above drawings / documents shall be submitted within 7 days of PO issue.

Bidder must agree for handing over, to Purchaser, all project related drawings in PDF version. The pdf versions of above drawings shall be submitted through Wrench for formal approval process.

STANDARD TECHNICAL SPECIFICATION

FOR

96kV Surge Arresters

DOCUMENT NO. - TE/ ELECT/STD-SPEC/0058



The Tata Power Company Limited

Engineering (T&D)

Rev. No	Date	Revision History	Prepared By	Checked By	Approved By
A	24.12.2024	Doc No. ENGG/ ELECT/ STD-SPEC/04/15- Cage Type, Design B LA.	PSM 	NPT 	SKV  241224

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3. **System Description and Scope**
4. **Codes & Standards**
5. **Design Requirements**
6. **Layout Requirements for the equipment**
7. **Operational Requirements**
8. **Technical Parameters of Equipment including data sheet and make list for bought out items**
9. **Quality Requirements (including SQP and FQP)**
10. **Inspection, Testing and Performance Requirements along with Warranty**
11. **Mandatory Spares**
12. **Data Submission By Bidder**
(Including list of key drawings with dates / period which are part of commercial compliance)
 - 12.1 With the Bid
 - 12.2 After award of contract

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Enclosures: -

1. Annexure - I: PQR
2. Annexure - II: Standard Quality Plan for LAs
3. Annexure - III: Standard Field Quality Plan for LAs
4. Annexure - IV: General requirements of Quality Assurance & Inspection

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1. Introduction

The specific requirement covers design, manufacture, testing at works, supply, transport to site of 96kV Surge Arrester as per relevant IS and IEC standards. The bidder must supply the equipment being procured under this specific requirement.

2. Pre-Qualifying Requirements

Please refer attached Annexure – I.

3. System Description and Scope

- 3.1. The specific requirement covers design, manufacture, testing at works, supply, transport to site, installation and commissioning of 96kV cage type with design B(as per IEC 60099-5:2018), zinc oxide gapless, Surge Arresters with polymer insulator as per relevant IS and IEC standards.
- 3.2. All the necessary components and accessories for the satisfactory performance are in the scope of supply including Surge Monitor (Counter), Base insulator and necessary line terminal / clamps (As per site requirement).
- 3.3. Submission of technical documentation related to design, installation, testing, operation & maintenance of the equipment for owner's review & approval.
- 3.4. Bidder must agree for handing over, to Purchaser, all project related drawings in PDF format only. The pdf versions of above drawings shall be submitted through Wrench for formal approval process.
- 3.5. Acceptance minimum quality requirements defined in Tata Power Standard Quality Plans & Standard Field Quality Plans of technical specifications
- 3.6. Demonstration / testing of the system at Bidder's works as per the approved MQP before dispatch of the system at site (FAT).
- 3.7. Bidder should submit all the Type Test reports conducted as per attached SQP. The Type tests should have been carried out within the last five years from the date of bid

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submission. Undertaking that there is no change of design/material of construction if Type test report is older than 5 years but less than 10 years prior to date of Bid Opening will be considered.

- 3.8. Adherence to General requirements of Quality Assurance & Inspection (attached with the specifications).
- 3.9. The bidder must confirm the technical & operational support for 25 years for the equipment being procured under this requirement.
- 3.10. Acceptance of Purchaser's preferred list of vendor / sub vendor / OEM, which will be shared as part of Technical Specifications. However, if Bidder introduces additional vendor/sub vendor the same will be evaluated separately. This vendor/sub vendor evaluation / assessment shall inter-alia include (i) document verification; (ii) Bidders work / manufacturing facilities visit (iii) manufacturing capacity, details of works executed, works in hand, anticipated in future and the balance capacity available for present scope of works; (iv) details of plant and machinery, manufacturing and testing facilities, manpower and financial resources; (v) details of quality systems in place; (vi) past experience and performance; (vii) customer feedback; (viii) response to complaint.

It is not the intent of this specification to specify completely herein, all details of design, construction of storage systems. However, the equipment shall conform in all respects to high standards of engineering, design & workmanship.

4. Codes & Standards

Surge Arrestors shall conform to the requirements of relevant standards of International Electrotechnical Commission (IEC) or equivalent national standards of country of manufacture. The list of relevant IS/IEC is given below:

Sr. no.	Brief Title	Ref. No. of Standard
1.0	Surge Arrestors	IEC 60099 Part 4, IEC 60099 Part 5, IS 15086 Part 4
2.0	Polymeric Insulators	IEC 62217, 60815, 61462, 61109
3.0	Connectors	IS 5561
4.0	Hot Dip Galvanising	IS 2629, IS 2633

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5.0	High voltage test techniques	IEC 60060 - 1 & 2, 60270
6.0	Environmental testing	IEC 60068 – 2
7.0	Insulation Co-ordination	IEC 60071-1 & 2

5. Design Requirements

- 5.1. Surge Arrestors shall be of the hermetically sealed type and of self-supporting construction. They shall be suitable for mounting on concrete or steel structures. The arresters should be of Cage type with Design B(as per IEC 60099-5:2018).
- 5.2. All metal parts shall be of non-rusting and non-corroding metal. Bolts, Screws and pins shall be provided with lock washers, keys or equivalent locking facilities.
- 5.3. The Surge arrestors shall be suitable to withstand below mentioned seismic acceleration and wind pressure.

Seismic acceleration capacity	0.5 G Horizontal
	0.25 G Vertical
Wind Pressure	55 mtrs./sec (Max)
- 5.4. The insulator housing shall be of 'Shatter proof' high quality Silicon Composite material. The Silicon sheds shall exhibit hydrophobic property. The insulator housing shall be of a single piece construction without any joints or coupling. It should be void free and should have high resistance to acid corrosion. The base polymer shall be 100% Silicon Rubber prior to the addition of reinforcing fillers. The composite insulator shall be designed to prevent bird-bite and mouse-bite damages. Core of the Silicon composite insulator should be manufactured from Boron free, Electrically Corrosion Resistant (ECR) grade fiber glass reinforced plastic (FRP) rod having at least 70% fibres by weight.
- 5.5. The base insulator shall be constructed from materials such as porcelain, polymer, EVA, or epoxy, and must have a minimum voltage rating of 11kV. Additionally, the height of the base insulator should be greater than 180mm to avoid surface tracking.

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- 5.6. Insulators shell shall be free from defects, thoroughly vitrified and smoothly glazed. The glaze shall be unaffected by sudden changes in temperature, and by atmospheric pollution or ozone acids, alkali, dust, chemical fumes, etc. The sealing shall be such that no moisture ingress shall take place and metal oxide blocks shall be completely free of moisture.
- 5.7. The sealing plate of HV chamber where ZnO blocks are kept is to be sealed by Silicon paste to prevent rusting and gasket failure.
- 5.8. The explosion vent cover also to be sealed with a thin plate and with Silicon paste to prevent water/moisture entry during rain or during cold line washing.
- 5.9. The connection between SA bottom plate & surge counter should be of 25 x 3 mm Copper flat, completely PVC insulated, 4 meters length for withstanding fault current of 40kA for 3sec.
- 5.10. The grounding conductor also should be insulated from the structure and taken to the earth pit directly.

5.11. ACCESSORIES

5.11.1. Discharge counter

- a) Self-contained discharge counter shall be suitable for outdoor use and shall have a sealing which will be moisture proof. The counter shall not require any auxiliary power supply for its operation. The discharge counter shall be visible through an inspection window. The counter terminals shall be so located that incoming and outgoing connections are easily made with minimum possible bends. Suitably sized bypass shunts of copper to facilitate bypassing the discharge counter shall be furnished. The terminal connectors shall permit the connection of these shunts.
- b) The connection between Surge arrester earth terminal and discharge counter terminal shall be PVC insulated for a minimum of 5kV and this insulated conductor shall be supplied along with the arresters.

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- c) A leakage current meter as an integral part of the discharge counter shall be supplied. The counter and the meter shall be so arranged that it possible to read the leakage current values from ground level. The meter shall be such that upto 3mA (safe continuous value) the scale is painted in green colour and beyond which it is red.
- d) Both Surge counter and leakage current monitor shall have provision for connection with SCADA with potential free contact for counter & 4-20mA transducer for leakage current monitoring and price for same should be quoted as optional.

5.11.2. Name Plate

Each Surge arrestors shall be provided with non-rusting and non-corroding name plate bearing identification as per the applicable standards.

6. Layout Requirements for the equipment

- 6.1. Electrical clearances shall be as per CEA guidelines.
- 6.2. LA shall be provided with terminals at top for connections to customer's conductor.

7. Operational Requirements

- 7.1. An electromagnetic cyclometric of minimum 5 digit non-resetting type counter is to be provided. It should not require for its operation any power sources like batteries or station ac/dc low voltage supplies (excluding Digital Surge counter).
- 7.2. It should have sufficient height so that surge counter can be mounted at appropriate level on the structure for easy visibility of counter & leakage Current reading.

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8. Technical Parameters of Equipment including data sheet and make list for bought out items.

Sr.no.	Description	Tata Power Requirement	Data given by Bidder
1	Name of the Manufacturer	To be furnished by bidder	
2	Place of the manufacture	To be furnished by bidder	
3	Standards applicable	IEC 60099-4,5	
4	Arrestor voltage (kV)	96	
5	Reference voltage	96kV (min)	
6	Reference current (mA)	By Bidder	
7	Rated Frequency	50Hz	
8	Application	Outdoor	
9	Type of Arrestors		
9.1	Gapless design	Yes	
9.2	Arrestor Design(IEC60099-5)	Cage Type, Design B	
10	System voltage & Design Amb Temp		
10.1	Nominal voltage (kV)	110	
10.2	Highest voltage (kV)	145	
10.3	Design Amb Temp	50 Deg C	
11	Type of System Neutral Earthing	Solidly	
12	Short circuit current at arrestor location (kA)	40 kArms	
13	Maximum duration of Earth fault (Second) as per IEC 60099-5, Clause 5.2.2.7.8	0.2 sec	
14	Withstand test voltages value of equipment to be protected		
14.1	One Minute Power frequency (kV)	275	
14.2	Lightening Impulse (kV Peak)	650	

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Sr.no.	Description	Tata Power Requirement	Data given by Bidder
15	Nominal Discharge Current, 8 x20 Microsecond wave (kA)	10 kA	
16	Long duration current impulse withstand		
16.1	Discharge class	Class – SM	
16.2	Peak current and virtual duration of peak (A/micro sec)	1000A/2400 micro second	
16.3	High current impulse (kA peak)	100	
17	Max. Continuous operating voltage- M.C.O.V (kV)	81	
18	Max. Continuous leakage current at M.C.O.V		
18.1	Resistive current (mA), Ir	0.01mA<Ir<0.6mA	
18.2	Capacitive current (mA), Ic	0.2mA<Ic<3mA	
19	Residual voltage corresponding to: As per IEC 60099-5, Table F.1		
19.1	Lightening Impulse (kV (peak)/Ur)	2.3 to 3.3	
19.2	Switching Current Impulse (kV (peak)/Ur)	2.0 to 2.6	
19.3	Steep Current Impulse (kV (peak)/Ur)	2.6 to 3.7	
20	Arrestor Housing		
20.1	Make (country) of Arrestor Housing	Required	
20.2	Material of Housing	Polymeric	
20.3	Withstand test voltages		
20.3.1	One Minute Power frequency (kV)	275	
20.3.2	Lightening Impulse (kV Peak)	650	

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Sr.no.	Description	Tata Power Requirement	Data given by Bidder
20.4	Nominal Creepage Distance (mm/ kV)	31	
20.5	Suitability for live washing	Required	
20.6	Max PD at 1.05 x MCOV (pC)	<10	
21	Energy Discharge capacity (kJ/kV)	8	
22	Repetitive Charge transfer Rating	≥ 1.6	
23	Metal Oxide Details		
23.1	Make (country) of Metal Oxide Block	Required	
23.2	Type and shape of Metal Oxide Block	Required	
23.3	Dia of Metal Oxide Blocks	To be furnished by bidder	
23.4	Thickness of Metal Oxide Blocks	To be furnished by bidder	
23.5	Total Mass of Metal Oxide Blocks	To be furnished by bidder	
23.6	Composition & Percentage of Metal Oxide Blocks	To be furnished by bidder	
23.7	Nominal discharge current / Class	10kAP/ Class - SM	
23.8	Rated voltage	To be furnished by bidder	
23.9	MCOV	To be furnished by bidder	
24	Lightning Impulse Residual voltage at		
24.1	0.5 X NDC (kV Peak)	To be furnished by bidder	
24.2	1.0 X NDC (kV Peak)	To be furnished by bidder	
24.3	2.0 X NDC (kV Peak)	To be furnished by bidder	

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Sr.no.	Description	Tata Power Requirement	Data given by Bidder
24.4	Residual voltage and corresponding value of Discharge current, in the range of 0.01 to 0.25 times the NDC (kVPeak), if complete arrester test cannot be carried out at one of the above currents.	To be furnished by bidder	
25	Maximum value of Temporary over voltages and their durations (kV Peak), with prior duty		
25.1	0.1 Sec	To be furnished by bidder	
25.2	1.0 Sec	To be furnished by bidder	
25.3	10.0 Sec	Should be greater than or equal to rated voltage	
25.4	100.0 Sec	To be furnished by bidder	
26	Range of Milliammeter provided for Leakage current measurement (mA)	0-5mA	
27	Recommended clearance		
27.1	Phase to Phase (mm)	Min 1300 mm	
27.2	Phase to Earth (mm)	Min 1300 mm	
28	Maximum Permissible lengths of lead between Arrestors, Discharge counter and Earth (Mtr.)	4 meter	
29	Size of the above lead (sq.mm)	25X3 CU FLAT STRIP OF 4 METER	
30	Rated voltage of insulation of Lead (kV)	Upto 5kV	
31	Whether the Arrestors is suitable for		
31.1	Wind Pressure	55 mtrs./sec (Max)	

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Sr.no.	Description	Tata Power Requirement	Data given by Bidder
31.2	Seismic Acceleration	0.5 g Horizontal 0.25 g Vertical	
32	Additional Requirements		
32.1	Cantilever Strength (kN)	>1.2kN	
32.2	Type of mounting	Vertical / Pedestal Mounting	
33	Accessories required		
33.1	Discharge counter	YES	
33.2	Clamps and connectors	YES	
33.3	Leakage current meter	YES	
34	Type of LA terminal connector suitable for purchaser's conductor		
34.1	Line side (mm)	To be Furnished by bidder	
34.2	Earth size (mm)	To be Furnished by bidder	
35	Total height of the arrestors	To be Furnished by bidder	
36	Total weight of the arrestors	To be Furnished by bidder	
37	Whether GA drawings enclosed	Required	
38	Whether type test reports as specified enclosed	Required	
39	Whether Voltage-Current Characteristics enclosed	Required	
40	Whether Power Frequency Voltage vs. Time characteristics enclosed	Required	
41	Whether list of recommended spares as specified enclosed	Required	
42	Base insulator material	Porcelain, polymer, EVA, or epoxy	
43	Base insulator rating	Min 11 kV	

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Sr.no.	Description	Tata Power Requirement	Data given by Bidder
44	Polymer insulators are free from Bird-bite or Rodent-bite	Required	
45	Sealing plate of HV chamber (where ZNO blocks are kept) is completely sealed so that no moisture enters into ZNO blocks.	Required	
46	Sealing plate and explosion vent (pressure relief plate) are sealed by Silicon paste to prevent moisture ingress.	Required	
47	Make and Type Discharge counter	Required	

Sub vendor list for bought out items shall be submitted during bid stage only and will be approved by purchase. However, if Bidder introduces additional vendor/sub vendor, the same will be evaluated separately.

9. QUALITY REQUIREMENTS (including QAP & SQP)

- 9.1. To ensure that a well-engineered and contractually compliant system is produced, Bidder shall adhere to Approved Tata power SQP for the preparation of all contract deliverables. The program shall provide for early detection of actual or potential deficiencies, timely and effective corrective action, and a method of tracking all such deficiencies.
- 9.2. **QUALITY REQUIREMENTS:** Bidder to prepare and submit Manufacturing Quality Plan (MQP) and Field Quality Plan (FQP) for approval of Owner to ensure that a well-engineered and contractually compliant system is produced. The program shall provide for early detection of actual or potential deficiencies, timely and effective corrective action, and a method of tracking all such deficiencies.

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9.3. Tata Power Standard Quality Plan (SQP) and Field Quality Plan (SFP) are attached with this specification defining minimum quality inspection and testing requirements during shop and site inspection respectively. Bidder to ensure that these requirements are compiled in MQP and FQP submitted for approval.

- Standard Quality Plan (SQP) of LA
- Standard Field Quality Plan (FQP) for LA

Factory Acceptance Test (FAT)

- a) Owner approved MQP shall be referred for shop inspection. The purpose is to ensure that the Bidder has interpreted the specified requirements correctly and that the FAT includes checking to the degree required by the user. The general philosophy shall be to deliver a system to site, only after it has been thoroughly tested and its specified performance has been verified, as far as site conditions can be simulated in a test lab.
- b) The purpose of Factory Acceptance Testing is to ensure trouble free installation at site. Prior to release for shipment of the equipment the Purchaser or his representative will witness Factory Acceptance Test (FAT) in which the system is checked against the specifications.
- c) Type and routine tests certificates shall be furnished. Tests for components shall be as per relevant standard specifications and approved MQP.
- d) System tests shall be performed on the completely assembled system. Type, routine and optional tests covered in the approved MQP and these specifications shall be conducted in addition to the system tests.
- e) Bidder shall incorporate all FAT comments prior to despatch. After Bidder confirms that all changes have been incorporated, Purchaser's Office will issue Despatch Clearance.

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- f) The Test Reports as well as Test Certificates of OEM, third party, Bidder shall be submitted for approval / verification.
- g) FAT and Despatch Clearance by the Purchaser shall not relieve the Bidder from complete responsibility for the total system and its performance subsequently.

10. Inspection, testing and performance requirements along with warranty

- a) Bidder should follow owner approved MQP and specification requirements.
- b) Bidder to submit type test reports as per SQP for purchaser review along with technical bid.

Performance Guarantee Parameters

- a) Satisfactory operation of the system offered shall be guaranteed for 5 years from the date of taking over of system by purchaser after SAT including trouble-free & intervention-free operation.
- b) Bidder shall undertake to repair or replace any part, which is defective or unequal to the rated duties due to faulty materials, design or workmanship.

Warranty

- a) Bidder shall warrant that the equipment hardware is free of defects in material and workmanship or faults in design, in so far as the equipment fails to meet the requirements of this technical specification, for a period of 60 months from the date of final acceptance by the purchaser after completion of 30 days trouble free operation.
- b) With respect to defects in equipment part, Bidder's liability is to make good by replacing the faulty equipment. It is the responsibility of the Bidder to replace the faulty equipment within 30 working days.

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- c) The Bidder will cover the cost associated with the shipping of defective or failed items during warranty period. The new equipment, parts shall be delivered free of charge.
- d) Bidder shall extend all warranties / guarantees to the purchaser, provided by sub-Vendors, of duration longer than that in this specification

11. **Mandatory spares**

Bidder to provide list of **recommended spares** required for trouble free operation of LA, if any.

12. **Tools and tackles**

Bidder to provide special tools and tackles for Erection, commissioning, condition monitoring / maintenance of LA, if required.

13. **Data Submission By Bidder (including list of key drawings with dates / period which are part of commercial compliance)**

With the Bid

- a) Filled up Technical datasheet and Technical Deviations of Specifications (in attached Excel format – Excel soft file to be sent with Technical Bid) & in PDF
- b) Confirmation to Standard Quality Plan
- c) General Arrangement Drawings for LA
- d) Internal GA Drawings for LA
- e) Type test reports for same rating of LA
- f) Project Schedule / Manufacturing & Delivery schedule
- g) Schedule of Technical Deviations

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After award of contract

- a) Guaranteed Technical particulars (GTP) and Bill of Material (BOM)
- b) General outline dimension drawing of LA furnishing front and side elevation, top and bottom plan, views showing all accessories, mounting arrangement on steel structures, spacing and size of the bolts, total creepage distance of bushing, sealing arrangement, MOC, make of components, grounding terminals and lifting lugs, net and shipping weight, shipping dimension etc.
- c) Internal GA for equipment offered indicating ZnO block details, sealing arrangement, insulator details, Pressure Relief arrangement, MOC, make of components etc.
- d) Name and rating plate diagram of LA
- e) Insulator GA including MOC, BOM, construction details, Make
- f) ZnO block GA including MOC, BOM, construction details, Make
- g) Voltage-current and Voltage – Time characteristic of arrester
- h) Surge Counter GA and schematic diagram
- i) Clamps and connector details
- j) Manufacturing Quality Plan & Field Quality Plan
- k) O&M Manual & Recommended Commissioning checklist
- l) All the Type Test Reports as per SQP in last 5 years from date of bid submission

All above drawings / documents shall be submitted within 7 days of PO issue.

Bidder must agree for handing over, to Purchaser, all project related drawings in PDF version. The pdf versions of above drawings shall be submitted through Wrench for formal approval process.

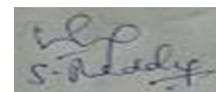
Bidders Pre-Qualifying Requirements

Annexure - I			
PROCUREMENT OF 96kV LAs			
Sr. no.	Qualifying Requirement	Tata Power Requirement	Data given by Bidder
1	Bidder must be an OEM 96kV & above rating Surge arresters and must have designed, manufactured, type tested (as per IEC or equivalent standard), supplied at least 200 nos. of similar or higher rating LAs in last ten years.	Please confirm and submit documents.	
2	The bidder supplied 96kV LA at least 50 nos. must be in satisfactory service in operation for at least 2 years as on the scheduled date of bid opening.	Please submit documents. (Performance Cert.)	
3	Bidder must have Surge Arresters manufacturing and testing facilities in India.	Please confirm	
4	Bidder shall confirm to carry out all the Routine Tests as per SQP. Bidder should submit the Testing equipment & facility available at OEM works for specified LA.	Please confirm	
5	Bidder should submit all the Type Test reports conducted as per SQP. The Type tests should have been carried out within the last five years from the date of bid submission. Undertaking that there is no change of design/material of construction if Type test report is older than 5 years but less than 10 years prior to date of Bid Opening will be considered. The type test should have been done in a reputed test facility which is NABL certified or equivalent international testing facility on identical design.	Please confirm and submit documents.	
6	Acceptance of Purchaser's preferred list of vendor / sub vendor / OEM, which will be shared as part of Technical Specifications.	Please confirm	
7	Confirmation on technical support for next 25 years.	Please confirm	
8	Bidder must agree for handing over, to Purchaser, all project related drawings in PDF format and shall be submitted through Wrench for formal approval process.	Please confirm	
9	Acceptance (without any deviations) of minimum quality requirements defined in Tata Power Standard Quality Plans & Standard Field Quality Plans of technical specifications.	Please confirm	
<p>Note-In case the bidder has a previous association with any of Tata Power Group companies for similar products and services, the performance feedback of the bidder by the Tata Power Group companies shall be considered for evaluation purpose, at the discretion of Tata Power, irrespective of performance certificates issued by any third organization.</p>			

TATA POWER		The Tata Power Company Limited Corporate Engineering-Quality Assurance Inspection & Testing		TATA	
TPQAIT-QAXX-00-EX-SQP-058 REV.2		STANDARD QUALITY PLAN FOR Metal Oxide Surge Arrester (Upto 765kV)*.		24.06.2024	
Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED		TYPE / METHOD OF CHECK	REMARKS
1	2	3		4	5
1.0	MATERIAL:	(All material shall be as per approved drawing/ data sheet).			
1.1	Porcelain Bushings.	1	As per IS 5621/ IEC 233 including Artificial Pollution tests, Thermal Stability test & Environmental test.	Manufacturer has to do the tests & provide TC for Verification to TATA Power.	To be carried out by supplier.
	Compoite Insulator	1	As per IEC 61109, 60383-2, 62217 & 60815 (as applicable) including Weather Ageing test in case of silicon insulator.		
1.2	Base Plate & Intermediate Plates.	1	Dimensions.		
		2	Galvanising checks (if applicable).		
		3	Material properties (Chemical & Tensile).		
1.3	Springs.	1	Mechanical properties.		
		2	Material type.		
1.4	Pressure Release Diaphragm/ Plate.	1	Dimensions.		
		2	Pressure test.		
1.5	Grading Rings / Corona Rings.	1	Visual & Dimensional Checks.		
		2	Mechanical tests.		
1.6	Terminal Connectors.	1	Dimensions.		
		2	Tensile test.		
1.7	Zinc Oxide Element.	1	Energy Capability Curve.		
		2	Residual Voltage test.		
		3	Line Discharge Class test.		
		4	High Current test.		
		5	Special tests.		
		5.1	Thermal Stability test.		
1.8	Silicone Bumper/ FRP rod/ FRP tube.	1	Dimensions.		
		2	Leakage Current.		
		3	Hardness.		
1.9	Surge Counter.	1	Operational Checks.		
1.10	Insulating Base.	1	Dimensional check.		
		2	Voltage withstand test.		
2.0	INPROCESS INSPECTION: (Generally in line with manufacturer standard / IEC 60099-4)				
2.1	Zinc Oxide blocks.	1	Long duration current impulse withstand test as per IEC 60099 Clause no. 8.4.2.	on 100% Zinc Blocks.	To be carried out by supplier. Verification of records by TATA POWER.
		2	Lightning Impulse Residual Voltage test as per clause IEC 60099-clause 9.1		
		3	Reference Voltage Test as per clause IEC 60099-clause 9.1		
		4	Thermal stability test.		
		5	Energy handling (line discharge) class test.	On randomly selected samples of inc block*.	
		6	Watt loss / Resistive current (Accelerated aging) test.		
		7	Ageing test (watt loss measurement).		
		8	DC Milliampere test.		
2.2	SA assembly test.	1	Dimensinoal verification.	In-process test on final SA assembly.	
		2	Quality checks for galvanizing (if applicable).		
		3	Seal leak test (Leakage test for selaed housing).		

W.P. S. Reddy

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS	
1	2	3	4	5	
3.0	ELECTRICAL TESTS: as per IEC: 60099-4 / IS: 15086 (part4) : 2017#.				
3.1	Routine Tests (as per cl. 9.1)	1	Sealing test (Leakage test for selaed housing).	To be carried out by supplier.	Test reports to be submitted for TATA Power review.
		2	Measurement of reference Voltage Test.		
		3	Residual Voltage test with lightning impulse#.		
		4	Internal Partial Discharge test.		
		5	Power Frequency Voltage - PD Measurement*.		
		6	Insulation Resistance Measurement*.		
		7	Galvanizing (Uniformity and zinc coating).		
3.2	Acceptance Tests (as per cl. 9.2)	1	Visual & Dimensional including creepage measurement (including finishing check & verticality).	Tests by supplier on random sample as agreed mutually between supplier and TATA POWER.	CHP.
		2	Measurement of Power frequency Voltage.		
		3	Lightning Impulse Residual Voltage.		
		4	Internal Partial Discharge test.		
		5	Special thermal stability checks.		
		6	Leakage Current test*.		
		7	Galvanizing tests (as applciable)*.		
		8	Seal leak test (Leakage test for selaed housing)*.		
		9	Special thermal stability checks*.		
		10	Verticality Checks*.		
		11	Surge Counter Acceptance tests.		
		11.1	Visual checks.		
		11.2	Dimensional checks.		
		11.3	Counter operation: tests at 100A & 10kA, 8/20 micro sec.		
		11.4	Ammeter Operation test at 2mA.		
11.5	IP Degree protection (TC review).				
3.3	Type Tests (Design Tests) (Porcelain Housed & Silicon Housed Surge Arrestors) #.	1	Insulation withstand tests on Arrester Housing: a. Lightnining Impulse as per cl. 8.2.6 b. Switching Impulse as per cl. 8.2.7 - applicable for voltages > 245KV. c. Power Frequency as per cl. 8.2.8 -applicable for voltages < 245KV.	Type Test certificates for same design LA, not older than 5 years to be submitted.	For new design, type test will be conducted on one sample.
		2	Residual Voltage Test as per cl. 8.3 a. Steep current as per cl. 8.3.2 b. Lightning Impulse as per cl. 8.3.3 c. Switching Impulse as per cl. 8.3.4 - applicable for voltages >52kV.		
		3	Tests to verify long term stability under continuous operating voltage as per cl. 8.4		
		4	Repititive Charge Transfer withstand as per cl. 8.5		
		5	Heat dissipation behaviour verification of test sample as per cl. 8.6		
		6	Operation duty test as per cl. 8.7		
		7	Power frequency voltage versus time as per cl. 8.8		



TATA POWER	The Tata Power Company Limited Corporate Engineering-Quality Assurance Inspection & Testing	
TPQAIT-QAXX-00-EX-SQP-058 REV.2	STANDARD QUALITY PLAN FOR Metal Oxide Surge Arrester (Upto 765kV)*.	24.06.2024

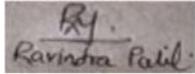
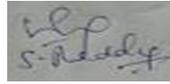
Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
		8 Arrestor disconnecter/ fault indicator as per cl. 8.9 (for TLA application).		
		9 Short circuit tests as per cl. 8.10		
		10 Bending Moment as per cl. 8.11		
		11 Environmental tests as per cl. 8.12		
		12 Seal leak rate as per cl. 8.13		
		13 Radio Interference Voltage tests as per cl. 8.14		
		14 Tests to verify dielectric withstand of the internal components on the arrester as per cl. 8.15		
		15 Tests on internal grading components as per cl. 8.16		
		16 Weather ageing test as per cl. 10.8.17 (Salt fog & UV light test)		

Any Separate Type/ Design validation tests shall be carried out in accordance with TATA Power Specification or as per mutually agreed MQP.

4.0 PACKING, PRE-SHIPMENT & DISPATCH:				
4.1	PRE-SHIPMENT & PACKING	Visual Inspection. Packing in cartons. Quantity Verification. Identification.	Measurement & Visual.	
4.2	DISPATCH	Issue of Release note / MDCC.	Customer Hold Point	

NOTE

A) ALL MATERIAL SHALL BE AS PER APPROVED DRAWING/ DATA SHEET.
 B) STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.
 C) TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY FOR MATERIAL TRACEABILITY.
 D) FINAL INSPECTION OF THE MAJOR ACTIVITIES ARE WITNESSED BY CLIENT AND IT IS HOLD POINT (AT THE DISCRETION TATA POWER)
 E) MANUFACTURER SHALL PREPARE AND SUBMIT COMPLETE MANUFACTURING QUALITY PLAN IN PRESCRIBED FORMAT OR THEIR REGULAR FORMAT INDICATING THEIR REGULAR PRACTICES, TAKING CARE OF MINIMUM REQUIREMENT AS INDICATED ABOVE.
 F) INSPECTION OF THE MAINTAINANCE SPARES SHALL BE OFFERED ALONG WITH THE MAIN SUPPLY AS PER THE INSPECTION STAGES OF 1 TO 4.
 G) CALIBRATION CERTIFICATES OF THE EQUIPMENT USED FOR TESTING SHALL BE PROVIDED FOR REVIEW.
 H) TATA POWER RESERVES THE RIGHT TO DEMAND / VERIFY/ AUDIT/ WITNESS ANY OF THE CHECK POINTS MENTIONED IN THE SCOPE OF SUPPLIER.

				
R2	Revision on the basis of Pre-bid and Field inputs*	RP & 29.06.2024	SR	GTJ
R1	Revision of IS, Inputs from division and technical specifications#	SR & 09.12.2019	SKP & 09.12.2019	CRB
R0	ISSUE FOR USE	SR & 25.02.2015	CB & 25.02.2015	SGP
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date.

Meant for (Internal Circulation / External – Stakeholders Circulation)

TATA POWER		The Tata Power Company Limited Technical Services - Quality Assurance, Inspection & Testing.						TATA
TPQAIT-QAXX-00-EX-SFP-127 REV.1		STANDARD FQP FOR SURGE ARRESTER (up to 800kV*)						Tuesday, July 23, 2024
Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	CLASS OF CHECK	TYPE OF CHECK	EXTENT / FREQUENCY OF CHECK	REFERENCE DOCUMENTS / ACCEPTANCE NORM	FORMAT OF RECORD	REMARKS
1	2	3	4	5	6	7	8	9
1.0	<u>Receipt of Material</u>	Availability of Instruction manuals, drawings, quality dossier including IRN.	Minor	Physical	At the Time of Receipt.	IRN, MDCC, Bill of material, shipping list	Site Inspection register	Any shortfall/ damage shall be analyzed & reported jointly with site FQC.
		Verification of main unit and all loose items / accessories / name plate rating for any visual damage and shortage during transit.	Major			No damages.		
2.0	<u>Storage & Preservation</u>	If Permanent location is not ready for placing the isolator assembly: Storage Type-2	Major	Physical	At the time of storage.	Manufacturer's Instruction Manual.	Site Inspection register	Vendor to define type of storage for components as attachment
3.0	<u>PRE-ERECTION</u>	Check availability of all tools, tackles and ropes, Hydra etc. required for erection works are available.	Major	Physical	Once before erection.	Manufacturer's Instruction Manual.	Site Inspection register	Check joint protocol for handing over of area from Civil to Elect and FQC
		Check the readiness of foundation and its leveling.	Minor	Physical / Measurement	Once before erection.	Site Approved Drawing.	Inter dept. handing over protocol.	
4.0	<u>ERECTION</u>	Check surge arrester is free from all visible defects on physical inspection.	Major	Physical	100%	Instruction Manual.	Site Test Report*	*STR will be signed by contractor, construction representative
		Check Leveling and alignment of structure and base frame.		Measurement				
		Check for type of instllation no. of Stacks / parallell / individual, as per approved layout.		Physical				
		Mount bottom support insulator / Isolation Insulator*.						
		Mount the surge arrester and stacks as applicable. Check for Verticality, tightness of stack coupling. No gap between stacks*.						
		Install Surge Counter*.						
		Connect the surge counter to the earth.						
Bottom stack shall be on an insulated base and connected to surge counter with a insulated cable.								

AP
Arvind Rath

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	CLASS OF CHECK	TYPE OF CHECK	EXTENT / FREQUENCY OF CHECK	REFERENCE DOCUMENTS / ACCEPTANCE NORM	FORMAT OF RECORD	REMARKS
1	2	3	4	5	6	7	8	9
4.0	ERECTION	Check for Surge Counter 2nd terminal is directly connected with Earth pit*.	Major	Physical	100%	Site Approved Installation Drawing.	Site Test Report*	*STR will be signed by contractor, construction representative.
		Check corona ring is installed as per drawing (if any)						
		All cable identification tags provided and all cores are provided with identification ferrule in marshalling box.						
		Ensure that top end of the surge arrester is firmly connected to the line.						
		Check the ground connection & resistivity of system earth mat.						
		Check for marking of Phase / Identification.						
		Check for SCADA Connectivity for Surge Counter (if applicable).	Measurement					
5.0	PRE-COMMISSIONING	Check insulation resistance of all stacks.	Critical	Testing & Measurement	100%	Factory test report.	Site Test Report*	*STR will be signed by contractor, construction representative and FQC representative
		Measure Insulation Resistance between SA bottom stack & the Ground (by opening surge counter cable)*.						
		Ensure that one end of the surge arrester is connected to the line.						
6.0	COMMISSIONING	Check for vibration and abnormal sound after energisation.	Critical	Testing & Measurement	100%	Approved Drg, Data sheet.	Commissioning Report.	
		Check the leakage current and counter reading.	Critical	Testing & Measurement	100%	Approved Drg, Data sheet.	Commissioning Report.	
7.0	Handing Over							
	Final documentation	Compilation of all stage inspection protocol, test reports including closure of non conformance.	Critical	Visual	100%	NA	*SWCF	Site work completion file

NOTE

- A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.
- B). FOR STAGES WITNESSED / DOCUMENTS REVIEWED BY TATA POWER, COPIES OF RELEVANT DOCUMENTS WILL BE FURNISHED TO TATA POWER.
- C). TATA POWER / ITS REP. IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED / GOT TRANSFERRED BY TATA POWER / IT'S REP AT APPROPRIATE STAGES. (IF REQUIRED).
- D). THE EXTENT INDICATED IN COLUMN 6 IS IN CONTRACTOR'S SCOPE. TATA POWER MAY INSPECT AS PER THIS COLUMN OR RANDOM SAMPLES AT ITS DISCRETION.
- E). COLUMN 7 WILL BE AS PER TATA POWER APPROVED DRAWINGS / DATA SHEETS / CONTRACT DOCUMENTS WHEREVER APPLICABLE.
- F). INSTRUMENTS FOR LEAK TESTS AND PERFORMANCE TESTS WILL HAVE VALID CALIBRATION CERTIFICATE WITH TRACEABILITY TO NATIONAL LEVEL.

Critical Category is HOLD point.

This activity required inspection / Verification & acceptance by inspection authority responsible for this stage before further processing is permitted., 24 Hrs advance notice to be given to FQC. Contractor /sub contractor shall not process activity beyond this point without written permission by TATA POWER FQC.
 This activity shall be formed by TATA POWER (Execution + FQC), Main & Sub- Contractor (Execution + FQC) .
 (Also Surveillance by Head FQC / Project Head)

TPQAIT-QAXX-00-EX-SFP-127
 REV.1

STANDARD FQP FOR SURGE ARRESTER (up to 800kV*)

Tuesday, July 23, 2024

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	CLASS OF CHECK	TYPE OF CHECK	EXTENT / FREQUENCY OF CHECK	REFERENCE DOCUMENTS / ACCEPTANCE NORM	FORMAT OF RECORD	REMARKS
1	2	3	4	5	6	7	8	9
Major Category is Witness point.		This activity required inspection / Verification & acceptance by inspection authority responsible for this stage before further processing. 24 Hrs advance notice to be given to TATA POWER (Execution) . Contractor /sub contractor shall not process activity beyond Witness point without written permission by TATA POWER (Execution). This activity shall be performed by TATA POWER (Execution), Main and Sub- Contractor (Execution + FQC) , (Surveillance by FQC)						
Minor Category is Review point.		This activity required review of documents by TATA POWER for the compliance & acceptance, However 24 Hrs advance notice to be given to TATA power (Execution). This activity shall be formed by Main and Sub- Contractor (Execution + FQC) . (Surveillance by Execution / Project Head).						
TATA POWER FQC is also authorized to carryout surveillance in any major & minor class of check at their discretion.								

STORAGE TYPE:

- TYPE-1: OPEN AREA & ABOVE GROUND ON WOODEN PLANK WITH SLOPE FOR WATER DISPOSITION.
- TYPE-2: OPEN AREA & ABOVE GROUND ON WOODEN PLANK (WITH SLOPE FOR WATER DISPOSITION) AND COVERED WITH TARPAULIN.
- TYPE-3: OPEN SHED WITH FULLY FORMED FLOORING/CEMENT FLOORING.
- TYPE-4: COVERED SHED/STORE ROOM ON RACKS & IDENTIFIED LOCATION.
- TYPE-4A: CLOSED CHAMBER WITH TEMPERATURE & HUMIDITY CONTROL.

NOTE: Items/equipments having shelf life like paints, alumina, desiccant etc. are to be stored separately for identification purpose.

		<i>AP</i> Arvind Pathi	<i>S. Reddy</i>	<i>Jawale</i>
R1	Revised (marked as *)	AR / 23.07.2024	SR	GTJ
R0	ISSUE FOR USE	RRP / 22.07.2016	CRB/ 22.07.2016	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

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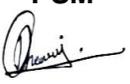
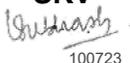
THE TATA POWER COMPANY LIMITED

STANDARD
TECHNICAL SPECIFICATION
FOR

145kV and 245 kV Polymer Bus Post Insulators
(DOCUMENT NO - TE/ELEC/STD-SPEC/0028)



Tata Power
Engineering (T&D)

Rev no.	Date	Revision History	Prepared By	Checked By	Approved By
	06-07-2023	Final Specifications	PSM 	NPT 	SKV  100723

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- 8. Operational and maintenance Requirements**
- 9. Technical Parameters of Equipment including data sheet.**
- 10. Quality Requirements (including SQP and FQP)**
- 11. Inspection, Testing and Performance Requirements along with Warranty**
- 12. Mandatory Spares**
- 13. Data Submission By Bidder**
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 - 13.2 After award of contract**

Annexure - 1: PQR

Annexure - 2: Standard Quality Plan of Bus post insulator

Annexure - 3: General requirements of Quality Assurance & Inspection

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1. **Introduction**

This specification covers engineering, design, Engineering, manufacturing, Testing, Inspection, supply, transport to site, Providing Technical Support during Installation of 145kV/245kV Polymer Bus Post Insulator according to the relevant IS or IEC standards.

2. **Pre-Qualifying Requirements**

Refer Annexure - 1

3. **System Description and Scope**

- 3.1. Engineering, Design, manufacturing, testing, certifications, Supply, Transportation, Installation and commissioning of 145 kV/ 245 kV Polymer Bus Post Insulators as per IES/IS and standard engineering practices. All necessary accessories for the satisfactory performance of BPI shall be supplied.
- 3.2. Engineering, Design, Manufacturing & Supply of fixed & flexible tinned copper clamp with bimetallic strip (as required).
- 3.3. Demonstration / testing of the system at Bidder's works (FAT) as per the Tata power approved SQP before dispatch of the system at site (FAT).
- 3.4. Bidder to depute people for supervision & validation of commissioning check points & site equipment test results during Installation, testing & commissioning of the BPI as per Tata Power approved Standard Field Quality Plan. The technical expert shall be involved until the equipment is commissioned & handed over (as required).
- 3.5. Submission of technical documentation related to design, installation, testing, operation & maintenance of the equipment and submission of test reports, Job progress report etc. for owner's review & approval.
- 3.6. Submission of type test report for Bus Post Insulators as per relevant IS/ IEC standards, which is not more than 5 years old.

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- 3.7. The bidder must confirm on their letterhead the technical support for next 25 years, for the equipment being procured under this requirement. Bidder shall provide minimum 5 years warranty for the equipment supplied.
- 3.8. Adherence to General requirements of Quality Assurance & Inspection (attached with the specifications).
- 3.9. Acceptance of Purchaser's preferred list of vendor / sub vendor / OEM, which will be shared as part of Technical Specifications. However, if Bidder introduces additional vendor/sub vendor the same will be evaluated separately. This vendor/sub vendor evaluation / assessment shall inter-alia include (i) document verification; (ii) Bidders work / manufacturing facilities visit (iii) manufacturing capacity, details of works executed, works in hand, anticipated in future and the balance capacity available for present scope of works; (iv) details of plant and machinery, manufacturing and testing facilities, manpower and financial resources; (v) details of quality systems in place; (vi) past experience and performance; (vii) customer feedback; (viii) response to complaint.
- 3.10. Acceptance (without any deviations) of minimum quality requirements defined in Tata Power Standard Quality Plans & Standard Field Quality Plans of technical specifications.

It is not the intent of this specification to specify completely herein, all details of design, construction of storage systems. However, the equipment shall conform in all respects to high standards of engineering, design & workmanship.

4. Codes & Standards

The design, manufacture, performance testing and inspection of equipment shall comply with all currently applicable statutory regulations and safety codes in the locality, where the equipment will be installed. Nothing in this specification shall be construed to relieve the vendor of this responsibility.

Unless otherwise specified the equipment shall conform to the latest applicable IS, BS or IEC Standards.

The list of relevant IS/IEC is given below:

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SL. NO	Brief Title	Ref. No. of Standard
1	Composite station post insulators for substations with a.c. voltages greater than 1 000 V up to 245 kV	IEC 62231:2006, IEC 62231-1:2015
2	Composite hollow core station post insulator for substations with AC voltage greater than 1000 V and DC voltage greater than 1500 V- definitions, test methods and acceptance criteria. (For test on housing material)	IEC 62772-2016
3	Polymeric insulators for A.C. systems-Selection and dimensioning of high voltage insulators.	IEC 60815-3
4	Hot Dip Galvanizing for iron and steel	IS 2629
5	High voltage test techniques	IS 2071 ,IEC 60060 – 1 & 2, 60270, IEC 60168
6	Radio Interference Voltage	IEC 60437
7	Connectors	IS 2486,IS 5561
8	Specifications for GI /SS nut bolt, washer	IS 2062 - 2016

5. Design Requirements

5.1 **Constructional Features**

- 5.1.1 Polymer type post insulators shall be solid core type and permanently secured in a metal base to be mounted on the supporting structures. They shall be capable of being mounted upright. They shall be designed to withstand any shocks to which they may be subjected to by the operation of the associated equipment.

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- 5.1.2 Core of the Silicon composite insulator should be manufactured from Boron free, Electrically Corrosion Resistant (ECR) grade fibre glass reinforced plastic (FRP) rod having at least 70% fibres by weight.
- 5.1.3 Hollow bushings shall be generally conforming to IEC 61462. The verticality and concentricity of bushings shall be perfect. The insulator shall have a cantilever strength of not less than 5kN/6kN, as per IEC 62231 for 145kV/245kV respectively. Cantilever strength of silicon composite insulators shall be furnished in GTP.
- 5.1.4 The insulator housing shall be of 'Shatter proof' high quality Silicon Composite material. The Silicon sheds shall exhibit hydrophobic property. The insulator housing shall be of a single piece construction without any joints or coupling. It should be void free and should have high resistance to acid corrosion. The base polymer shall be 100% Silicon Rubber prior to the addition of reinforcing fillers. The composite insulator shall be designed to prevent bird-bite and mouse-bite damages.
- 5.1.5 When operating at rated voltage there shall be no electric discharge between conductor and insulators which would cause corrosion or injury to conductors or insulators by the formation of substance produced by chemical action.
- 5.1.6 The design of the insulators shall be such that stresses due to expansion and contraction in any part of the insulators shall not lead to deterioration.
- 5.1.7 All ferrous parts shall be hot dip galvanized in accordance with the IS: 2633, & IS: 4579. The zinc used for galvanizing shall be grade Zn 99.95 as per IS: 209. The Zinc coating shall be uniform, adherent smooth, reasonably bright, continuous and free from imperfections such as flux ash, rust stains bulky white deposits and blisters. The metal parts shall not produce any noise generating corona under the operating conditions.
- 5.1.8 Every bolt shall be provided with a steel washer under the nut so that part of the threaded portion of the bolts is within the thickness of the parts bolted together. Flat washer shall be circular of a diameter 3.5 times that of bolt and of suitable thickness. Where bolts heads/nuts bear upon the bevelled surfaces they shall be provided with square tapered washers of suitable thickness to afford a seating square with the axis of the bolt.

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5.1.9 All bolts and nuts shall be of steel with well-formed hexagonal heads forged from the solid and shall be hot dip galvanized. The nuts shall be good fit on the bolts and two clear threads shall show through the nut when it has been finally tightened up.

5.1.10 Bidder shall make available data on all the essential features of design including the method of assembly of shells and metals parts, number of shells per insulator, the manner in which mechanical stresses are transmitter through shells to adjacent parts, provision for meeting expansion stresses, results of corona and thermal shock tests, recommended working strength and any special design or arrangement employed to increase life under service conditions.

5.1.11 All metal parts shall be of non-rusting and non-corroding metal. Bolts, Screws and pins shall be provided with lock washers, keys or equivalent locking facilities.

5.1.12 The Bus Post Insulator shall be suitable to withstand below mentioned seismic acceleration and wind pressure.

Seismic acceleration capacity	0.5 G Horizontal 0.25 G Vertical
Wind Pressure	55 mtrs./sec (Max)

5.1.13 Insulators of the shell shall be sound, free from defects thoroughly vitrified and smoothly glazed. The glaze shall be unaffected by sudden changes in temperature, and by atmospheric pollution or ozone acids, alkali, dust, chemical fumes, etc.

6. Layout Requirements

Electrical clearance shall be as per CEA guidelines. Equipment structure to be grounded at two points.

7. Safety Requirements.

The Insulator housing shall be suitable for Class -E, very Heavy pollution level.

8. Operational Requirements

Equipment shall give continuous trouble-free service under specified site conditions.

The equipment shall be suitable for hot line washing.

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9. Technical Parameters of Equipment including DATA SHEET

For 145 kV BPI

S No.	Parameters	TATA Power requirement	BIDDER DATA
1	Name of the manufacturer	To be furnished by bidder	
2	Place of the manufacture	To be furnished by bidder	
3	Standards Applicable	IEC 62231, IEC 62772, IEC-60815-3	
4	Type	Polymer, Solid Core	
5	Application	Outdoor	
6	Colour	Grey	
7	System condition		
a)	Rated Frequency	50 Hz	
b)	Voltage Class (kV)	145	
c)	Nominal System Voltage (kV)	110	
d)	Highest System Voltage (kV)	145	
e)	Design Ambient temp	50 ° C	
f)	Type of system neutral earthing	Solidly	
g)	Short circuit rating (kA) and duration	40 for 3 sec.	
8	withstand test voltage value of equipment to be protected		
a)	One Minute Dry Power frequency(kV)	275	
b)	One Minute Wet Power frequency (kV)	275	
c)	Lightning Impulse (kVP)	650	
d)	Wet Switching Surge withstand voltage (kVP)	NA	
9	Nominal Creepage Distance (mm)	31 mm / kV (Min 4495 mm)	

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S No.	Parameters	TATA Power requirement	BIDDER DATA
10	Protected creepage distance (mm)	To be furnished by Bidder	
11	Max. RIV (in micro V) phase to ground voltage at 1 MhZ	<500 (at 92 kV rms)	
12	Visible discharge voltage (kV)	To be furnished by Bidder	
13	Min. Corona extinction voltage (kV rms)	To be furnished by Bidder	
14	Total min. cantilever strength (kN)	5	
15	Minimum torsional moment (kN)	4	
16	Min. Tension strength (kN)	110	
17	Min. Compression Strength (kN)	50	
18	Pollution level as per IEC - 60815	Class-E, Very Heavy	
19	Total Height of BPI	To be furnished by bidder	
20	Total weight of BPI	To be furnished by bidder	
21	Hardware for inter-unit fixing	Required	
22	Hardware for fixing to structure	Required	
23	All Ferrous parts to be HDG (Min 86 micron)	Required	
24	Suitable for Hot Line washing	Required	
25	Guard ring required (Yes/ No)	To be furnished by Bidder	
26	P. C. D		
a)	Top	To be furnished by Bidder	
b)	Bottom	To be furnished by Bidder	
27	Whether GA drawings enclosed	Required	
28	Whether Type test reports as per SQP submitted	Required	
29	Clamps/ Connector required for BPI supplied	Required	

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S No.	Parameters	TATA Power requirement	BIDDER DATA
30	Insulator		
a)	Insulator Type	Polymer	
b)	Make of Insulator	By bidder	
c)	Total creepage distance	31mm/kV	
d)	Polymer insulators are free from Bird-bite or Rodent-bite	Required	
31	Additional data		
a)	Power Frequency flashover Voltage (kV) (Dry / Wet)	To be furnished by Bidder	
b)	Impulse Flashover Voltage (kV) (Dry / Wet)	To be furnished by Bidder	
c)	Power Frequency puncture voltage (kV)	To be furnished by Bidder	

For 245 kV BPI

S No.	Parameters	TATA Power requirement	BIDDER DATA
1	Name of the manufacturer	To be furnished by bidder	
2	Place of the manufacture	To be furnished by bidder	
3	Standards Applicable	IEC 62231, IEC 62772, IEC-60815-3	
4	Type	Polymer, Solid Core	
5	Application	Outdoor	
6	Colour	Grey	
7	System condition		
a)	Rated Frequency	50 Hz	
b)	Voltage Class (kV)	245	

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S No.	Parameters	TATA Power requirement	BIDDER DATA
c)	Nominal System Voltage (kV)	220	
d)	Highest System Voltage (kV)	245	
e)	Design Ambient temp	50 ° C	
f)	Type of system neutral earthing	Solidly	
g)	Short circuit rating (kA) and duration	50 for 3 sec.	
8	withstand test voltage value of equipment to be protected		
a)	One Minute Dry Power frequency(kV)	460	
b)	One Minute Wet Power frequency (kV)	460	
c)	Lightning Impulse (kVP)	1050	
d)	Wet Switching Surge withstand voltage (kVP)	NA	
9	Nominal Creepage Distance (mm)	31 mm / kV (Min 7595 mm)	
10	Protected creepage distance (mm)	To be furnished by Bidder	
11	Max. RIV (in micro V) phase to ground voltage at 1 MhZ	<1000 (at 156 kV rms)	
12	Visible discharge voltage (kV)	To be furnished by Bidder	
13	Min. Corona extinction voltage (kV rms)	To be furnished by Bidder	
14	Total min. cantilever strength (kN)	6	
15	Minimum torsional moment (kN)	6	
16	Min. Tension strength (kN)	110	
17	Min. Compression Strength (kN)	80	
18	Pollution level as per IEC - 60815	Class-E, Very Heavy	
19	Total Height of BPI	To be furnished by bidder	
20	Total weight of BPI	To be furnished by bidder	
21	Hardware for inter-unit fixing	Required	

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S No.	Parameters	TATA Power requirement	BIDDER DATA
22	Hardware for fixing to structure	Required	
23	All Ferrous parts to be HDG (Min 86 micron)	Required	
24	Suitable for Hot Line washing	Required	
25	Guard ring required (Yes/ No)	To be furnished by Bidder	
26	P. C. D		
a)	Top	To be furnished by Bidder	
b)	Bottom	To be furnished by Bidder	
27	Whether GA drawings enclosed	Required	
28	Whether Type test reports as per SQP submitted	Required	
29	Clamps/ Connector required for BPI supplied	Required	
30	Insulator		
a)	Insulator Type	Polymer	
b)	Make of Insulator	By bidder	
c)	Total creepage distance	31mm/kV	
d)	Polymer insulators are free from Bird-bite or Rodent-bite	Required	
31	Additional data		
a)	Power Frequency flashover Voltage (kV) (Dry / Wet)	To be furnished by Bidder	
b)	Impulse Flashover Voltage (kV) (Dry / Wet)	To be furnished by Bidder	
c)	Power Frequency puncture voltage (kV)	To be furnished by Bidder	

10. QUALITY REQUIREMENTS (QAP & SQP)

- 10.1 To ensure that a well-engineered and contractually compliant system is produced, **Bidder shall adhere to Approved Tata power SQP** for the preparation of all contract deliverables. The program shall provide for early detection of actual or potential deficiencies, timely and effective corrective action, and a method of tracking all such deficiencies.

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10.2 QUALITY REQUIREMENTS: Bidder to prepare and submit Manufacturing Quality Plan (MQP) and Field Quality Plan (FQP) for approval of Owner to ensure that a well-engineered and contractually compliant system is produced. The program shall provide for early detection of actual or potential deficiencies, timely and effective corrective action, and a method of tracking all such deficiencies.

10.3 Tata Power Standard Quality Plan (SQP) and Field Quality Plan (SFP) are attached with this specification defining minimum quality inspection and testing requirements during shop and site inspection respectively. Bidder to ensure that these requirements are compiled in MQP and FQP submitted for approval.

- Standard Quality Plan of BPI

Factory Acceptance Test (FAT)

- a) Owner approved MQP shall be referred for shop inspection. The purpose is to ensure that the Bidder has interpreted the specified requirements correctly and that the FAT includes checking to the degree required by the user. The general philosophy shall be to deliver a system to site, only after it has been thoroughly tested and its specified performance has been verified, as far as site conditions can be simulated in a test lab.
- b) The purpose of Factory Acceptance Testing is to ensure trouble free installation at site. Prior to release for shipment of the equipment the Purchaser or his representative will witness Factory Acceptance Test (FAT) in which the system is checked against the specifications.
- c) Type and routine tests certificates shall be furnished. Tests for components shall be as per relevant standard specifications and approved MQP.
- d) System tests shall be performed on the completely assembled system. Type, routine and optional tests covered in the approved MQP and this specifications shall be conducted in addition to the system tests.
- e) Bidder shall incorporate all FAT comments prior to despatch. After Bidder confirms that all changes have been incorporated, Purchaser's Office will issue Despatch Clearance.

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	145 kV and 245 kV Polymer Bus Post Insulators	

- f) The Test Reports as well as Test Certificates of OEM, third party, Bidder shall be submitted for approval / verification.
- g) FAT and Despatch Clearance by the Purchaser shall not relieve the Bidder from complete responsibility for the total system and its performance subsequently.

11. **INSPECTION, TESTING AND PERFORMANCE REQUIREMENTS ALONG WITH WARRANTY**

- a) Bidder should follow owner approved MQP and specification requirements.
- b) Required type test reports shall be submitted for purchaser review along with technical bid as per standard SQP.

Performance Guarantee Parameters

- a) Satisfactory operation of the system offered shall be guaranteed for 5 years from the date of taking over of system by purchaser including trouble-free & intervention-free operation.
- b) Bidder shall undertake to repair or replace any part, which is defective or unequal to the rated duties due to faulty materials, design or workmanship.

Warranty

- a) Bidder shall warrant that the equipment hardware is free of defects in material and workmanship or faults in design, in so far as the equipment fails to meet the requirements of this technical specification, for a period of 60 months from the date of final acceptance by the purchaser after completion of 30 days trouble free operation.
- b) With respect to defects in equipment part, Bidder's liability is to make good by replacing the faulty equipment. It is the responsibility of the Bidder to replace the faulty equipment within 30 working days.
- c) The Bidder will cover the cost associated with the shipping of defective or failed items during warranty period. The new equipment, parts shall be delivered free of charge.

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- d) Bidder shall extend all warranties / guarantees to the purchaser, provided by sub-Vendors, of duration longer than that in this specification

12. **MANDATORY SPARES**

Not Applicable

Bidder to provide list of **recommended spares** required for trouble free operation of BPI, if any.

TOOLS AND TACKLES

Bidder to provide tools and tackles for condition monitoring / maintenance of BPI, if any.

13. **Data Submission By Bidder**

With the Bid

- a) Filled up Technical datasheet and Technical Deviations of Specifications (in attached Excel format – Excel soft file to be sent with Technical Bid) & in PDF
- b) Confirmation to Standard Quality Plan
- c) General Arrangement Drawings for BPI
- d) Internal GA Drawings for BPI
- e) Type test reports for same rating of BPI
- f) Project Schedule / Manufacturing & Delivery schedule
- g) Schedule of Technical Deviations
- h) Supply list of same or higher rating BPIs in last 5 years
- i) Confirmation on technical support for next 25 years.

After award of contract

- a) Guaranteed Technical particulars (GTP) and Bill of Material (BOM)
- b) General outline dimension drawing of BPI furnishing front and side elevation, top and bottom plan, views showing all accessories, mounting arrangement on steel structures, spacing and size of the bolts, total creepage distance of bushing, MOC, make of components, net and shipping weight, shipping dimension etc.

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	145 kV and 245 kV Polymer Bus Post Insulators	

- c) Internal GA for equipment offered including construction details, MOC, make of components etc.
- d) Clamps and connector details
- e) Manufacturing Quality Plan & Field Quality Plan
- f) All the Type Test Reports as per SQP in last 5 years from date of bid submission
- g) O&M Manual & Recommended Commissioning checklist

All above drawings / documents shall be submitted within 7 days of PO issue.

Bidder must agree for handing over, to Purchaser, all project related drawings in PDF version. The pdf versions of above drawings shall be submitted through Wrench for formal approval process.

Annexure-1

Bidders Prequalifying Requirements for AIS 145 kV 245 kV Class Bus Post Insulator			
			Sheet 18 of 48
S No	Parameter	Tata Power Requirement	Documents To be submitted by Bidder to ascertain meeting of Pre-qualification requirement
1	2	3	4
1a	Infrastructure for 145 kV Class Bus Post Insulators	Bidder must be an OEM of 145kV & above rating Outdoor type Bus Post Insulator (BPI) with manufacturing facility / assembly in India.	Self-undertaking to be submitted in this regard. Tata Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.
1b	Infrastructure for 245 kV Class Bus Post Insulators	Bidder must be an OEM of 245kV & above rating Outdoor type Bus Post Insulator (BPI) with manufacturing facility / assembly in India.	Self-undertaking to be submitted in this regard. Tata Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.
2a	Supply and Experience for 145 kV Class Bus Post Insulators	<p>Bidder shall have supplied at least 100 nos of 145 kV and above rating of Bus Post Insulators in last 3 years. Out of these at least 25 nos of 145 kV and above rating equipment shall be in satisfactory service for last 2 years as on date of bid opening.</p> <p>Indian Subsidiaries of global companies having plant in India are also eligible to bid if the qualification requirements stated above are met independently or in combination with the parent company. Declaration from parent company needs to be submitted.</p>	<p>Supply List & Performance Certificates from the utilities / clients</p> <p>Self-undertaking to be submitted in this regard. TATA Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.</p>
2b	Supply and Experience for 245 kV Class Bus Post Insulators	<p>Bidder shall have supplied at least 50 nos of 245 kV and above rating of Bus Post Insulators in last 3 years. Out of these at least 25 nos of 245 kV and above rating equipment shall be in satisfactory service for last 2 years as on date of bid opening.</p> <p>Indian Subsidiaries of global companies having plant in India are also eligible to bid if the qualification requirements stated above are met independently or in combination with the parent company. Declaration from parent company needs to be submitted.</p>	<p>Supply List & Performance Certificates from the utilities / clients</p> <p>Self-undertaking to be submitted in this regard. TATA Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.</p>
3	Type Test	<p>The bidder shall submit Type test reports obtained from NABL/ International Accredited Lab for the equipment / material offered. The type tests should have been conducted on the equipment / material of the same design.</p> <p>The type tests should have been conducted within 5 years prior to the date of bid opening. Time period for type test may be extended by another 5 years as a special case, if there is no change in design / material of construction (MOC).</p> <p>In case the type test reports furnished are not for the quoted equipment / material but for the equipment / material with higher voltage class and/or different capacity, then type test shall be carried out for the offered equipment / material from NABL / International Accredited Lab without any cost implication to the owner and the Type Test reports shall be submitted before despatch of the equipment / material.</p>	<p>Type Test Report.</p> <p>Undertaking that there is no change in design / material of construction (MOC) if Type Test Report older than 5 years but less than 10 years prior to date of bid opening has to be considered (if applicable)</p> <p>Undertaking that type test shall be carried out for the offered equipment / material from NABL / International Accredited Lab without any cost implication to the owner and the Type Test reports shall be submitted before despatch of the equipment / material, in case type test reports furnished are not for the quoted equipment / material but for the equipment / material with higher voltage class and/or different capacity, (if applicable)</p>
4	Commercial Capability	[REDACTED]	Copy of audited Balance Sheet and P&L Account to be submitted in this regard.
5	EPC Experience (if applicable)	<p>In case the package involves installation & commissioning of the equipment / material, then the bidder shall have the following experience:</p> <p>a) He should have successfully completed one single order of value (80% of estimated value of similar work in last three years) OR</p> <p>b) He should have successfully completed two single orders of value (50% of estimated value of similar work in last three years) OR</p> <p>c) He should have successfully completed three single orders of value (40% of estimated value of similar work in last three years).</p>	Performance Certificates from the utilities / clients

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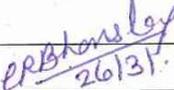
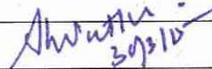
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	<p>The Tata Power Company Limited Corporate Engineering-Quality Assurance Inspection & Testing</p>	
<p>TPQAIT-QAXX-00-EX-SQP-090 REV.0.</p>	<p>STANDARD QUALITY PLAN FOR POLYMER / COMPOSITE INSULATORS.</p>	<p>Date of Issue:</p>

STANDARD QUALITY PLAN FOR POLYMER/COMPOSITE INSULATORS.

		 26/3/15	 26/3/15	 30/3/15	
<p>0</p>	<p>Initial Submission.</p>	<p>SR Team lead QAIT.</p>	<p>CRB Head QAI (E)</p>	<p>SGP Chief (QAIT)</p>	
<p>Revision No.</p>	<p>Reason for revision</p>	<p>Prepared By & Date</p>	<p>Checked By & Date</p>	<p>Approved By & Date</p>	<p>Issued by & Date</p>

TATA POWER

The Tata Power Company Limited
Corporate Engineering-Quality Assurance
Inspection & Testing



TPQAIT-QAXX-00-EX-SQP-
090 REV.0

**STANDARD QUALITY PLAN FOR
POLYMER / COMPOSITE INSULATORS.**

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(All material shall be as per approved drawing/ data sheet).		
1.1	Silicon / Polymer Compound.	As per relevant Standards.	To be carried out by material / Component supplier.	TC will be submitted by material / Component supplier which will be verified by Insulator manufacturer. Additionally, sample testing of material/ components will be carried out by insulator manufacturer.
1.2	FRP Rod.	1 Visual Examination.		
		2 Verification of Dimensions.		
		3 Dye Penetration.		
		4 Water Diffusion Test.		
		5 Percentage of Glass Content.		
		6 High Voltage Test.		
		7 Brittle Fracture Resistance Test.		
1.3	Metal Fittings.	Castings.		
		1 Visual Examination.		
		2 Verification of Dimensions.		
		Galvanizing Checks.		
		1 Visual.		
		2 Preece test (Scratch resistance test).		
		3 Thickness.		
		4 Weight & uniformity of Zinc coating (type test on one sample).		
		C-Box.		
		1 Visual Examination.		
		2 Verification of Dimensions & identification marking.		
		3 Bursting Strength.		
		4 96 Hours Load Test.		
2.0	INPROCESS INSPECTION: (Generally in line with manufacturer standard):			
2.1	Crimping.	1 Crimping of metal fittings with FRP Rod.	To be Carried out by Insulator Manufacturer.	Verification of Records by TATA POWER.
		2 Load test after crimping.		
2.2	FRP Rod.	1 Cleaning.		
		2 Application of Bonding Agent.		
2.3	Moulding	1 Temperature monitoring of mould machine.		
2.4	Post mould.	1 Visual check for finish & pin holes.		
		2 Trimming of excess material.		

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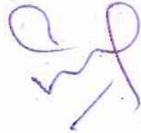

 TPQAIT-QAXX-00-EX-SQP-
090 REV.0

**STANDARD QUALITY PLAN FOR
POLYMER / COMPOSITE INSULATORS.**

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
3.0	FINAL TESTING: (as per IEC: 61109, 62217 & 60383).			
3.1	Routine Tests	1 Visual Examination.	100% testing by Manufacturer.	Test reports to be submitted for review.
		2 Dimensions Check.		
		3 Verification of Routine test Load withstand capacity.		
3.2	Acceptance Tests	1 Visual Examination.	Testing of Samples as per norms of IEC.	CHP
		2 Verification of Dimensions.		
		3 Verification of Locking System.		
		4 Verification of Tightness of the interface between fittings and insulator housing.		
		5 Verification of the specified mechanical load SML.		
		6 Galvanising Test.		
3.3	Type Tests	1 Wet Power Frequency Test.	TC verification.	Type Test certificates for same design Insulators, not older than 5 years to be submitted. For new design, type test will be conducted on one sample or as per mutual agreement.
		2 Dry Lighting Impulse withstand voltage test.		
		3 Wet switching impulse withstand voltage test for insulators intended for systems with Um ≥ 300 kV.		
		4 Damage Limit proof test and test of the tightness of the interface between end fittings and insulator housing. (as per IEC: 61109 cl. 11.2).		
		5 Artificial Pollution Test by Salt Fog method.		
		6 RIV Test.		
		7 Corona Extinction Test.		
		8 Flammability Test (Horizontal Burning Test) on housing shed.		
		9 High Pressure Water withstand test.		
		10 Hardness test on Housing Material (as per IEC 62217 cl. 9.3).		
		11 UV Weathering Test.		
4.0	PACKING, PRE-SHIPMENT & DISPATCH:			
4.1	PACKING & PRE-SHIPMENT.	1 Visual Verification.	Measurement & Visual.	
		2 Wrapping in polythene cover.		
		3 Packing in cartons.		
		4 Quantity Verification.		
		5 Identification.		

TATA POWER		The Tata Power Company Limited Corporate Engineering-Quality Assurance Inspection & Testing			
TPQAIT-QAXX-00-EX-SQP-090 REV.0		STANDARD QUALITY PLAN FOR POLYMER / COMPOSITE INSULATORS.		Date of Issue:	
Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS	
1	2	3	4	5	
4.2	DISPATCH.	Issue of Release note / MDCC.		Customer Hold Point.	
N O T E	<p>A) ALL MATERIAL SHALL BE AS PER APPROVED DRAWING/ DATA SHEET. B) STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR. C) TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY FOR MATERIAL TRACEABILITY. D) FINAL INSPECTION OF THE MAJOR ACTIVITIES ARE WITNESSED BY CLIENT AND IT IS HOLD POINT (AT THE DISCRETION TATA POWER) E) MANUFACTURER SHALL PREPARE AND SUBMIT COMPLETE MANUFACTURING QUALITY PLAN IN PRESCRIBED FORMAT OR THEIR REGULAR FORMAT INDICATING THEIR REGULAR PRACTICES, TAKING CARE OF MINIMUM REQUIREMENT AS INDICATED ABOVE. F) INSPECTION OF THE MAINTAINCE SPARES SHALL BE OFFERED ALONG WITH THE MAIN SUPPLY AS PER THE INSPECTION STAGES OF 1 TO 4. G) CALIBRATION CERTIFICATES OF THE EQUIPMENT USED FOR TESTING SHALL BE PROVIDED FOR REVIEW. H) TATA POWER RESERVES THE RIGHT TO DEMAND / VERIFY/ AUDIT/ WITNESS ANY OF THE CHECK POINTS MENTIONED IN THE SCOPE OF SUPPLIER</p>				
Meant for (Internal Circulation / External – Stakeholders Circulation)					



THE TATA POWER COMPANY LIMITED

STANDARD
TECHNICAL SPECIFICATION
FOR
Clamps and Connectors

(DOCUMENT NO - ENGG/STD-SPEC/94/20)



Tata Power
Engineering (T&D)

Rev. No	Date	Revision History	Prepared By	Checked By	Approved By (HOD)
A	21.07.2020	Final	PSA	RKS/SVD	AM

Adangis

Amal

SVD

AM

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1. Introduction
2. Pre-Qualifying Requirements including TTR
3. System Description and Scope
4. Codes & Standards.
5. Design Requirements
6. Layout Requirements for the equipment
7. Safety Requirements
8. Operational Requirements
9. Technical Parameters of Equipment including data sheet and make list for bought out items.
10. Quality Requirements (including SQP and FQP)
11. Inspection, Testing and Performance Requirements along with Warranty
12. Mandatory Spares
13. Data Submission by Bidder
 - 13.1 With the Bid (including list of key drawings with dates/period which are part of commercial compliance)
 - 13.2 After award of contract

ENGG/ELECT/STD-SPEC/ 94/20 Rev: A Date: 21.07.2020	Standard Specification	Page 3 of 7
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1. Introduction

The document covers the specific requirements for complete design, detailed engineering, manufacture, supply, inspection & testing at Bidder's work, packing, transportation, loading and unloading, delivery to site, storage at site, handling at site, erection, testing, commissioning, performance testing and handing over of Clamps and Connectors.

All equipment, system and services covered under this specification shall comply with all current applicable statutory regulations and safety codes in the locality where the equipment is proposed to be installed. The equipment and systems shall also conform to the latest version of applicable codes and standards on the date of offer made by the Bidder unless otherwise indicated. Nothing in this specification shall be construed to relieve the Bidder of this responsibility

2. Pre-Qualifying Requirements including TTR

Refer attached Annexure 1 - PQR

3. System Description and Scope

The scope includes Engineering, design, manufacture, supply, transport to site, installation of tinned Cu clamps for connection of Lightning Arrestor, Bus Post Insulator, , Isolators, CT, CVT, Line Termination jumpers, Copper / Stranded conductor bus and Cable Sealing end.

It is not the intent of this specification to specify completely herein, all details of design & technical requirements of clamps & connectors. However, the equipment shall conform in all respects to high standards of engineering, design & workmanship.

4. Codes & Standards.

The design, manufacture, performance testing and inspection of equipment shall comply with all currently applicable statutory regulations and safety codes in the locality, where the

ENGG/ELECT/STD-SPEC/ 94/20 Rev: A Date: 21.07.2020	Standard Specification	Page 4 of 7
	Clamps and Connectors	

equipment will be installed. Nothing in this specification shall be construed to relieve the vendor of this responsibility.

IS 5561-1970 or updated version

Unless otherwise specified the equipment shall conform to the latest applicable IS, BS or IEC Standards.

5. Design Requirements

- 5.1. Plain washers should be made of mild steel and spring washers shall be made of Electro galvanized.
- 5.2. All casting shall be free from shrinking, blow holes, surface blisters, cavities and other such defects and quality of clamps should be uniform throughout. All sharp corners should be blurred and rounded off.
- 5.3. Assembly should be designed in such a way so as to have minimum contact resistance.
- 5.4. Fittings offered should be inherently resistant from atmospheric corrosion and suitably protected against corrosion during storage and in service.
- 5.5. All clamps should be with proper locking arrangement to provide less vibration and loosening.
- 5.6. Clamps should be so designed that the post insulator shall not be subjected to abnormal stress due to thermal changes in conductor.
- 5.7. The clamps shall be able to handle continuous current of 1600 amps or as specified in the drawing.
- 5.8. The clamps should be able to withstand temperature rise of 45⁰ C above the ambient temperature.
- 5.9. All ferrous metal parts intended for outdoor use, except those made of stainless steel, shall be protected by hot dip galvanizing in accordance with IS 2633 – 1964 or latest revision.
- 5.10. The threads of nuts and tapped holes shall be cut after galvanizing and shall be well oiled or greased. All other threads shall be cut before galvanizing.
- 5.11. The design should be such that it should be able to withstand the specified mechanical stresses and carry the rated current without exceeding the specified temperature rise. Minimum factor of safety should be taken as 2.
- 5.12. The connectors shall be indelibly marked with rated current or any identification mark to enable full particulars of the clamp to be supplied.
- 5.13. The following chemical composition should be maintained:

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	Clamps and Connectors	

Copper Alloy of following composition:

Sn – 0.6 to 1.5 %

Pb – 2.0 to 2.5 %

Zn – 2.0 to 3.0 %

Fe – 0.5 to 1.0 %

Cu – Balance.

Impurities should not exceed below mentioned limits :

Ni – 0.3 % max

Sb – 0.3 % max

Mn – 0.04 % max

Si – 0.04 %

P – 0.04 %

6. Layout Requirements for the equipment

NA

7. Safety Requirements

NA

8. Operational Requirements

NA

9. Technical Parameters of Equipment including data sheet and make list for bought out items.

S. No.	Description	Unit	Specific Requirements	Bidder's Response
1.0	GENERAL			
1.1	Material		Tinned Copper	
1.2	Copper Alloy of following composition: Sn – 0.6 to 1.5 % Pb – 2.0 to 2.5 % Zn – 2.0 to 3.0 % Fe – 0.5 to 1.0 %			

ENGG/ELECT/STD-SPEC/ 94/20 Rev: A Date: 21.07.2020	Standard Specification	Page 6 of 7
	Clamps and Connectors	

	Cu – Balance			
1.2	Impurities should not exceed below mentioned limits Ni – 0.3 % max Sb – 0.3 % max Mn – 0.04 % max Si – 0.04 % P – 0.04 %		Parallel redundant with Servo Control Voltage stabilizer with Static by-pass	
1.4	Continuous current carrying capacity		1400 A	
1.6	Minimum factor of safety		2	

10. Quality Requirements (including SQP and FQP)

PI refer attached Annexure 3 – Standard Quality Plan for Quality Requirements

11. Inspection, Testing and Performance Requirements along with Warranty

11.1. Inspection and Testing

PI refer attached Annexure 3 – Standard Quality Plan for Inspection and Testing Requirements.

Bidder to carry out all the type tests as per the clause no. 3.3 mentioned in the attached SQP.

11.2. Performance Requirements

11.2.1. The clamps shall be able to handle continuous current of 1400 amps or as specified in the drawings.

11.2.2. The temperature rise while carrying full load current shall not exceed 45°C above site ambient temperature.

11.2.3. Minimum factor of safety should be 2

12. Mandatory Spares

NA

ENGG/ELECT/STD-SPEC/ 94/20 Rev: A Date: 21.07.2020	Standard Specification	Page 7 of 7
	Clamps and Connectors	

13. Data Submission by Bidder

13.1 With the Bid (including list of key drawings with dates/period which are part of bidder's commercial compliance)

Following drawings and documents shall be prepared based on Owner specifications and statutory requirements and shall be submitted with the bid:

- a. Completely filled in Technical Particulars
- b. General description of the equipment and all components including brochures.
- c. General arrangement
- d. Bill of material
- e. Experience List
- f. Type test certificates

13.2 After award of contract

Sr. No	Descriptions	For Approval	For Review Information	Final submission
1.	Technical parameters	√		√
2.	Cross section Drawing		√	√
3.	QA & QC Plan	√	√	√
4.	Test Certificates	√	√	√

Clamps and Connectors

Technical Pre-qualification Requirement

Parameter	Tata Power Requirement	Documents To be submitted by Bidder to ascertain meeting of Pre-qualification requirement
Infrastructure	Bidder must be an OEM of Clamps and connectors with manufacturing facility / assembly in India.	Self-undertaking to be submitted in this regard. TATA Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.
Supply and Experience	<p>Bidder should have executed atleast one single contract during last five years for the quantity equivalent to tender/bid. Bidder shall have ten years of experience of supplying Clamps and connectors. The above quantity shall be in satisfactory service for at least last 2 years as on the date of bid submission.</p> <p>Indian Subsidiaries of global companies having plant in India are also eligible to bid if the qualification requirements stated above are met independently or in combination with the parent company. Declaration from parent company needs to be submitted.</p>	<p>Supply List & Performance Certificates from the utilities / clients</p> <p>Self-undertaking to be submitted in this regard. TATA Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.</p>
Type Test	<p>The bidder shall submit Type test reports obtained from NABL/ International Accredited Lab for the equipment / material offered. The type tests should have been conducted on the equipment / material of the same design.</p> <p>The type tests should have been conducted within 5 years prior to the date of bid opening. Time period for type test can be extended by another 5 years as a special case, if there is no change in design / material of construction (MOC).</p> <p>In case the type test reports furnished are not for the quoted equipment / material but for the equipment / material with higher voltage class and/or different capacity, then type test shall be carried out for the offered equipment / material from NABL / International Accredited Lab without any cost implication to the owner and the Type Test reports shall be submitted before despatch of the equipment / material.</p>	<p>Type Test Report.</p> <p>Undertaking that there is no change in design / material of construction (MOC) if Type Test Report older than 5 years but less than 10 years prior to date of bid opening has to be considered (if applicable)</p> <p>Undertaking that type test shall be carried out for the offered equipment / material from NABL / International Accredited Lab without any cost implication to the owner and the Type Test reports shall be submitted before despatch of the equipment / material, in case type test reports furnished are not for the quoted equipment / material but for the equipment / material with higher voltage class and/or different capacity, (if applicable)</p>
Commercial Capability		Copy of audited Balance Sheet and P&L Account to be submitted in this regard.
Installation & Commissioning for same equipment	<p>In case the package involves installation & commissioning of the equipment / material, then the bidder shall have the following experience:</p> <p>a) He should have successfully completed one single order of value (80% of estimated value of similar work in last three years) OR</p> <p>b) He should have successfully completed two single orders of value (50% of estimated value of similar work in last three years) OR</p> <p>c) He should have successfully completed three single orders of value (40% of estimated value of similar work in last three years).</p>	Performance Certificates from the utilities / clients

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Assurance
Inspection & Testing



TPQAIT-QAXX-00-EX-SQP-116
REV.0

**STANDARD QUALITY PLAN
FOR POWER LINE CLAMPS
& CONNECTORS**

Date of Issue:

Document Title
STANDARD QUALITY PLAN
FOR
POWER LINE CLAMPS & CONNECTORS

0	Initial Submission	RG	CRB (Head QAI- E)	SS Head (QA&I)	
Revision No.	Reason for revision	Prepared By & Date	Checked By & Date	Approved By & Date	Issued by & Date

Confidential & Proprietary – The Tata Power Company Ltd.

TATA POWER		The Tata Power Company Limited Corporate Engineering-Quality Assurance Inspection & Testing			
TPQAIT-QAXX-00-EX-SQP-116 REV.0		STANDARD QUALITY PLAN FOR POWER LINE CLAMPS & CONNECTORS		Date of Issue:	
Sr. No.	COMPONENT / OPERATION	CHARACTERISTICS CHECKED		TYPE / METHOD OF CHECK	Remarks
1	2	3		4	7
1	MATERIAL:	(All material shall be as per approved drawing/ data sheet/ Specifications)			
1	Aluminium & Copper Alloy	i	Mechanical, Chemical & Electrical properties as per relevant Standards & Specifications	MTC	TC Review by supplier
2	Hardware (Included Bolt, Nut, Plain Washer & Spring)	i	Galvanising Test & Mechanical Tests as per relevant Standards & Specifications	MTC	TC Review by supplier
		ii	Surface Fishing and Dimensional Checks	Visual	To be carried out by supplier
2	INPROCESS INSPECTION: (Generally in line with manufacturer standard)				To be carried out by supplier
3	FINAL INSPECTION - (IS 5561)				
3.1	Routine Tests	i	Visual Checks	Testing and Measurement	100% review by Tata Power
		ii	Dimension Checks		
3.2	Acceptance Test	i	Tensile Strength Test	Testing and Measurement	CHP (On sample basis as per IS)
		ii	Resistance Test		
		iii	Dimension Checks		
		iv	Galvanising Test (if applicable)		
3.3	Type tests	i	Temperature Rise	Testing and Measurement	Review of approved type test reports during final inspection
		ii	Short Time Current Test		
4	PACKING, PRE-SHIPMENT & DISPATCH:				
4.1	PACKING	i	Overall Dimensions & Weight.		
		ii	Completeness of accessories & fittings.		
		iii	Packing of Accessories.		
		iv	Spares as ordered, a set of spare gaskets		
4.2	PRE-SHIPMENT	i	Blanking of Openings.		
		ii	Paint finishing, cleaning and touch-up.		
4.3	DISPATCH		Issue of Inspection Release note / MDCC.		CHP
N O T E	A) ALL MATERIAL SHALL BE AS PER APPROVED DRAWING/ DATA SHEET/ TECHNICAL SPECIFICATIONS.				
	B) STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.				
	C) TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY FOR MATERIAL TRACEABILITY.				
	D) FINAL INSPECTION OF THE MAJOR ACTIVITIES ARE WITNESSED BY CLIENT AND IT IS HOLD POINT (AT THE DISCRETION TATA POWER)				
	E) MANUFACTURER SHALL PREPARE AND SUBMIT COMPLETE MANUFACTURING QUALITY PLAN IN PRESCRIBED FORMAT OR THEIR REGULAR FORMAT INDICATING THEIR REGULAR PRACTICES, TAKING CARE OF MINIMUM REQUIREMENT AS INDICATED ABOVE.				
	F) INSPECTION OF THE MAINTAINCE SPARES SHALL BE OFFERED ALONG WITH THE MAIN SUPPLY AS PER THE INSPECTION STAGES OF 1 TO 4.				
	G) CALIBRATION CERTIFICATES OF THE EQUIPMENT USED FOR TESTING SHALL BE PROVIDED FOR REVIEW.				
	H)TATA POWER RESERVES THE RIGHT TO DEMAND / VERIFY/ AUDIT/ WITNESS ANY OF THE CHECK POINTS MENTIONED IN THE SCOPE OF SUPPLIER.				
Confidential and Proprietary -- The Tata Power Company Limited.					

SECTION B2.1

CHAPTER ## 1.7

**PROJECT SPECIFIC DESIGN GUIDELINES FOR CIVIL,
STRUCTURAL AND ARCHITECTURAL WORKS
FOR
“SUPPLY AND FABRICATION OF STRUCTURAL STEEL”**

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1. Introduction.

This specification covers the general requirements for supply where specified, detailing fabrication and delivery at site of structural steel.

2. Pre-Qualifying Requirements and Approved Vendor List

Refer bidder qualification and attached approved vendor list.

3. System Description and Scope

This specification covers the general requirements for supply where specified, detailing fabrication and delivery at site of structural steel.

This specification also covers design of all connections and substituted members, preparation of all shop fabrication drawings, inspection and shop painting of structures.

4. Codes & Standards.

The following specifications, standards and codes are made a part of this specification. All standards, specifications and codes of practices referred to herein shall be the latest editions including all applicable official amendments and revisions.

APPLICABLE CODES

The following Indian Standard Codes, unless otherwise specified herein, shall be applicable. In all cases, the latest revision of the codes shall be referred to.

Material

IS: 808	Dimensions for Hot Rolled Steel sections
IS: 814	Covered Electrodes for Manual Metal Arc Welding of Carbon and Carbon Manganese Steel
IS: 1161	Steel Tubes for structural purposes
IS: 1363	Hexagon Head Bolts, Screws and Nuts of product (Parts 1 to 3) Grade C (Size range M5 to M64)
IS: 1367	Technical Supply Conditions for Threaded Fasteners (All Parts)
IS: 1852	Rolling and Cutting Tolerances for Hot Rolled Steel Products
IS: 2062	Hot Rolled Low, medium and high tensile, structural steel.
IS: 2074	Ready Mixed Paint, Air drying, Red Oxide Zinc Chrome and Priming
IS: 3502	Steel Chequered Plate

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IS: 3757	High Strength Structural Bolts
IS : 5369	General Requirements for Plain Washers and Lock Washers
IS: 5372	Taper Washers for Channels
IS: 5374	Taper Washer for Me Beams
IS: 6610	Heavy Washers for Steel Structures

Code of Practice

IS: 800	Code of Practice for General Construction in Steel
IS: 816	Code of Practice for use of Metal Arc Welding for General construction in Mild Steel
IS: 822	Code of Procedure for Inspection of Welds
IS: 1182	Recommended Practice for Radiographic examination of Fusion - Welded Butt Joints in Steel Plates
IS: 1200	Method of Measurement in Building Civil Engineering Works
IS: 1477	Code of Practice for Painting of (Parts 1 & 2) Ferrous Metals in Buildings
IS: 2595	Code of Practice for Radiographic Testing
IS: 3658	Code of Practice for Liquid Penetrant Flaw Detection
IS: 4000	High strength bolts in Steel Structures - Code of Practice
IS: 5334	Code of Practice for Magnetic Particle Flaw Detection of Welds
IS: 7215	Tolerances for Fabrication of Steel Structures
IS: 9595	Recommendations for Metal Arc Welding of Carbon and Carbon Manganese Steel

5. Design Requirements

DRAWINGS

The EPC Contractor (CONTRACTOR) shall furnish drawings wherever required. Such drawings are required to show member design forces, size and orientation of each member, location/size of openings, connection design, structural steel detailing, fabrication drawings, sequence of priorities etc. The drawings shall be submitted to OWNER for Information/ Approval. The CONTRACTOR shall follow strictly such drawings.

6. Layout Requirements for the equipment

As per detailed drawing

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7. Operational Requirements

Not Applicable

8. Technical Parameters of Equipment including Data Sheet

Technical Parameters

8.1 STEEL MATERIALS

Steel materials shall comply with the IS specifications laid down under clause 4.0 and/or as called for on the design drawings.

All materials used shall be new, unused and free from defects. (Re-rolled Materials shall not be used) and all materials shall be procured from OWNERS accepted source only.

8.2 DRAWINGS PREPARED BY THE CONTRACTOR

8.2.1 Preparation of design drawings shall be under scope of the CONTRACTOR. These drawings shall be submitted to the OWNER for Approval. These design drawings shall show all the levels, forces on members where necessary, size and orientation of each member, location/size of openings etc.

8.2.2 The OWNER reserves the right to make changes. Revisions to drawings, even after release for preparation of shop drawings, are very likely to be made to reflect additional data/details received and updated requirements. Revisions to drawings and any new drawings made to include additional work by the CONTRACTOR shall be considered a part of this specification and contract. The OWNER shall not entertain any extra claims on this account.

8.2.3 The CONTRACTOR shall prepare all fabrication and erection drawings for the entire work. All the drawings for the entire work shall be prepared in metric units. The drawings shall preferably be of one standard size and the details shown there in shall be clear and legible.

8.2.4 The CONTRACTOR shall not commence detailing and preparation of shop drawings unless, design drawings/ documents are officially approved by OWNER. The CONTRACTOR shall be responsible for the correctness of all fabrication drawings. Fabrication drawings shall be revised by the CONTRACTOR to reflect all revisions in design drawings as and when such revisions are suggested/ directed by the OWNER.

8.2.5 All fabrication drawings shall be submitted to the OWNER for approval.

8.2.6 No fabrication drawings will be accepted for OWNER approval unless checked and approved by the CONTRACTOR's qualified structural engineer and accompanied by an erection plan showing the location of all pieces detailed. The CONTRACTOR shall ensure that connections are detailed to obtain ease in erection of structures and in making field connections.

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8.2.7 Fabrication shall be started by the CONTRACTOR only after OWNER approval of fabrication drawings. Approval by the OWNER of any of the drawings shall not relieve the CONTRACTOR of the responsibility for correctness of OWNER & design of connections, workmanship, fit of parts, details, material, errors or omissions of any and all work shown thereon. The OWNER approval shall constitute approval of only the size of members, dimensions and general arrangement but shall not constitute approval of the connections between members and other details.

8.2.8 The drawings prepared by the CONTRACTOR and all subsequent revisions etc. shall be at the cost of the CONTRACTOR for which no separate payment will be made.

8.3 FABRICATION

8.3.1 General

All workmanship and finish shall be of the best quality and shall conform to the best approved method of fabrication. All materials shall be finished straight and shall be machined/ground smooth true and square where so specified. All holes and edges shall be free of burrs. Shearing and chipping shall be neatly and accurately done and all portions of work exposed to view shall be neatly finished. Unless otherwise directed/ approved, reference may be made to relevant IS codes for providing standard fabrication tolerance. Material at the shops shall be kept clean and protected from weather.

8.3.2 Connections

8.3.2.1 Shop/field connections shall be as per approved fabrication drawings.

8.3.2.2 In case of bolted connections, taper washers or flat washers or spring washers shall be used with bolts as necessary. In case of high strength friction grip bolts, hardened washers be used under the nuts or the bolt heads whichever are turned to tighten the bolts. The length of the bolt shall be such that at least one thread of the bolt projects beyond the nut, except in case of high strength friction grip bolts where this projection shall be at least three times the pitch of the thread.

8.3.2.3 In all cases where bearing is critical, the unthreaded portion of bolt shall bear on the members assembled. A washer of adequate thickness may be provided to exclude the threads from the bearing thickness, if a longer grip bolt has to be used for this purpose.

8.3.2.4 All connections shall be designed for loads indicated in the design drawing unless otherwise specified in the design drawings. Splices shall be designed for the full strength of the members.

8.3.2.5 All bolts, nuts, washers, electrodes, screws etc. shall be supplied/brought to site 10% in excess of the requirement in each category and size.

8.3.2.6 All members likely to collect rain water shall have drain holes provided.

8.3.3 Straightening

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- All materials, shall be straight and, if necessary, before being worked shall be straightened and/or flattened by pressure and shall be free from twists. Heating or forging shall not be resorted to without the prior approval of the OWNER in writing.
- 8.3.4 Cutting, punching, drilling, welding and fabrication tolerances shall be generally as per relevant IS codes.
- 8.3.5 Rolling and Forming
Plates, channels, R.S.J. etc., for circular bins, bunkers, hoppers, gantry girders, etc., shall be accurately laid off and rolled or formed to required profile/ shape as called for on the drawings. Adjacent sections shall be match-marked to facilitate accurate assembly, welding and erection in the field.
- 8.3.6 High Strength Friction Grip Bolting
- 8.3.6.1 Inspection after tightening of bolts shall be carried out as stipulated in the appropriate standards depending upon the method of tightening and the type of bolt used.
- 8.3.7 Welding
- 8.3.7.1 Welding procedure shall be submitted to OWNER for approval. Welding shall be entrusted to only qualified and experienced welders who shall be periodically tested and graded as per welding procedure specification (WPS) & welder qualification shall be established at site under owner OWNER as per ASME sec-IX. / AWS D.1.1.
- 8.3.7.2 While fabricating plated beams and built up members, all shop splices in each component part shall be made before such component part is welded to other parts of the members. Wherever weld reinforcement interferes with proper fit-up between components to be assembled for welding, these welds shall be ground flush prior to assembly.
- 8.3.7.3 Approval of the welding procedure by the OWNER shall not relieve the CONTRACTOR of his responsibility for correct and sound welding without undue distortion in the finished structure.
- 8.3.7.4 No welding shall be done when the surface of the members is wet nor during periods of high wind.
- 8.3.7.5 Each layer of a multiple layer weld except root and surfaces runs may be moderately peened with light blows from a blunt tool. Care shall be exercised to prevent scaling or flaking of weld and base metal from overweening.
- 8.3.7.6 No welding shall be done on base metal at a temperature below -5 Deck. Base metal shall be preheated to the temperature as per relevant IS codes.
- 8.3.7.7 Electrodes other than low-hydrogen electrodes shall not be permitted for plate thicknesses of 32 mm and above (consumable used shall be approved by owner. Only approved makes of electrodes shall be allowed for welding).
- 8.3.7.8 Inspection of Welds

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All welds shall be inspected for flaws by any of the methods described under clause 8.4 "Inspection". The choice of the method adopted shall be to the approval of OWNER.

(In case necessary to join the rolled section (ISMC to ISMC and ISMB to ISMB) by Butt joint, specific approval the approval for the same shall be obtained from the owner and 10 % length of such joints shall be Radiographed.)

Minimum of 10 % of the fillet & butt welds shall be tested by DPT / MPT

8.3.7.9 The repairing of defective welds shall be carried out as directed by the OWNER without damaging the parent metal. When a crack in the weld is removed, magnetic particle inspection or any other equally positive means as prescribed by the OWNER shall be used to ensure that the whole of the crack and material up to 25 mm beyond each end of the crack has been removed. Cost of all such tests and operations incidental to correction shall be to the CONTRACTOR's account.

8.3.8 Tolerances

The dimensional and weight tolerances for rolled shapes shall be in accordance with IS: 1852 for indigenous steel and equivalent applicable codes for imported steel. The tolerances for fabrication of structural steel shall be as per IS: 7215.

8.3.9 End Milling

Where compression joints are specified to be designed for bearing, the bearing surfaces shall be milled true and square to ensure proper bearing and alignment.

8.4 INSPECTION

8.4.1.1 The CONTRACTOR shall give due notice to the OWNER in advance of the works getting ready for inspection. All rejected material shall be promptly removed from the shop and replaced with new material for the OWNER approval/ inspection. The fact that certain material has been accepted at the CONTRACTOR's shop shall not invalidate final rejection at site by the OWNER if it fails to conform to the requirements of these specifications, to be in proper condition or has fabrication inaccuracies which prevents proper assembly nor shall it invalidate any penalty which the OWNER may make because of defective or unsatisfactory materials and/or workmanship.

8.4.1.2 No materials shall be painted or dispatched to site without inspection and approval by the OWNER unless such inspection is waived in writing by the OWNER.

8.4.1.3 The CONTRACTOR shall provide all the testing and inspection services and facilities for shop work except where otherwise specified.

8.4.1.4 For fabrication work carried out in the field the same standard of supervision and quality control shall be maintained as in shop fabricated work. Inspection and testing shall be conducted in a manner satisfactory to the OWNER.

8.4.2 Inspection and tests on structural steel members shall be as set forth below:

8.4.2.1 Material Testing

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If mill test reports are not available for any steel materials supplied by the CONTRACTOR the same shall be got tested by the CONTRACTOR to the OWNER satisfaction to demonstrate conformity with the relevant specification. (Only in NABL Approved Lab)

8.4.3 Magnetic Particle Test

Where welds are examined by magnetic particle testing, such testing shall be carried out in accordance with relevant IS codes. If heat treatment is performed, the completed weld shall be examined after the heat treatment. All defects shall be repaired and retested. Magnetic particle tests shall be carried out using alternating current. Direct current may be used with the permission of the OWNER.

8.4.4 Liquid Penetrant Inspection

In the case of welds examined by Liquid Penetrant Inspection, such tests shall be carried out in accordance with relevant IS Code. All defects shown shall be repaired and rechecked.

8.4.5 Radiographic Inspection

All full strength butt welds shall be radiographed in accordance with the recommended practice for radiographic testing as per relevant IS code.

8.4.6 Dimensions, Workmanship & Cleanliness

Members shall be inspected at all stages of fabrication and assembly to verify that dimensions, tolerances, alignment, surface finish and painting are in accordance with the requirements shown in the approved fabrication drawings.

8.4.7 Test Failure

In the event of failure of any member to satisfy inspection or test requirement, the CONTRACTOR shall notify the OWNER or his authorized representative. The CONTRACTOR must obtain permission from the OWNER before repair is undertaken. The quality control procedures to be followed to ensure satisfactory repair shall be subject to approval by the OWNER.

8.4.8 The OWNER has the right to specify additional testing as he deems necessary, and the additional cost of such testing shall be borne by the OWNER, only in case of successful testing.

8.4.9 The CONTRACTOR shall maintain records of all inspection and testing which shall be made available to the OWNER or his authorized representative.

8.5 SHOP MATCHING

For other steel work, such as columns along with the tie beams/bracings may have to be shop assembled to ensure satisfactory fabrication, obtaining of adequate bearing areas etc. if so desired by the OWNER. All these shop assemblies shall be carried out by CONTRACTOR at no extra cost to the OWNER.

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8.6 DRILLING HOLES FOR OTHER WORKS

As a part of this Contract, holes in members required for installing equipment or steel furnished by other manufacturers or other contractors shall be drilled by the CONTRACTOR at no extra cost to the OWNER. The information for such extra holes will be supplied by the OWNER.

8.7 MARKING OF MEMBERS

8.7.1 After checking and inspection, all members shall be marked for identification during erection. This mark shall correspond to distinguishing marks on approved erection drawings and shall be legibly painted and stamped on it. The erection mark shall be stamped with a metal dye with figures at least 20 mm high and to such optimum depth as to be clearly visible.

8.7.2 All erection marks shall be on the outer surface of all sections and near one end, but clear of bolt holes. The marking shall be so stamped that they are easily discernible when sorting out members. The stamped marking shall be encircled boldly by a distinguishable paint to facilitate easy location.

8.7.3 Erection marks on like pieces shall be in identical locations. Members having lengths of 7.0 m or more shall have the erection mark at both ends.

8.8 ERRORS

Any error in shop fabrication which prevents proper assembling and fitting up of parts in the field by moderate use of drift pins or moderate amount of reaming will be classified by the OWNER as defective workmanship. In case OWNER rejects such material or defective workmanship, the same shall be replaced by the materials and workmanship conforming to the OWNER requirements by CONTRACTOR free of cost at site.

8.9 PAINTING

8.9.1 All fabricated steel material, except those galvanized shall receive protective paint coating as specified refer separate section.

9. **QUALITY REQUIREMENTS (INCLUDING SQP AND FQP)**

As per approved SQP and FQP and Annexure

10. **INSPECTION, TESTING AND PERFORMANCE REQUIREMENTS ALONG WITH WARRANTY**

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As per approved SQP and FQP and Annexure

11. DATA SUBMISSION BY BIDDER

11.1. With the Bid - Not Applicable

11.2. After award of contract - SQP, FQP, Field test report and drawings.
(Site fabrication inspection shall be done as per the approved field quality plane (FQP).
Contractor/agency shall submit the FQP at least 15 days before start of job.).

TATA POWER

GENERAL REQUIREMENTS OF QUALITY ASSURANCE & INSPECTION

[SHALL BE A PART OF GENERAL TECHNICAL CONDITION]

Document No.: TPQAIT-QAXX-00-GN-QSP-214



Rev 02 Dated 19/05/2017	DP /RP/RG/PU <i>al</i>	SKJ/ RM/CRB <i>SD 19/05/17</i>	SS <i>Sundar 19/05/17</i>
Rev 01 Dated 21/07/2016	SKJ / DP	RG	SS
Rev 00 Dated 21/04/2015	RG / SKJ / PU	SS	SS
Revision no. & Date	Prepared By	Reviewed By	Approved by

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1.0 PURPOSE

Purpose of these requirements is to provide uniform general requirements for implementation of Quality Management System for projects being executed by OWNER.

2.0 SCOPE

- 2.1 Scope of these requirement covers pre-requisites of the Bidder's/ Supplier's/ Contractor's Quality Management System (QMS) applicable for all phases of contract execution including design, procurement, manufacture, testing, erection and commissioning, applicable other services and further to establish specific factors for which control shall be carried and put into continuing operation by the Bidder/ Supplier /Contractor to ensure that all supplies and services comply with the contract requirements.
- 2.2 The required/specified reliability & other characteristics of quality should initially be "designed in" and then "built in". It is emphasized that satisfactory product and system performance can be achieved only through strict control of all design, manufacturing and erection/installation processes as well as test and inspection.
- 2.3 During bid stage itself, BIDDER shall submit requisite documents to demonstrate that as a supplier/ contractor they have well defined and implemented QMS. They shall also establish that their QMS is taking care of their sub-supplier/agencies, and continually improve its effectiveness in accordance with the requirements of their QMS as per ISO 9001, or any other quality standard.

BIDDER shall submit a project specific organization chart defining the permanent positions responsible for QMS accompanied by a brief description of each position's function and responsibility.

3.0 DEFINITION

- **OWNER**
Tata Power or its subsidiaries/ JV partners.
- **Bidder**
An organization/ agency, who propose to submit their offer against RFQ/enquiry floated by OWNER. Only successful bidder will be converted to supplier/ contractor on award of contract by OWNER.
- **Supplier / Contractor**
An organization referred as Supplier/ contractor, who execute the contract awarded by Contracts department of OWNER. It also covers the Agency involved in execution of site/ field activities or provides services (as a contractor) when awarded by Contracts department of OWNER. A Supplier can also be a manufacturer for part of supply for his in-house products.
- **Sub-Supplier/ Sub-vendor**
An organization, who manufactures, supplies the system or equipment or item and provides services to the supplier. It also covers manufacturer who manufactures and supplies the equipment or its components or items to the sub-suppliers to complete the system supply. It

should also cover the agencies which also support execution of main supplier by providing qualified manpower/ services.

- **Third Party Inspection Agency (TPIA)**
An third party organization or any neutral agency mutually agreed, deputed for conducting inspection or quality surveillance activities on case to case basic.
- **Inspection Agency (IA)**
An organization or any agency deputed by OWNER for conducting inspection or quality surveillance activities on behalf of OWNER on case to case basic.
- **Inspection Categorization Plan (ICP)**
This document shall categorize the Quality Plan and Inspection scope of all equipment/ items in the package. This will also include the schedule for submission and approval of all Quality related documents.
- **Standard Quality Plan (SQP)/ Standard Field Quality Plan (SFP)**
SQP shall comprise of minimum basic requirements of all tests/checks to be carried out during manufacturing to meet/ conform technical requirement. SQP may be in the form of Inspection & Test Plan (ITP)/ Technical Specification as part of Bid Document.
Similarly SFP shall comprise of minimum basic requirements of all field tests/checks to be carried out during execution of the project.
- **Manufacturing Quality Plan (MQP)**
MQP shall comprise of all tests/ checks indicated in standard Quality Plan (SQP) and tech specifications. It shall also include any additional quality checks/ tests required as per discussions (pre & post bid) to be followed during manufacturing of particular item/ equipment.
- **Field Quality Plan (FQP)**
FQP shall detail out the activities and steps to be performed at project site and shall be followed from receipt of material to pre-commissioning stage. FQP shall be prepared by contractor and to be submitted to OWNER at post award stage of contract for owner's approval.
- **Hold Point/ Customer hold point (CHP)**
A check point for an activity mentioned in approved MQP/ FQP, which requires inspection/ verification, and acceptance by the OWNER or its representative for this stage before any further work is permitted.
Supplier shall not process beyond a CHP without written acceptance & clearance of that activity by OWNER in writing
- **Witness Point**
A check point for an activity mentioned in the approved MQP/ FQP, which will be witnessed by OWNER or its representative.
Supplier will obtain consent from OWNER to proceed for further work, in case OWNER or its representative is not able to attend the activity within notification period.

- **Review / Verification Point**

A check point for an activity mentioned in the approved MQP/ FQP that requires review of document/ test record by OWNER or its representative performed by the Supplier for acceptance.

- **Test Report Record**

Such reports / record are document prepared by Supplier/ Sub-Supplier for test/ check conducted indicating details / types of test including test results, relevant codes etc.

- **Inspection Report (IRT)**

Such report which covers details of all the checks / activities carried out as per approved MQP. It also covers details of the observations and NCRs during those checks / inspection.

- **Inspection Release Note (IRN)**

IRN is a document issued on standard format after successful quality checks/inspection and confirming to compliances of all observations and NCs if any).

- **Non Conformity Report (NCR)/ Quality Correction Action Report (QCAR)**

It is a report on deviation/ non-compliance with respect to the requirements laid down in the PO/ Technical Specification, MQP, Codes & standards. NCR shall be applicable during inspection at Shop as well during site Audits and QCAR shall be applicable for site inspection / surveillance.

4.0 QUALITY ASSURANCE PROGRAMME

To ensure that the equipment and services under the scope of contract whether manufactured or performed within the Bidder/ Supplier /Contractor's works or at his sub-vendor's premises or at site or at any other place of work are in accordance with the specifications, the Bidder/ Supplier/ Contractor shall adopt suitable project specific QMS based on his organization's Quality Management System, regular practice, statutory requirements and as specified for this specific contract and submit the same for approval of OWNER, to control such activities at all points, as necessary. Such program shall be outlined by the Bidder/ Supplier/ contractor. Any deviation with respect to all above requirements (as specified in SQP, SFP, Technical specification as minimum quality requirements) shall be brought out clearly in the bid stage by bidder.

5.0 SUPPLIER QUALITY MANAGEMENT SYSTEM (QMS)

- 5.1 All materials, components and equipment covered under the contract including bought outs shall be procured, manufactured and tested at all the stages, as per a comprehensive Quality Assurance Programme. It is the Bidder/ Supplier / Contractor's responsibility to draw up and implement such program duly approved by the OWNER.
- 5.2 All items/equipment in the scope of the contract shall be classified into categories according to the criticality or other attributes of items/ equipment. A detailed proposal addressing vendor approvals and quality control of all such items/ equipment shall be proposed to OWNER for approval.
- 5.3 The detailed quality plans for shop manufactured items and for field activities including civil works (if applicable) shall be drawn up by the Bidder/ Supplier / Contractor separately.

All shop quality plans and field quality plans shall be submitted to OWNER for approval prior to start of manufacturing activities and site activities respectively.

- 5.4 Manufacturing quality plans shall detail out various tests/ inspections to be carried out as per the requirement of the specification, standards mentioned therein, quality practices and procedures followed by Supplier's/ his sub vendor's quality control department. MQP shall be prepared by manufacturer and submitted through supplier post award stage of contract for owner's approval. OWNER approved MQP to be referred during manufacturing & shop inspection. Typical format of Manufacturing Quality Plan is enclosed as **Exhibit A**.
- 5.5 Field quality plans shall detail out for all equipment, the quality practices and procedures etc. to be followed by the execution agency, during various stages of site activities right from receipt of materials/ equipment at site to commissioning stage covering receipt, storage, erection & pre-commissioning tests. It shall comprise of all tests / checks indicated in SFP & Technical Specification including any additional quality checks / tests required as per discussions (pre & post bid). It shall also take care of minimum basic requirement of OEM/manufacturer (as the execution agency may not be part of OEM/manufacturer). OWNER approved FQP is to be referred during execution of work. FQP shall have 5 stages: Receipt, Storage, Pre-erection/ pre fabrication, Erection/ Execution and pre commissioning checks with categorization of checks as Critical (Cr), Major (Mj) and Minor (Mn). Typical format of Field Quality Plan is enclosed as **Exhibit B**.
- 5.6 In these approved manufacturing and field quality plans, OWNER shall identify "Customer Hold Points" & "Witness Points". "Customer Hold Points" are test/checks which shall be carried out in presence of the OWNER's Engineer or its authorized representative and beyond which the work shall not proceed without consent of OWNER/ its authorized representative in writing. "Witness Points" are tests/checks which shall be carried out in presence of the OWNER's Engineer or its authorized representative but the work can proceed to next operation/ stage in case OWNER's Engineer doesn't attend on the mutually agreed date. The above procedure shall be applicable to the Bidder/ Supplier / Contractor's bought out equipment/ items also.
- 5.7 All the critical & major items shall be procured from the sub-vendors approved by OWNER by supplier/vendor/contractor. Detailed list of such sub-vendors offered by supplier/vendor/contractor shall be submitted not later than 7 days after the LOI/ Placement of order whichever is earlier and shall be frozen within 15 days of submission. Request for additional sub-vendors shall not be entertained from the Bidder/ Supplier / Contractor after the sub-vendor list is finalized and frozen. Only in case of Force Majeure Condition, Supplier/ contractor shall establish such condition and propose new/ alternative source. Contractor / supplier shall provide requisite documents for consideration of OWNER. OWNER has right to accept/ reject based on review of details. If required, physical assessment shall be made before conveying such decision. Delays arising out of such exercises shall be entirely to the account of Supplier/ Contractor and shall not relieve him from any obligation, duty or responsibility under the contract. For intended manufacturer/ sub-vendors/ sub-suppliers, details to be submitted are indicated below:
- i. Rating, Range / type etc. of equipment/ item for proposed approval.
 - ii. Organisational structure including QA/QC inspection dept with man power & qualification details.
 - iii. In house design / R&D capability.
 - iv. List of sub-vendors for critical/ major bought out items.

- v. In-coming material inspection plan and Manufacturing Quality Plan.
- vi. In house manufacturing facilities, including process flows.
- vii. In house Testing facilities (including Type testing).
- viii. Experience (Past Track Record) list for last 3 yrs for similar product.
- ix. Performance certificates issued by other customers.
- x. Certification of/ by reputed agencies (ISO/ ASME/ CE/ UL/API/ etc) & also approval certificates from other customers etc.
- xi. Quality Manual.
- xii. Assessment report by contractor/ supplier and their own experience.

5.8 Non Conformance Report (NCR) / Quality Correction Action Report (QCAR)

Wherever the non-conformity is found during inspection either by Supplier or OWNER or its representatives, NCR / QCAR shall be issued in prescribed format. Manufacturer /Supplier shall indicate the Correction / CAPA and submit these NCRs/QCARs to OWNER or its representative for their review & resolution. Till such time identified item/equipment will be kept under quarantine. Upon satisfactory completion of the rectification work, final acceptance of the item/equipment shall be documented on the NCR/QCAR format.

Supplier has to close all NCR / QCAR in systematic & time bound manner including all corrective and preventive actions. Job shall progress only after effective resolution of NCR / QCAR.

Note: If OWNER observes that any material or equipment is unacceptable with respect to potential safety, reliability, interchangeability or workmanship, OWNER shall issue a non-conformance report NCR / QCAR in this regard to the Supplier/ Contractor. Such NCR/QCAR shall be dealt as above.

- 5.9 No material shall be dispatched from the Bidder's/ Supplier's/ Contractor's /manufacturer's works before the dispatch instruction is given in writing by the owner. subsequent to pre-dispatch inspection including verification of records of all previous tests/ inspections by OWNER/ authorized representative. Any such item/material dispatched by party without clearance from OWNER shall be at suppliers risk & cost only. No IRN/ dispatch clearance shall be issued for the same as post facto.
- 5.10 OWNER or its nominated representative reserves the right to carry out quality audit/ quality surveillance of the systems and procedures of the Bidder/ Supplier/ Contractor's or their sub-vendor's Quality Management System and control activities without prior intimation. The Bidder/ Supplier/ Contractor shall provide all necessary assistance to OWNER or its nominated representative to carry out such audit/ surveillance.
- 5.11 The Bidder/ Supplier/ Contractor shall be responsible for providing, controlling, calibrating, and maintaining the 'measuring & test equipment' required by them for demonstrating compliance of supplies within contract requirements at shop and at site. All the measuring instruments shall be calibrated at periodic intervals determined by Bidder/ Supplier/ Contractor/ sub-vendor on the basis of his suitability, purpose and usage as per the system adopted by him for calibration of such measuring and test equipment. However, in no case, shall the interval between successive calibrations be more than 12 months. All measuring and test instruments shall have valid calibration certificates and calibration data shall be made available to OWNER or its nominated representative on demand.

- 5.12 Quality surveillance/ approval of the results of the tests and inspection shall not, however, prejudice the right of the OWNER to reject the equipment if it does not comply with the specification when erected or does not give complete satisfaction in service and the above shall in no way limit the liabilities and responsibilities of the Bidder/ Supplier / Contractor in ensuring complete conformance of the materials/ equipment supplied to relevant specification, standard, data sheets, drawings etc.
- 5.13 For all spares and replacement items, the quality requirements as agreed for the main equipment supply shall be applicable. Inspection of all mandatory spares and commissioning spares shall be in line with the approved MQP of respective equipment/ item. Interchangeability Certificate shall also be part of quality records for all spares.
- 5.14 **Statutory Inspection**
Supplier to ensure that Equipment/ items which fall under statutory requirements of country where the equipment will be installed, shall be inspected by statutory authority like IBR etc. In case of imported items, statutory inspection will be carried out by the agency as nominated by Statutory Authority or Statutory authority of the country of origin. Original certificates endorsed by statutory authorities shall be submitted to project manager as identified in the contract.
Such items shall also be offered to OWNER for inspection irrespective of country of origin.
- 5.15 **Failure to Pass Tests**
If any item/ equipment fail to pass any test, the Bidder/ Supplier shall rectify or replace the same and, unless OWNER agrees to dispense with repetition of the test, shall repeat the test following a further notice. The cost and expense of any such retest shall be fully borne by the Bidder/ Supplier only.
- 5.16 Major repair/rectification procedures to be adopted to make the job acceptable shall be subject to the approval of the OWNER/ its authorized representative.
- 5.17 All tests shall be carried out to the satisfaction of the OWNER/ its authorized representative either in their presence or as agreed by OWNER. All reports/ protocols, site and shop inspection reports shall be developed specific to the requirements of the project which is acceptable to OWNER. The same shall be applicable to erection testing and pre-commissioning reports and protocols also.
- Only tested, inspected and accepted (by owner) material as listed in PO / ICP shall be dispatched to project site.** Any diversion of such accepted material without any prior approval shall be considered as deviation/ breach of contract and a minimum penalty of 5 times the cost of inspection will be levied.
- 5.18 Approval of any concession shall be the prerogative of the OWNER and approval of concession for a particular case shall not be set as a precedent.

- 5.19 All the equipment shall be of proven design and type tested. Valid type test reports shall be furnished to engineering for review and acceptance prior to offering equipment for inspection.
- 5.20 All documents/ reports/ records shall be issued either in English language or bilingual with English.

6.0 INSPECTION CATEGORIZATION PLAN, WELDING & NDT REQUIREMENT

6.1 Inspection Categorization Plan (ICP)

This document shall be prepared by supplier and to be submitted to OWNER for approval in attached standard format for all package items within 15 days of award of contract. The schedule shall be prepared considering that all MQP should be approved at-least 15 days prior to start of any manufacturing activity and FQP with related procedures shall be finalized at least 15 days prior to dispatch schedule/ site mobilization.

ICP, MQP, FQP and related procedures shall form part of Master Drawing List (MDL)

All the items/equipment in the scope of the contract shall be classified into categories (A/ B/ C) according to the criticality or other attributes of items / equipment. A detailed proposal addressing vendor approvals and quality control of all such items /equipment shall be proposed to OWNER by the Supplier/ Contractor for approval.

Category “A”: Manufacturing Quality Plan (MQP) shall be approved by TATA POWER. Stage &/ or Final Inspection including document review by EPC Contractor and TATA POWER (or its appointed Inspection Agency) as per approved MQP.

Category “B”: Manufacturing Quality Plan (MQP) shall be approved by Tata Power. Stage &/ or Final Inspection including document review by EPC contractor or Tata Power (in case no EPC Contractor) as per approved MQP. Inspection report of EPC contractor/ Supplier with supporting documents review by Tata Power.

Category “C”: Supplier shall carry out inspection as per their regular practice/ standard manufacturing quality plan. Supplier shall submit test report and COC to EPC Contractor/ Tata Power for approval/acceptance. COC shall be in standard format of Tata Power.

6.2 Welding & Non-Destructive Testing (applicable for shop as well project site)

- 6.2.1 Bidder / Supplier/ Contractor shall submit the following documents in requisite copies for review and approval of OWNER/ its authorized representative at least FOUR weeks prior to commencing fabrication/ manufacturing and finalize before start of job. All such submissions shall be made in ENGLISH language only.
- i. Welding procedures together with the relevant procedure qualification records.
 - ii. Non-destructive testing procedures.
 - iii. Heat treatment procedures.
 - iv. Any other special procedure (as applicable) proposed to be used during project execution
Welding procedures and welders’ qualifications in accordance with the latest revision of ASME Boiler & Pressure Vessels Code, Section IX, (structural welding as per AWS D1.1)

or equivalent standard covering all essential & non- essential variables shall be acceptable to OWNER.

- 6.2.2 Only qualified welders shall be deployed. Welders shall be qualified as per approved WPS in presence of OWNER/ its authorized representative. Electrode/ welding rod used at project site shall be of owners approved. Supplier/ Contractor shall take prior approval.
- 6.2.3 Weld repair procedures are subject to approval of the OWNER. No welding is permitted on C.I. Castings. OWNER reserves the right to examine and witness acceptance tests, prior to and following weld repairs and subsequent post weld heat treatment, mechanical tests etc, at the material manufacturer/ Supplier works.
- 6.2.4 Should any of these welds prove to be defective on inspection, the number of welds to be tested in that system shall be twice that of originally selected. Should any of the second incremental welds prove to be defective, then 100 % of the welds in that system/ group shall be tested.
- 6.2.5 NDT operators shall be qualified in accordance with an agreed nationally accredited scheme such as the Personnel Certification in Non-destructive testing (PCN) scheme and shall be certified to level II or higher of that system.
- 6.2.6 Plate thickness $\geq 32\text{mm}$ (for structure), Plate thickness $\geq 25\text{mm}$ (for pressure vessel), Forging / Bar dia. $\geq 40\text{mm}$ (finished) shall be UT tested.

7.0 INSPECTION AT SHOP

7.1 Inspection Scope

The scope of inspection shall be as per Witness/ Hold Point as defined in approved MQP/ SQP. Supplier has to ensure that all applicable and agreed approved Drawings, Data Sheet etc. are available for any inspection and equipment used for measurement are calibrated. Supplier shall intimate all such cases in advance (as inspection rolling plan) and also through inspection call as per contract agreement.

7.2 Inspection Coordination

Supplier has to identify single point contact for coordination of the entire inspection activities on behalf of Supplier/ sub-supplier. Supplier to ensure that monthly and 3 monthly rolling inspection plan are prepared and submitted in advance to OWNER by 1st working day of each month for effective inspection coordination.

7.3 Inspection Request

- 7.3.1 Depending upon the stages of inspection as agreed in manufacturing quality plan, supplier to send Inspection Requests (in OWNER standard format & through system) to OWNER Project Manager for inspection activities to be attended at supplier's / sub-supplier's premises. Supplier to submit all relevant approved reference documents (MQP, Drawings/ Data Sheet etc.) along with inspection request. Supplier has to give sufficient advance notice, as defined below for inspection of any stage. The date of receipt of inspection call by OWNER will hold good.

- 7.3.2 The minimum advance notice period for inspection shall be given below:

- i. Inspection within INDIA : 7 Days
- ii. Overseas (Outside India) Inspection : 30 Days

Supplier to strictly adhere the above mentioned minimum advance notice period.

7.3.3 Supplier shall plan the inspection visits required in a manner so as to achieve maximum inspection stages attended with minimum possible inspection visits/ time where-in more than one external inspection agencies are involved for single inspection activity, inspection by all agencies may be done concurrently.

7.4 Inspection Methodology

7.4.1 Suppliers shall ensure internal inspection before offering inspection to OWNER or its representative. Internal test certificates and previous stage inspection reports to be made available during inspection.

7.4.2 During inspection, Supplier to produce copies of the latest revision of the approved MQP along with drawings, Data Sheet, Standard and accepted type test reports as indicated in approved MQP / agreement to ensure that the inspection is carried out as per the latest revision and approved documents. **If required, Supplier to arrange the necessary codes and standards for reference purposes.**

In case inspection cannot be completed or undertaken due to reasons such as non-readiness of material, back up documents, false inspection call etc. then such reason shall be recorded in Inspection Report. **If Supplier fails to offer the item / equipment for inspection as per the agreed date, he is liable to pay for the time and expenses for the abortive visit of the OWNER or its representative.**

7.4.3 All inspection related documents i.e. mill test reports, Supplier inspection/ tests reports, all inspection/ tests carried out including other records such as stress relieving charts, radiographic reports and other non-destructive testing records in accordance with provision of contract shall be submitted in original form. All such reports shall be duly endorsed/ certified by the main supplier.

7.4.4 Results of Tests and copies of Inspection Report, Test reports, original material test certificates (MTCs), calculations, performance curves etc. shall be promptly made available to the OWNER or its appointed representative by the Supplier, in accordance with this document and shall form part of the subsequent Manufacturers Test Record Book in accordance with the requirements of this document.

7.4.5 Supplier to ensure that all the materials are properly identified/ coded to confirm traceability and correlation purposes.

7.4.6 Supplier shall take special care including packing to protect the final painting and finish product (equipment / item) during handling, transportation, storage and execution stage so that there is no damage occur. In case of any such damage, joint inspection to be carried out at site and necessary action to be taken.

7.4.7 Supplier to ensure finish product is properly identified after completion of inspection and are suitably recorded in Inspection Report by inspection engineer.

7.5 Inspection Report & Clearance

7.5.1 Inspection Report (IRT)

All inspection visits by OWNER or its appointed agency shall be supported by an inspection report as per the standard format (sample enclosed). Any shortcoming observed w.r.t. approved MQP/ Drawing/ Data Sheet / specification etc. shall be recorded as NCR. IRT shall have detail references of all such NCRs. All such inspection report / NCR shall be jointly signed by supplier and Inspection Engineer. IRT shall be issued to all concern including Supplier and Sub-supplier/ Manufacturer.

7.5.2 Inspection Release Note (IRN)

IRN shall be issued only after satisfactory completion of Inspection by OWNER as defined below IRN shall be issued by Tata Power (QA&I dept) thru system in the standard format as closure of particular inspection.

IRN for Category 'A' item (as defined in ICP) shall be issued only after ensuring inspected Equipment / Item meets the requirements of the applicable documents and all NCs have been closed to the satisfaction of Owner. IRN shall be issued in the standard format as closure of particular inspection.

Similarly for Category 'B' items (as defined in ICP) IRN shall be issued after review of inspection report, compliance report and required applicable documents as per approved MQP & Closure of NCs if any are verified and accepted to the satisfaction of Tata Power.

For Category 'C' items (as defined in ICP), IRN shall be issued after review of original manufacturer test certificates, Certificate of Conformance (CoC) from supplier/contractor in Tata Power standard format and required applicable documents as per MQP approved by main supplier / as per their standard procedure are verified and accepted

7.6 Material Dispatch Clearance Certificate (MDCC)

Supplier shall obtain dispatch clearance (MDCC) from Project / Plant based on IRN prior to dispatch of any billable material / equipment/ item from manufacturer place to our project site / plant. One set of Quality Dossier (hard copy) for which MDCC has been issued, shall be sent to project site along with material / equipment/ item.

MDCC is not required for material / equipment/ item/ Part supply which are dispatched from one sub-supplier works to another sub-supplier/ supplier works for further assembly and testing (to make it billable). However, clearance in the form of Inspection Report (IRT) is needed in this regard.

8.0 QUALITY DOSSIER (FOR SUPPLY PORTION) [Package wise]

Supplier shall compile and submit all stage and final inspection reports as per approved MQP, duly reviewed and endorsed by inspection engineer for reference and records of OWNER. Documents shall be submitted with-in 4 weeks of issuance of final MDCC

Dossier shall consist of following documents, as minimum:

- i. Index Sheet
- ii. Approved bill of material of package.

- iii. All Approved documents (MQP, Drawings & Data Sheet etc.)
- iv. MDCC, IRN & IRT along with all closed NCR of all items.
- v. Factory Acceptance Test (FAT) reports.
- vi. Raw material and bought out item MTC's
- vii. Test Reports corresponding to IRT & MQP.
- viii. Supplier internal inspection reports as per MQP.
- ix. Copy of Statutory and IBR certificates as applicable.

Note:

- 1. Each package compilation shall be done on the basis of unit wise and common systems.
- 2. Each volume/ dossier shall be spiral/ hard bounded. Each sheet of dossier to have running numbers.
- 3. One hard copy (in addition to the dossier dispatch with material / equipment/ item) and 2 Soft copies of documents to be submitted as final dossier.

9.0 FQC DURING CONSTRUCTION AND PRE-COMMISSIONING.

- 9.1 Supplier Quality Management System is applicable for field activities also and for his further sub agencies deputed at project / plant. Refer clause no: 5.0 (applicable part). Supplier/ Contractor shall deploy sufficient no of QA/ QC persons to take care of daily activities as per agreed/ approved Quality documents. Some of such activities are detailed below. Also QA/ QC head shall regularly co-ordinate with OWNERs FQC team.
- 9.2 Raising of inspection calls on regular basis for various activities as indicated in approved FQP/ other document, carrying out inspection activities along with OWNER's execution / FQC department and maintaining the records duly signed by all concerned.
- 9.3 Various inspection/ quality assurance procedures/ methods at different stages of erection and pre-commissioning will be as per OWNERs approved field quality plans/ codes/ IBR and other statutory provisions and as per OWNER's engineer's instructions.
- 9.4 Preparation of quality assurance log sheets and protocols, welding logs, NDE and post weld heat treatment records, testing & calibration records and other quality assurance documentation as per OWNER's engineer's instructions is within the scope of work/ specification. These records shall be submitted to OWNER for approval from time to time.
- 9.5 A daily logbook of all measurements and testing/ calibration should be maintained by contractor on the job inspection details for various equipment.
- 9.6 All the workers of contractor / sub contractor/it's agencies shall carry identity cards as per the Performa prescribed by OWNER. Only workers duly authorized by OWNER shall be engaged on the work.
- 9.7 Contractor shall provide all the measuring and monitoring devices (MMD) required for completion of the work satisfactorily. These MMDs shall be calibrated & conform to job requirement in respect of measurement range, accuracy level & any other specification.

- 9.8 Re-work necessitated on account of use of invalid MMD shall be entirely to the contractor's account. Contractor shall be responsible to take all corrective actions, including resource augmentation if any, as specified by OWNER to make-up for the loss of time.

OWNER's FQC team / QAI representative will have the right to carry out Surveillance Audit of supplier/contractor and their agencies including their store without any prior intimation.

- 9.9 Regular Internal audit shall be conducted by supplier/ contractor QA/QC team of their agencies and their other dept. Such audit reports shall be made available whenever ask for by OWNER FQC team. OWNERs FQC/ QA&I have the right to carryout 2nd party audit of supplier/ contractor and their agencies as per predefined Audit schedule.

In course of work OWNER may counter/ finally check the measurements with their own MMDs. Contractor shall render all assistance in conduct of such counter check/ final measurements.

9.10 **Communication**

Direct, formal communication between the SUPPLIER's field QC and OWNER's field QC representative is mandatory. All inspection activities as per field quality plan shall be intimated to OWNER in the form of Request for Inspection (RFI) at least 24 hrs. in advance with intimation to OWNER execution group.

Whenever any major issues / deviations related to design or fabrications are noticed, the same shall be immediately informed to OWNER's field QC by supplier's field QC/ Supplier Project Head. On completion of above activity, joint inspection reports/ protocol shall be made and circulated to concern agencies. Any part of work at the site shall not be **covered up or made inaccessible** without the OWNER Representative's prior approval in the form of joint protocol or otherwise.

SUPPLIER/ Contractor's in-progress inspection reports, log book, follow up/ punch out sheets; records of all DT & NDT etc. shall be made available to OWNER field QC during the course of the work. At the end of the work, SUPPLIER/ Contractor's standard inspection reports, check off sheets, radiographs, master copy of loop diagrams, electrical testing data sheets, etc. shall be handed over to OWNER in an organized and agreed format. SUPPLIER/ Contractor shall verify that all of the required documentation of the equipment has been received and placed in the equipment files. The SUPPLIER/ Contractor is responsible for obtaining any outstanding documentation from his sub-supplier/ agencies.

9.11 **Dealing with open Punch Points NCR/QCAR:**

All open points in the form of observations, non-conformities (NCR, QCAR etc.) that are not responded / closed in time as well as, those were not put up by supplier/ Contractor for resolution/ agreement to OWNER, the same will be considered as violation of contractual obligations and will be dealt suitably during closure of contract. Penalty clauses (if any) shall be applicable as per contract.

Supplier/ Contractor's Performance rating will be impacted as per prevailing policy of OWNER in this regard.

10.0 ATTACHMENT

1. Exhibit A – MQP Format
2. Exhibit B – FQP Format
3. Exhibit C – Shop Inspection Request Format
4. Exhibit D – ICP Format
5. Exhibit E – IRN Format
6. Exhibit F – Suggested MDCC Format
7. Exhibit G – RFI Format (For Site Inspection Request)
8. Exhibit H – NCR Format
9. Exhibit I – QCAR Format
10. Exhibit J – Weekly Progress Report format

Exhibit - A

Supplier Logo	THE TATA POWER COMPANY LIMITED	 TATA TATA POWER Document No Page 1 of 1
Supplier Document No	PROJECT NAME Supplier Name & Address	

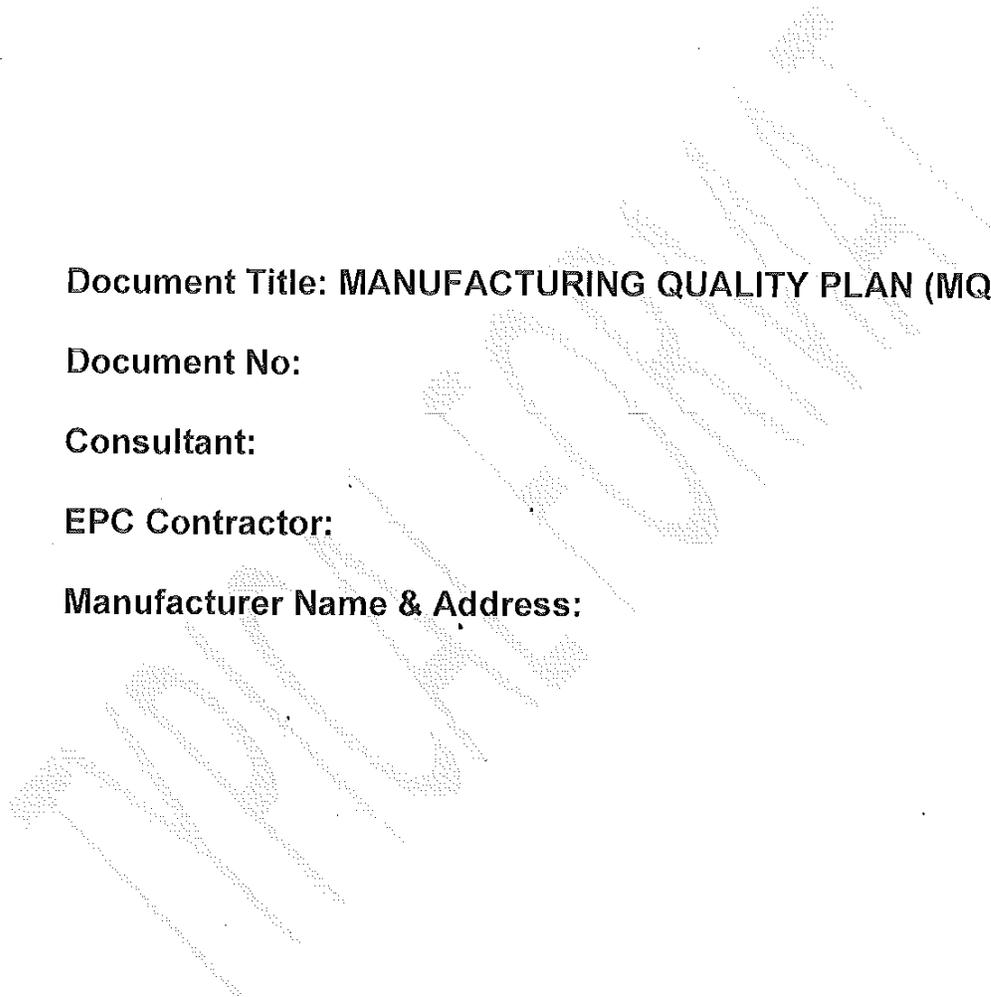
Document Title: MANUFACTURING QUALITY PLAN (MQP)

Document No:

Consultant:

EPC Contractor:

Manufacturer Name & Address:



R1					
R0					
Revision	Date	Reason for Revision	Prepared By	Checked By	Approved By

Supplier Logo

Manufacturing Quality Plan for

Document No.
(As given by PDM, Tata Power)

Manufacturer Name & Address

Date & Revision

Supplier Document No

PACKAGE NAME

Page .. of

SR. NO.	COMPONENT Description / Activity	CHARACTERISTICS	TYPE OF CHECK	EXTENT OF CHECK	REF. DOCUMENT / ACCEPTANCE NORM	FORMAT OF RECORD	AGENCY			REMARKS
							M	S/C	O	
1	2	3	4	5	6	7		8	9	
	1.0 MATERIAL:							P	R	R
	2.0 IN-PROCESS INSPECTION:									
	3.0 FINAL INSPECTION:									
	4.0 ISSUANCE OF IRN (BY REVIEWING OF QUALITY DOSSIER)									

- N
O
T
E
- a). Statutory requirements will be complied by the contractor/ Supplier.
 - b). Material samples drawn for check testing will be witnessed by TATA POWER or its representative.
 - c). For stage inspections, copies of relevant documents will be furnished to TATA POWER for review.
 - e). The extent of check for manufacturer shall be 100%.
 - f). Column 6 will be as per TATA POWER approved drawings / data sheets / contract documents wherever applicable.
 - g). All instruments shall have valid calibration certificate with traceability to national level.

Legends: M – Manufacturer, S – Supplier C – EPC Contractor, O – Owner (Tata Power), P – Perform, W – Witness, R – Documents Review, H – Hold point, Rw (%) – Random Witness

Exhibit - B

 TATA	TATA POWER CO. LTD. (QA, I & T DEPARTMENT)	DIVISION:
	FIELD QUALITY PLAN	Document No. :-
		Rev : Date :

Document Title: FIELD QUALITY PLAN (FQP)

Document No:

Consultant:

EPC Contractor:

Contractor's Name & Address:

Rev No.	Date	Reason for Revision	Approvals		
			Prepared By	Checked By	Approved By



TATA POWER

The Tata Power Company Limited
Corporate Engineering-Quality Assurance Inspection & Testing.



Doc. No.:

STANDARD FQP FOR

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	CLASS OF CHECK	TYPE OF CHECK	EXTENT / FREQUENCY OF CHECK	REFERENCE DOCUMENTS / ACCEPTANCE NORM	FORMAT OF RECORD	REMARKS
1	2	3	4	5	6	7	8	9

N O T E

A) STATUTORY REQUIREMENTS WILL BE COMPLIED WITH BY THE CONTRACTOR.
 B) FOR STAGES WITNESSED / DOCUMENTS REVIEWED BY TATA POWER, COPIES OF RELEVANT DOCUMENTS WILL BE FURNISHED TO TATA POWER.
 C) TATA POWER / ITS REP. IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED / GOT TRANSFERRED BY TATA POWER / ITS REP AT APPROPRIATE STAGES. (IF REQUIRED).
 D) THE EXTENT INDICATED IN COLUMN 6 IS IN CONTRACTOR'S SCOPE. TATA POWER MAY INSPECT AS PER THIS COLUMN OR RANDOM SAMPLES AT IT'S DISCRETION.
 E) COLUMN 7 WILL BE AS PER TATA POWER APPROVED DRAWINGS / DATA SHEETS / CONTRACT DOCUMENTS WHEREVER APPLICABLE.
 F) INSTRUMENTS FOR LEAK TESTS AND PERFORMANCE TESTS WILL HAVE VALID CALIBRATION CERTIFICATE WITH TRACEABILITY TO NATIONAL LEVEL.

Critical Category is HOLD point.

This activity required inspection / Verification & acceptance by inspection authority responsible for this stage before further processing is permitted.. 24 Hrs advance notice to be given to TATA POWER FQC. Contractor /sub contractor shall not process activity beyond HOLD point without written permission by TATA POWER FQC.
 This activity shall be performed by Main & Sub- Contractor (Execution + FQC) & witnessed jointly by TATA POWER (Execution + FQC).
 (Surveillance by Head FQC / Project Head).

Major Category is Witness point.

This activity required inspection / Verification & acceptance by inspection authority responsible for this stage before further processing. 24 Hrs advance notice to be given to TATA POWER (Execution) . Contractor /sub contractor shall not process activity beyond Witness point without written permission by TATA POWER (Execution).
 This activity shall be performed by Main and Sub- Contractor (Execution + FQC) & witnessed by TATA POWER Execution & Surveillance by FQC.

Minor Category is Review point.

This activity required review of documents by TATA POWER for the compliance & acceptance. However 24 Hrs advance intimation to be given to TATA power (Execution).
 This activity shall be performed by Main and Sub- Contractor (Execution +FQC) .
 (Surveillance by Execution / Project Head).

TATA POWER reserves the right to carryout surveillance at any point of time through FQC.

TATA POWER

The Tata Power Company Limited
Corporate Engineering-Quality Assurance Inspection & Testing.



Doc. No.:

STANDARD FQP FOR

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	CLASS OF CHECK	TYPE OF CHECK	EXTENT / FREQUENCY OF CHECK	REFERENCE DOCUMENTS / ACCEPTANCE NORM	FORMAT OF RECORD	REMARKS
1	2	3	4	5	6	7	8	9

STORAGE TYPE:

- TYPE-1: OPEN AREA & ABOVE GROUND ON WOODEN PLANK WITH SLOPE FOR WATER DISPOSITION.
 - TYPE-2: OPEN AREA & ABOVE GROUND ON WOODEN PLANK (WITH SLOPE FOR WATER DISPOSITION) AND COVERED WITH TARPAULIN.
 - TYPE-3: OPEN SHED WITH FULLY FORMED FLOORING/CEMENT FLOORING.
 - TYPE-4: COVERED SHED/STORE ROOM ON RACKS & IDENTIFIED LOCATION.
 - TYPE-4A: CLOSED CHAMBER WITH TEMPERATURE & HUMIDITY CONTROL.
- NOTE: Items/equipments having shelf life like paints, alumina, desiccant etc. are to be stored separately for identification purpose.

Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date	Issued By.
RO	ISSUE FOR USE				

Confidential and Proprietary -- The Tata Power Company Limited

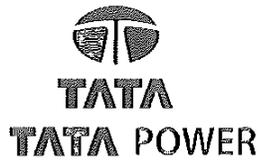


Exhibit - C

Tata Power QA&I
Request No:
Date:

Corporate Engineering – QA&I
Factory Inspection Request Format

Project Name:	
Main Supplier	
Package Name:	
Tata Power P. O. / LOI No.	Date
Item / Equipment offered for inspection:	
Inspection Category:	A / B / C
Sub-supplier (Manufacturer) name & PO Number:	
Type of Inspection: (Please mention the stage number of MQP which will be completed during this inspection)	Stage / Final
Proposed Date of Inspection:	
Place of Inspection: (Please give completed address where material will be inspected, attach route map if required)	
Contact Person for this Inspection along with Mobile No.:	
MQP Doc. No. : Rev. No.: MQP Approval Status:	Yes / No
Inspection Reference Document No: (Drawing/ Data Sheet etc.) approval status	Yes / No
Tata Power PO Item numbers / Billing Breakup No./ Tag No (as applicable) and quantity to be inspected: (Please attach separate list if necessary)	
Current Manufacturing Status (in brief) of item / equipment being offered in this Inspection:	

We hereby confirm that the items have been fully inspected / tested by us, all stages of inspection as per approved MQP have been done and all material test certificates, Q.C. records, approved Drawing / Data Sheet, test reports and valid calibration reports of measuring / testing instruments with traceability are ready with us.

(Signature)

[Name & Designation of Contractor's Representative]

Supplier Logo Supplier Document No.	THE TATA POWER COMPANY LIMITED	 TATA TATA POWER Document No Page 1 of 1
	PROJECT NAME	
	Supplier Name & Address	
	ICP - PACKAGE NAME	

Document Title: INSPECTION CATEGOROZATION PLAN (ICP)

Document No:

Consultant:

EPC Contractor:

Supplier:

R1					
R0					
Revision	Date	Reason for Revision	Prepared By	Checked By	Approved By

Document No: Given as per procedure of Tata Power



Supplier Logo Supplier Document No.	THE TATA POWER COMPANY LIMITED	 TATA TATA POWER Document No Page 1 of 1
	PROJECT NAME	
	Supplier Name & Address	
	ICP - PACKAGE NAME	

Sl. No.	Item Description	Imported / Domestic	Manufacturing / Bought Out	Manufacturing Quality Plan No. (No. given as per TATA Power Procedure)	Inspection Category	First Schedule Submission Date*	Final Approval Date*
1	Example: PUMP				A/B/C		
2							
3							
4							
5							
6							

*Dates indicated are for monitoring purposes of Tata Power Quality Team.

Category "A"	Definition: Manufacturing Quality Plan (MQP) shall be approved by TATA POWER. Stage &/ or Final Inspection including document review by EPC Contractor and TATA POWER (or its appointed Inspection Agency) as per approved MQP.
Category "B"	Definition: Manufacturing Quality Plan (MQP) shall be approved by Tata Power. Stage &/ or Final Inspection including document review by EPC contractor or Tata Power (in case no EPC Contractor) as per approved MQP. Inspection report of EPC contractor/ Supplier with supporting documents review by Tata Power.
Category "C"	Definition: Supplier shall carry out inspection as per their regular practice/ standard manufacturing quality plan. Supplier shall submit test report and COC to EPC Contractor/ Tata Power. COC shall be in standard format of Tata Power.
Note:	1. Any item which is not appearing in above list, however, identified during detailed engineer, same need to be categorized as above. 2. If supplier is not able to submit test report for any Category "C" item, same needs to be finalize during ICP approval.

Document No: Given as per procedure of Tata Power



 THE TATA POWER COMPANY LIMITED MATERIAL DISPATCH CLEARANCE CERTIFICATE			
TATA POWER			
MDCC REFERENCE:			DATE:
PROJECT			
P.O. REF.			
PACKAGE		QAI&T "Clearance For MDCC" REF No.	
SUPPLIER		SUB-SUPPLIER	

Dispatch clearance is hereby given for following equipment/ items:

Sr. No	PO Item No./ BBU	Item Description	Unit	Quantity	Identification/ S. No./ Remarks

PACKING AND DISPATCH INSTRUCTIONS			SUBMIT FOLLOWING TO TATA POWER		
1	Complete assembly with drive, base plate, accessories etc.	1	Quality Dossier	7	As built drawings.
2	Protect machined surfaces against corrosion.	2	Erection, O&M manual.	8	Calibration reports.
3	Blank nozzles and other openings.	3	T.C. for performance / leak tightness / balancing.		
4	Complete painting, affix name plates, tag no., sr. no., etc.	4	Performance calculations, curves.		
5	Pack to prevent damage/ deterioration in handling, transit & storage	5	Guarantee certificates.	9	Dispatch details.
6	Paint dispatch markings and weight.	6	Manufacturing Test Records/ Test Certificates/ COC		

(Please tick above Packing & Dispatch instructions and Documents Requirements as applicable)

Special Dispatch Instructions (If any):

	Prepared By:	Approved By:
Signature		
Name		
Designation		
Date		

NOTES:

- Acceptance / release of the above items is without prejudice to the terms and conditions of the contract and does not relieve the CONTRACTOR/ SUPPLIER of his guarantees and responsibilities to supply the items in accordance with the specifications, approved drawings, data sheets and other relevant contract documents / conditions.
- CONTRACTOR/ SUPPLIER shall comply with the packing and dispatch instructions and documentation requirements given above.



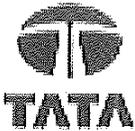
	Field Inspection Requisition		Requisition No.:
	Project :		Date:
	Name of package & Unit No:		
	Agency:		
	Sub Agency:		
INSPECTION/ TEST REQUISITION DETAILS			
1. FQP No. with Rev. & Category of Approval			
2. Test reference of FQP			
3. Category of Test nas per FQP			
4. Applicable Drawing No. with Rev:			
5. Location			
Date and time for inspection / test			
7. Open QCAR/NCR No. (if any) & date against this item/equipment			
It is hereby certified that all previous tests / checks are cleared and no QCAR other than above is pending against this item / equipment			
(Signature) Agency Representative		(Signature) OWNER (Execution)	
8. Post Inspection/ Test (Joint Protocol) : ACCEPTED / NOT ACCEPTED / ACCEPTED WITH CONDITION			
Brief Description:			
(Signature) Agency Representative		(Signature) OWNER (Execution)	(Signature) OWNER (FQC)



	TATA POWER COMPANY LIMITED	Corporate Engineering - QAIT
	Non Conformity Report	NCR No: Date
Project / Plant:		
Tata Power PO No.	Package/Equipment:	
Supplier:	Location:	
Inspection Report Reference:	Date of issuance of NCR:	
Reference Documents: (QA Manuals, Specification, Procedure, Drawing, etc.)		
Requirements as per approved documents, codes and standards:		
Details of NC (Provide complete description, i.e. what, where, how many , item no. etc):		
Root Cause Analysis:		
Corrective Action Proposed:	Preventive Action Proposed:	
Supplier Representative Sign. / Date	Tata Power / TPIA Representative Sign. / Date	
Engineering Review & Approval for proposed corrective action:		
		Engg. Representative Sign. / Date
Corrective Action Taken:		
		Supplier Representative Sign. / Date
Verification of Correction Action:		
		Tata Power / TPIA Representative Sign. / Date



Exhibit - I

	TATA POWER COMPANY LIMITED	Corporate Engineering-QAI&T
	Quality Corrective Action Report (QCAR)	Doc No.: QAI & T /QCAR Rev.0 Date : 10/09/12

Project / Plant:		Report No.:	
Supplier/Package/Equipment:		EPC Contractor:	
Date of observation:		Date of issuance of QCAR:	
Discipline: Mechanical		Mechanical/Electrical /Civil/C&I: Civil (Structural Work's)	
From		Email ID	
To		Email ID	

Quality Observations :

Supplier Sign /Date & Time	EPC Contractor Sign /Date & Time		TATA POWER COMPANY LTD	
	Construction Rep	QA/QC Rep	Construction Rep	QC Rep.

Root Cause Analysis :

Corrective Action Proposed :	Preventive Action Proposed :

Supplier Sign /Date & Time	EPC Contractor Sign /Date & Time		TATA POWER COMPANY LTD Sign /Date & Time	
	Construction Rep	QA/QC Rep	Construction Rep.	QC Rep.

Engineering Review & Approval for proposed corrective action: (Applicable: YES/NO)

Tata Power Engg. Rep.
Sign. / Date & Time

Corrective Action Taken:

Supplier Sign /Date & Time	EPC Contractor Sign /Date & Time		TATA POWER COMPANY LTD Sign /Date & Time	
	Construction Rep	QA/QC Rep	Construction Rep.	QC Rep.

Verification of Correction & Preventive Action:

Tata Power Head- Construction.
Sign. / Date & Time

Tata Power Head- QC
Sign. / Date & Time

Copy to HOD –QAI&T, Mumbai.



Exhibit - J

Name of the Project FQC Team		Name of the Project Weekly Field Quality Report (00/00/2015 - 00/00/2015)									
		FIELD QUALITY REPORT (CIVIL/ MECH./ELECT.)									
A. FIELD INSPECTIONS											
Sl. No.	Contractor/ Dept.	Work Area	FQ Activity/Test	UOM	Recd.	Acc.	Rep/Rej	Hold	Observations/Remarks		
B. RA BILLS / GRN CLEARANCES											
Sl. No.	Contractor/ Dept.	Package	Description	UOM	Recd.	Acc.	Rep/Rej	Hold	Observations/Remarks		
C. QCAR'S RAISED / AUDIT / DELTAS											
Sl. No.	Contractor/ Dept.	Package	Description	Date	Observations/Remarks						
D. MEETINGS - INTERNAL AND WITH CONTRACTORS											
Sl. No.	Contractor/ Dept.	Package	Date of meeting	Description							
E. AREAS OF CONCERN											
Sl. No.	Contractor/ Dept.	Package	Description								
F. OTHER ACTIVITIES											
Sl. No.	Contractor/ Dept.	Package	Description								

Note: Areas of concern/highlights shall also include long pending and critical non-conformities.

Rev: A
Date:15-03-2023

TECHNICAL SPECIFICATIONS
Specification for 110kV, 40MVAR Capacitor bank at
Kalyan Receiving station

Section-C
Page 24 of 33

VOLUME – II

SECTION – C

SCHEDULES

Rev: A
Date:15-03-2023

TECHNICAL SPECIFICATIONS
**Specification for 110kV, 40MVAR Capacitor bank at
Kalyan Receiving station**

Section-C
Page 24 of 33

C1 - SCHEDULE OF QUANTITIES AND PRICES

Please refer Attached BOQ

Seal of the Company

Signature

Designation

Rev: A
Date:15-03-2023

TECHNICAL SPECIFICATIONS
**Specification for 110kV, 40MVAR Capacitor bank at
Kalyan Receiving station**

Section-C
Page 24 of 33

C2- PROJECT TIME SCHEDULE

Seal of the Company

Signature

Designation

Note: The bidder shall indicate schedule of milestones and also attach/furnish a detailed bar chart identifying customer inputs.

Rev: A Date:15-03-2023	TECHNICAL SPECIFICATIONS Specification for 110kV, 40MVAR Capacitor bank at Kalyan Receiving station	Section-C Page 24 of 33
---------------------------	--	----------------------------

C3- SCHEDULE OF DEVIATIONS FROM TECHNICAL SPECIFICATIONS

All deviations from this specification, shall be set out by the Bidders, indicating clause no and page in this schedule. Unless **specifically** mentioned in this schedule, the tender shall be deemed to conform to the purchaser’s specifications:

Sr. No. justifications -----	Clause No. -----	Details of deviation with -----
--	----------------------------	---

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

Seal of the Company

Signature
Designation

Rev: A Date:15-03-2023	TECHNICAL SPECIFICATIONS Specification for 110kV, 40MVAR Capacitor bank at Kalyan Receiving station	Section-C Page 24 of 33
---------------------------	--	----------------------------

C4- SCHEDULE OF DEVIATIONS FROM GENERAL & SPECIAL CONDITIONS OF CONTRACT

All deviations from this specification, shall be set out by the Bidders, indicating clause no and page in this schedule. Unless **specifically** mentioned in this schedule, the tender shall be deemed to conform to the purchaser's specifications:

Sr. No. justifications	Clause No.	Details of deviation with
-----	-----	-----

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

Seal of the Company

Signature

Designation

Rev: A
Date:15-03-2023

TECHNICAL SPECIFICATIONS
Specification for 110kV, 40MVAR Capacitor bank at
Kalyan Receiving station

Section-C
Page 24 of 33

C5- SCHEDULE OF DRAWINGS & DOCUMENT SUBMISSION

As part of the proposal, the BIDDER shall furnish the schedule of drawing/document submission

Sr. No.	Title of Drawing/Document	Target Date of submission	For Information/Review/Approval	Remarks
1.0				
1.1				
1.2				
2.0				
2.1				
2.2				
3.0				
3.1				
3.2				
4.0				
4.1				
4.2				
5.0				
5.1				
5.2				

Seal of the Company

Signature

Designation

Rev: A Date:15-03-2023	TECHNICAL SPECIFICATIONS	Section-C
	Specification for 110kV, 40MVAR Capacitor bank at Kalyan Receiving station	Page 24 of 33

C7 - SCHEDULE OF SPECIAL ERECTION/MAINTENANCE TOOLS & TACKLES

As part of the proposal, the BIDDER shall indicates below, the list of erection/maintenance tools & tackles offered by him.

Sr. No.	Description of spare	Quantity recommended per unit of equipment	Unit price	Total price	Delivery period from date of LOI	Remarks

Seal of the Company

Signature

Designation

Rev: A Date:15-03-2023	TECHNICAL SPECIFICATIONS	Section-C
	Specification for 110kV, 40MVAR Capacitor bank at Kalyan Receiving station	Page 24 of 33

C8 - SCHEDULE OF PLACES OF MANUFACTURE, TESTS AND INSPECTION

For major equipment / systems, the Bidder shall indicate the name of the Manufacturer / SUBCONTRACTOR and place of test and inspection.

ITEM OF EQUIPMENT	Manufacturer / SUBCONTRACTOR	PLACE OF TESTING & INSPECTION

Seal of the Company

Signature

Designation

Annexure E1 - BILL OF QUANTITY

Sr. No.	Description	Qty Set/nos	Price quoted by bidder in INR
1	Design, engineering, manufacture, factory testing, packaging, route survey, transport, delivery to site 110kV, 40MVA, 50Hz, 3-phase complete set of capacitor bank as per specifications consisting of following:		
1.1	Capacitor units as per OEM design	LS	
1.2	Copper wound, current limiting series reactor	6 nos	
1.3	Neutral current transformer	2 nos	
1.5	Lightning arrestor	3 nos	
1.6	Adequate quantity of Interconnecting Copper Bus bar, copper flexible conductor along with its respective clamps, connectors, support insulators and post insulators.	LS	
1.7	The adequate quantity of the Structural steel with hot dipped galvanization, foundation and fixing bolts and nuts, clamps and any other material required for successful commissioning of complete set of capacitor bank	LS	
SPARES			
1	Capacitor units	4 nos	
2	Neutral current transformer	1 no	
3	Support insulators (1 no each type & rating)	1 set	
4	Post insulators (1 no each type & rating)	1 set	
5	Lightning Arrestor	1 nos	
SERVICES			
1	Supervisory services during unloading, handling, shifting, erection, installation, testing & commissioning of capacitor bank and its associated equipments at its designated location	LS	



Schedule C

CONFIDENTIAL

C2 - PROJECT TIME SCHEDULE

Bidders to attach copy of Project schedule

Seal of the Company

Signature

Date

Name

Designation

Note: The bidder shall indicate schedule of milestones and also attach/furnish a detailed bar chart identifying customer inputs.



ACSR Wolf datasheet

CONFIDENTIAL

Sr. No	Description	TATA Power specifications	Bidder's Specifications
	Name of the manufacturer / Bidder, Location of manufacturing		
A)	CAPACITOR BANK		
1.	Nominal voltage Un (kV)	110	
2.	Highest voltage for System Us (Kv)	121	
3.	Highest voltage for Equipment Um (Kv)	145	
4.	MVAR of the capacitor bank @ 110kV	40 MVAR	
5.	MVAR of the capacitor bank @ 121kV continuous rated	48.4 MVAR	
6.	Type of cooling	AN	
7.	Capacitance of the bank per phase in (micro farads)	Bidder to specify	
8.	Rated line current, amps @ 110kV	209.96 A	
9.	Rated line current, amps @ 121kV	230.95 A	
10.	Maximum permissible continuous overload voltage	1.1 x Us	
11.	Maximum permissible continuous overload current, amps	1.3 x Rated FLC	
12.	Maximum inrush current surge with the proposed reactor amps	Bidder to mention	
13.	Rated power-frequency withstand voltage [kV]	275	
14.	Rated lightning impulse withstand voltage [kVp]	650	
15.	Design Ambient temperature range (°C)	+5 to +50 (+5 / C)	
16.	System design as per Cap bank neutral kept ungrounded / floating	Yes	
17.	Capacitor losses in watts Initial Loss after (Average in operating loss 10,000 hours ambient at 40 deg. C.)	Initial Loss bidder to mention	
	For complete bank of 40MVAR	Loss after 10,000 hours of energization	
	For individual unit watts/KVAR		
18.	Discharge time to discharge from initial peak of (1.414 x Un) with:		
	Discharge by Internal discharge devices (at Individual unit terminals)	Terminal voltage less than 50V in less than 300 Sec	
19.	Overall dimensions of the capacitor bank	Bidder to specify	
20.	Layout and dimension drawings to be attached	Bidder to specify	
21.	Minimum clearances in the bank		
	Phase to phase, mm	1300mm	
	Live part to earth, mm	1300 mm	
22.	No. of additional units provided in the capacitor bank		
B)	CAPACITOR UNITS		
1.	Rated voltage, kV	Bidder to specify	
2.	Rated output, kVAR at 50 Hz	Bidder to specify	
3.	No. of bushing	1 or 2	
4.	Bushing material	Polymer / Porcelain	
5.	Container material	Stainless Steel	
6.	Dielectric medium	Non PCB non toxic oil	
7.	Guaranteed tan delta across bushing terminals	Bidder to specify	
8.	Guaranteed tan delta from bushing / winding to tank	Bidder to specify	
9.	Type of impregnate used	Non-PCB (PXE oil) non toxic	
10.	Pressure at which the impregnate is kept within the unit	Atmospheric	
11.	Flash point deg.C.	Bidder to specify	
12.	Permissible overload:	As per IS-13925	
	i. Voltage	110% of continuous	
	ii. Current	130% of rated current	
13.	Residual Voltage (V)	50	
14.	Discharge time (secs)	300	
15.	Discharge resistor (ohms)	Bidder to specify	

16.	No. of capacitor elements per unit capacitor (with No. of series/parallel elements per unit).	Bidder to specify	
17.	Percentage loss of capacitance at which an internally fused capacitor unit is considered	Bidder to specify	
18.	Capacitor Fuses (capacitor units should have internal fuses of tinned copper)	Bidder to specify	
19.	Type of fuse	Internal	
20.	Current and voltage rating of the fuse elements.	Bidder to specify	
21.	Material of the fuse element.	Bidder to specify	
22.	Fuse characteristics current vs time.	Bidder to specify	
C)	SERIES REACTORS		
1.	Approved Manufacture	Quality Power/ Shrihans Electricals	
2.	Type of reactor	Single phase Dry Type, air core, outdoor	
3.	Special coating	RTV silicon coating	
4.	Type of cooling	AN Cooled	
5.	Standard applicable	IS 2026-6	
6.	Rated Voltage kV		
7.	KVAR rating	Bidder to provide calculation for same	
8.	Rated Current, Amps	Bidder to specify	
9.	Rated short circuit capacity (kA)	16.66 x FLC	
10.	Rated duration of short circuit (sec)	2 sec	
11.	Rated power-frequency withstand voltage [kV]	275	
12.	Rated lightning impulse withstand voltage [kVp]	650	
13.	Design ambient temp (°C)	50	
14.	Insulation class	F	
15.	Reactance per phase : a)At rated current : b)At rated SC current:	Bidder to specify	
16.	Inductance per Phase a)At rated current (ohms) : b)At rated SC current (ohms):	Bidder to specify	
17.	Total losses at rated current at 50 Deg.C (KW)	Bidder to specify	
18.	Type of coil winding	Bidder to specify	
19.	Type of conductor	Electrolytic Copper	
20.	Minimum clearance to nearest metal part		
21.	Over voltage (continuous)	110% of continuous	
22.	Over load (continuous)	1.3 x rated FLC	
E	Neutral Current Transformer:		
1.	Approved manufacturer	a) GE (Hosur, Bangalore) b) CGL (Nasik, Aurangabad) c) Pragati (Murbad) d) Mehru Electrical (Bhiwadi, RJ) e) Pffifner India (Nasik)	
2.	Nominal voltage (kV)	110	
3.	Highest voltage for equipment (kV)	145	
4.	Rated frequency (Hz)	50	
5.	Manufacturer's type designation and applicable standards	IEC 61869-1 & 2	
6.	Type of current transformer	Single phase, Outdoor, oil filled, hermetically sealed, live tank	
7.	Class of insulation	A	
8.	Insulator material	Polymeric type	
9.	Design type	Live tank	
10.	Design temperature (de C)	50	
11.	NCT details	20-10/5A, RCT < 2-1 ohm, Vk > 600V @ 20A tap, Imag @ Vk/2 < 30 mA	
12.	Creepage distance of the insulator (total)	31kV/mm	
13.	Overload Current factor	100 x FLC	
14.	Overload duration	1 Sec	
15.	Rated one-minute power-frequency withstand voltage [kV]	275	
16.	Rated lightning impulse withstand voltage [kVp]	650	
F	For Surge Arrestor		

1	Approved Manufacturer	CGL, Oblum	
2.	Standards applicable	IS 51086 Part 4, IEC 60099 Part 4	
3.	Rated Frequency	50Hz	
4.	Application	Outdoor	
5.	Type of Arrestors	Gapless	
6.	System voltage & Design Amb Temp	50 Deg C	
7.	Short circuit current at arrestor location (KA)	40 kA rms, 0.2 Sec	
8.	Maximum duration of earth fault (sec)	0.2 sec	
9.	Thermal stability	As per IEC 60099-4	
10.	Nominal Discharge Current, 8 x20 Microsecond wave (kA)	20 kA Heavy duty	
11.	Pressure relief class	Class – A / 40KA	
12.	Discharge class	Class – 4	
13.	Energy Wth In	10 kJ/kV	
14.	Peak current and virtual duration of peak (A/micro sec)	To be furnished by bidder	
15.	High current impulse (kA peak)	100kA	
16.	Rated voltage (kV)	120	
17.	Max. Continuous operating voltage- M.C.O.V (kV)	102	
18.	Resistive current (mA)	0.1mA<I _r <0.6mA	
19.	Capacitive current (mA)	0.2mA<I _c <3mA	
20.	Max Steep Current Impulse (kV)	To be furnished by bidder	
21.	Min Steep Current Impulse (kV)	To be furnished by bidder	
22.	Material of Housing	Polymeric	
23.	Creepage Distance (mm)	31 mm/ kV	
24.	Suitability for live washing	Required	
25.	Max PD at 1.05 x MCOV (pC)	<10	
26.	Rated one-minute power-frequency withstand voltage [kV]	275	
27.	Rated lightning impulse	650	
	withstand voltage [kVp]		

FORMAT F.1

AFFIDAVIT (ON LETTER HEAD)

I, S/o Director of M/s.....
..... having its registered office at do hereby solemnly affirm and
declare as follows:

1. That I have been authorized to execute this affidavit on behalf of this company by the Board of Directors vide its resolution passed on
2. That Tata Power vide advertisement published in had invited offers for Tender Reference No _____.
3. That in response to the said advertisement as stated in paragraph (2) above, our firm has submitted its proposal to Tata Power.
4. That the proposals of our firm M/s containing necessary information and particulars furnished as response to the Tender Document.
5. That our firm have neither failed to perform on any contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against our firm, nor our firm have been expelled from any project or contract by any public authority or private firm nor have had any contract terminated by any public authority or private firm for breach of our part.
6. That our firm during the last three years, neither failed to perform on any agreement, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against us.

That the statements made in paragraph 1 to 6 of the foregoing affidavit as above are true to my knowledge and belief and if anything is found contrary, I stand liable to be prosecuted under appropriate Act / laws in force.

Stamp:

Sign:

Name:

Place and date:

Note: In case of any arbitration / judicial proceeding / legal litigation initiated against or by the bidder in last three years then the same have to Annexed to this Affidavit

FORMAT F.2

**PROFROMA OF LETTER OF UNDERTAKINGS
(To be submitted by the Bidder along with his Bid)**

ON BIDDER'S LETTER HEAD

Ref..... Date.....

To

Head – Procurement

The Tata Power Company Limited, Smart Center of Procurement Excellence, 2nd Floor, Sahar Receiving Station, Near Hotel Leela, Sahar Airport Road, Andheri East, Mumbai-400059

Dear Sir,

I / We have read and examined the entire Tender Document to the (Full scope of work)

I / We hereby submit our Bid and undertake to keep our Bid Valid for a period of 180 days from the date of bid opening i.e. up to

I / We hereby further undertake that during said period.

I / We shall not vary/alter or revoke my / our Bid.

This undertaking is in consideration of Tata Power agreeing to open my Bid and consider and evaluate the same for the purpose of award of work in terms of provision of tender specifications.

Should this Bid be accepted, **I / We** also agree to abide by and fulfill all the terms & conditions of provision of the above mentioned bid documents.

Signature along with Seal of Co.....

(Duly authorized to sign the Tender on behalf of the Bidder)

Name

Designation

E-mail (used in E-Tender):

Name of Co.

(In Block Letters.)

FORMAT F.3

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, Tata Power intends to use the reverse auctions through E-Tender system 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. Tata Power shall log-in to the authorized representative of the bidder.
2. Tata Power will make every effort to make the bid process transparent. However, the award decision including sharing of work would be final and binding on the supplier.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of Tata Power, 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 Tata Power.
6. Tata Power 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 Tata Power.
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 Tata Power site.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder.
11. No requests for time extension of the auction event shall be considered by Tata Power.
12. Detailed price split of E-auction price will be submitted within 24 hours from completion of E-auction. If not submitted, 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



BG Format (EMD BG , PBG/ CPBG)

CONFIDENTIAL

FORMAT F.4

Format of BID BG / EMD

Whereas (Name of the Contractor), a Company incorporated under the Indian Companies Act 1956, having its Registered office at _____, (hereinafter called the "BIDDER") has in response to your Invitation to Bid against Enquiry No. _____ dated _____, for (name of work), offered to supply and/or execute the works as contained in Employers letter dated _____.

AND WHEREAS BIDDER is required to furnish to you a Bank Guarantee for the sum of Rs. _____/-(Rupees ____ only) as Earnest Money against Bidder's offer as aforesaid.

AND WHEREAS we, (name of the bank) having our Registered Office at _____ and Branch office at _____, have at the request of Bidder, agreed to give you this Guarantee as hereinafter contained.

NOW THEREFORE, in lieu of earnest money deposit, we, the undersigned, hereby covenant that the aforesaid Bid of the BIDDER shall remain open for acceptance by you during the period of validity as mentioned in the Bid Document or any extension thereof as requested by you and if Bidder shall for any reason back out, whether expressly or impliedly, from this said Bid during the period of its validity or any extension thereof as aforesaid, we hereby guarantee to you the payment of the sum of Rs. _____/-(Rupees ____ only) on demand and without demur and notwithstanding the existence of any dispute between you and the BIDDER in this regard and we hereby further agree as follows:

- (a) You shall have the right to file/make a claim on us under the Guarantee for a further period of six months from the said date of expiry.
- (b) That this guarantee shall not be revoked during its currency without your written express consent.
- (c) That you may without affecting this guarantee grant time or other indulgence to or negotiate further with BIDDER in regard to the conditions contained in the said Bid

document and thereby modify these conditions or add thereto any further conditions as may be mutually agreed upon between you and BIDDER.

- (d) That the guarantee hereinbefore contained shall not be affected by any change in the constitution of our Bank or in the constitution of BIDDER.
- (e) That any account settled between you and BIDDER shall be conclusive evidence against us of the amount due hereunder and shall not be questioned by us.
- (f) That this guarantee commences from the date hereof and shall remain in force till BIDDER, if his Bid is accepted by you, furnishes the Contract Performance Guarantee as required under the said specifications and executes formal Contract Agreement as therein provided or till ____Days (__ days) from the date of submission of the Bid by the BIDDER i.e. (expiry date), whichever is earlier.
- (g) That the expression, BIDDER and Bank, and OWNER herein used shall, unless such an interpretation is repugnant to the subject or context, include their respective successors and assignees.
- (h) Notwithstanding anything herein contained, our liability under this guarantee is limited to Rs. _____/-(Rupees _____ only) and the Guarantee will remain in force upto and including and shall be extended from time to time for such period or periods as may be desired by you. Unless a demand or claim under this Guarantee is received by us in writing within six months from (expiry date), i.e. on or before (claim period date), we shall be discharged from all liabilities under this guarantee thereafter.
- (i) Any claim/extension under the guarantee can be lodgeable at issuing outstation bank or at Mumbai branch and claim will also be payable at Mumbai Branch. **(To be confirmed by Mumbai Branch by a letter to that effect)**

Notwithstanding anything contained herein above:

- a) Our liability under this Bank Guarantee shall not exceed Rs. _____/-(Rupees _____ only).
- b) This Bank Guarantee shall be valid upto ----- 200.
- c) Our Liability to make payment shall arise and we are liable to pay the guaranteed amount or any part there of under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before ----- 200.

FORMAT OF PERFORMANCE BANK GUARANTEE

- Note:** a) Format shall be followed in toto
b) Claim period of six months must be kept up
c) The guarantee to be accompanied by the covering letter from the bank confirming the signatories to the guarantee on the Bank's letter head.
-

The Tata Power Co Ltd
34, Sant Tukaram Road
Carnac Bunder,
Mumbai 400 009

Our Letter of Guarantee No.....

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

- 1.0 You have entered into a Contract No..... with.....
.....(hereinafter referred to as " the Vendor")
for the supply and delivery of (hereinafter
referred to as "the said equipment") for the price and on the terms and
conditions contained in the said contract.
- 2.0 In accordance with the terms of the said contract, " the Vendor" has
agreed to furnish you with an irrevocable and unconditional bank
guarantee in a form and from a bank acceptable to you as security for the
due performance by " the Vendor" of all his contractual obligations under
the said contract in an amount equal to 10% (ten percent) of the total value
of the contract to be valid from the date of contract and up to 12 months
from the date of satisfactory commissioning of the said equipment into
service or 18 months from the date of delivery whichever is earlier.
- 3.0 In consideration thereof, we, hereby irrevocably and
unconditionally guarantee to pay to you on demand and without demur and
without reference to " the Vendor" such amount or amounts not exceeding
the sum of Rs.....(Rupees
only) being 10% (ten percent) of the total value of the contract on receipt of
your intimating that " the Vendor" has not fulfilled his contractual
obligations. You shall be the sole judge for such non-fulfilment and " the
Vendor" shall have no right to question such judgement.

- 4.0 You shall have the right to file/make your **claim** on us under the guarantee for a **further period of six months** from the said date of expiry.
- 5.0 This guarantee shall not be revoked without your express consent and shall not be affected by your granting time or any other indulgence to “ the Vendor”, which shall include but not be limited to, postponement from time to time of the exercise of any powers vested in you or any right which you may have against “ the Vendor” and to exercise the same in any manner at any time and either to enforce or forbear to enforce any covenant contained or implied in the said contract or any other course or remedy or security available to you, and our Bank shall not be released from its obligations under this guarantee by your exercising any of your rights with reference to matters aforesaid or any of them or by reasons of any other act or forbearance or other acts of omission or commission on your part or any other indulgence shown by you or by any other matter or thing whatsoever which under the law would, but for this provision, have the effect of relieving our bank from its obligation under this guarantee.
- 6.0 We also agree that you shall be entitled at your option to enforce this guarantee against our bank as a principal debtor, in the first instance, notwithstanding any other security or guarantee that you may have in relation to “ the Vendor” 's liabilities in respect of the premises.
- 7.0 This guarantee shall not be affected by any change in the constitution of our Bank or “ the Vendor” or for any other reason whatsoever.
- 8.0 Any claim/extension under the guarantee can be lodged at issuing outstation branch or at Mumbai branch and also become payable at our issuing outstation bank or at the Mumbai branch as per confirmatory letter/letters of the concerned bank branches as attached. **(This Confirmatory letter is to be obtained from Mumbai Branch by the vendor and submitted along with the Performance Bank Guarantee and is applicable for PBG submitted from Banks located outside Mumbai).**
- 9.0 Notwithstanding anything herein contained, our liability under this guarantee is limited to Rs..... (Rupees only) and the guarantee will remain in force up to and including(Date) and shall be extended from time to time for such period or periods as may be desired by “ the Vendor” .
- 10.0 Unless a demand or claim under this guarantee is received by us in writing within six months from (expiry date) i.e. on or before(claim period end date) we shall be discharged from all liabilities under this guarantee thereafter.
- 11.0 For any correspondence in relation to extension / invocation / discharge of bank guarantee contact us at Tel No. _____ and Bank branch email id _____

Dated at , this day of2020 .



Vendor Registration Form

Corporate Contracts

To be Filled in Block letters By Vendor. Note **Annexure 1 - CSM F1** is Mandatory for Service / Composite Vendor Registration

MATERIAL
SERVICE
COMPOSITE
CONSULTANT

Title (M/S., Mr., Mrs., Dr.) *							
Company Name (35 Char) *							
Country code - Mobile No *							
Country Code - Tel. No *							
Country Code - Fax No							
Email ID *							
Street / House No *							
Country *		State *		District *			
City *		Pin code *		Language			
Category	General		MOEF		SC / ST		
	Related Party		MSME / SSI		OBC/Others		
Bank Details (all details to be filled for enabling NEFT Transfer)							
Name of Bank *							
Bank Details ID *		PAN Number *					
Account No. *		Account Holder *					
Bank Key *		Bank Country *					
MICR Code * (Attach Cancelled Cheque)							
IFSC Code *							
IBAN *							
Payment thro RTGS/NEFT*							
Quality / Safety Systems (Mandatory for Service and Composite Vendor Registration)							
OHSAS 18001 Certified		Risk Management Process					
ISO 9001 Certified		ISO 14001 / EMS Certified					
Declaration and Vendor Authorized Signature							
<p>I / We certify that the information furnished above is correct and complete to the best of my/our knowledge and belief. If at any time, I / We are found to have concealed any material information or given any false details, my/our registration shall be liable to summary termination without notice or compensation. I / We are not related to any employee of Tata Power .</p> <p>We have also received a copy of your Tata Code Of Conduct. We hereby confirm that we have read the same and understand the need to follow the same in Spirit and Letter. If we have any concerns we shall bring the same to the notice of your Chief Ethics Officer. Email: cecounsellor@tatapower.com, * Copy also available on our website http://www.tatapower.com/aboutus/code-of-conduct.aspx</p>							
Name *							
Designation *							
Email *							
Signature & Company Seal *							



ERP Vendor India Requirement - Taxation Registration Details

LST / VAT Registration No.	
LST / VAT Registration Date	
CST / TIN Registration No.	
CST / TIN Registration Date	
Service Tax Registration. No.	
Service Tax Registration Date	
Excise Registration No.	
Excise Registration. Date	
Provident Fund No.	
ESI Registration No.	
MSME / SSI Registration No.	
MSME / SSI Registration Date	

Mandatory For SERVICE & COMPOSITE (Material + Service) Vendor Registration

Annexure 1 - CSM F1-'Safety Category Qualification Form	YES		NO		N / A	
OSHAS 18001 Certificate	YES		NO		N / A	
ISO 9001 Certificate	YES		NO		N / A	
ISO 14001 / EMS Certificate	YES		NO		N / A	
Safety Organization Structure	YES		NO		N / A	
Safety Training Process	YES		NO		N / A	
Safety Policy	YES		NO		N / A	
Safety Statistics	YES		NO		N / A	
Address of sites where WIP	YES		NO		N / A	

Check List of Documents enclosed (To be filled by the Vendor)

PAN Card Copy	YES		NO		N / A	
VAT / CST / TIN Registration Certificate	YES		NO		N / A	
Service Tax Registration Certificate (for services)	YES		NO		N / A	
Certificate of Incorporation / Partnership Deed etc	YES		NO		N / A	
Signed Conflict of Interest Declaration	YES		NO		N / A	
MSME Industry Registration (Mandatory if applicable)	YES		NO		N / A	



Evaluation Sheet

(To be filled by **Requisitioner** - After Checking & Verifying Page 1 to 2 and Annexure 1 - CSM F1 Form)

Whether mandatory requirements are filled/attached and verified?	YES		NO		If No, explain reason for waiver in evaluation area	
If registration is for Services also, whether CSM F1 Form has been completed? Documents attached CSM F1 - Safety Category Qualification Form	YES		NO		N / A	
OHSAS 18001/ ISO 9001 / ISO 14001 Certificate	YES		NO		N / A	
Safety Organization Structure	YES		NO		N / A	
Safety Training Process	YES		NO		N / A	
Safety Policy	YES		NO		N / A	
Safety Statistics	YES		NO		N / A	
Evaluation Process Report	YES		NO		N / A	
Company Code & Description -						

Requested By		Approved by (HOD)	
Name		Name	
Signature		Signature	
Department		Department	
ERP Vendor Company Codes			
Company Code *		Sort Key *	
Reconciliation A/C *		Check Double Invoice	
With Holding Tax Country		With Hold Tax	
Terms of Payment		Payment Methods	
ERP Vendor Purchasing Organization			
Purchasing Organization *		Order Currency *	
Schema Group *		Sales Person *	
ABC Indicator *		Terms of Payment	
Service Based Invoice		GR Based Invoice	



ANNEXURE – 1 (CSM F1 - Safety Category Qualification Form)

Type of Vendor - Service / Composite (Material + Service)

Name of the Vendor -

No	Safety Information	Remarks	Attachments		
1	Certificate				
1A	OHSAS : 18001	Yes / No			
1B	ISO : 14001	Yes / No			
1C	ISO : 9001	Yes / No			
2	Safety Statistics for Last Three (03) Years		Year 1	Year 2	Year 3
2A	LTIFR – Lost Time Injury Frequency Rate	Yes / No			
2B	LTISR – Lost Time Injury Severity Rate	Yes / No			
3	Safety Training Process	Yes / No			
4	Safety Organization Structure	Yes / No			
5	Safety Policy	Yes / No			
6	Name and Address of Sites where work are in Progress or worked earlier	Yes / No			

Name, Signature & Company Seal

To be filled by the Tata Power Requestor

Vendor to be registered for CATEGORY

A

B

C

- 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

No	Description	Category "A"	Category "B"	Category "C"
1	Does the Contractor have OHSAS 18001 Certificate?	√		
2	During site visit check for safety adequacy at site	√	√	
3	Check the safety statistics of Contractor	√	√	√
4	Check the safety orientation & training process of contractor	√	√	√
5	Check the organization structure for safety professionals / engineers / supervisors	√	√	
6	Certified / skill workers as a percentage overall work force	√	√	
7	Does the Contractor have ISO 9001 Certificate?		√	√

ANNEXURE – 2 (Conflict of Interest Certification)

Objective

The intent of this disclosure is NOT to prevent an aspirant supplier from making an application, but rather to provide the decision making authorities with information on which Tata Power can make its own judgements and ensure that dealing with such parties is done fairly and transparently by ensuring that people / parties in conflict of interests are involved in the transactions / decision making process.

While requesting a registration, a supplier MUST disclose any actual or potential conflict of interest by giving the details of the person/s within the supplier's company (whether a director or an employee) who may be in actual or potential conflict of interest as per the above referred clause 20 of Tata Code of Conduct.

Conflict of Interest

An actual or potential conflict of interest with supplier's may arise where, directly or indirectly.

- a. A proprietor or partner or director or employee (who is party to a transaction) of the supplier is also a member of family or relative of a Tata Power employee.
- b. A proprietor or partner or director or employee (who is party to a transaction) of the supplier is also a director of family or relative of a Tata Power or Tata Group of companies or a person of influence within Tata Power.
- c. A proprietor or partner or director of the company is also a proprietor or partner or director in another company already registered with Tata Power and competing for similar products and / or services.
- d. A company has subsidiary or associate companies already registered with Tata Power and competing for similar products and / or purpose.

For detailed explanation on when an actual or potential conflict of interest may arise, please refer to the clause 20 of Tata Code of Conduct available on the Tata Power website

www.tatapower.com/aboutus/code-of-conduct.aspx

Format for declaration

Supplier's willing to register with Tata Power need to print the enclosed form which should be printed on the Letter Head of their company and be signed by proprietor / partner / executive directors / person authorized by the company for giving such declaration affixing his name, designation below the signature along with seal of the company.



To

Corporate Contracts
The Tata Power Company Ltd
Technopolis Knowledge Park, CENTEC,
Mahakali Caves Road, Chakala,
Andheri (E), Mumbai 400 093

Declaration on Conflict of Interest

This is to certify that we, M/s _____ are having the following entities / persons in actual or potential conflict of interest while dealing with Tata Power within the spirit of Clause 20 of Tata Code of Conduct.

Name & Designation of the entity / person in conflict of interest	Name of Tata Power person to whom related to	Nature of relationship / conflict

Note – In case there is no conflicts to be declared, please clarify state as NIL in the first row and strike out the balance lines)

This is to further certify that, we M/s _____

- a. Are not dealing with Tata Power under any other name or through any other subsidiary / associate companies other than the list disclosed above.
- b. None of our other directors / partners / other proprietors is dealing with Tata Power under any other company name.
- c. None of the other directors / partners / proprietors / employees holding a position of responsibility and / or authorized to transact with Tata Power has any significant financial interest or other relationship i.e., (Father, Mother, Brother, Sister or any other close family relationship) with any other Tata Power employee or directors of Tata Power or directors of Tata group of companies.

We further declare that as and when there is any change to the above certification, we shall intimate to Tata Power about such changes in the status. We also declare that we have read and understood the Tata Code of Conduct – latest version hosted on Tata Power website www.tatapower.com/aboutus/code-of-conduct.aspx and shall abide by all the provisions of the same and will bring any concerns regarding this to the notice of your chief ethics officer on the email id cecounsellor@tatapower.com

This is to certify that the above said information is true to the best of my knowledge and that I have the requisite authority to sign above said declaration in my capacity as _____ (ID No. _____)

Regards,

Name, Signature and Company Seal

HEALTH AND SAFETY POLICY

We, at Tata Power, reaffirm our belief that the health and safety of our stakeholders is of the utmost importance and takes precedence in all our business decisions. In pursuit of this belief and commitment, we strive to:

- Maintain and proactively improve our management systems to minimize health and safety hazards to our stakeholders and all others influenced by our activities.
- Comply and endeavour to exceed all applicable occupational health & safety legal and other requirements by setting the highest standards.
- Integrate health & safety procedures and best practices into every operational activity with assigned line-functional responsibilities at all levels, for improving and sustaining health & safety performance.
- Involve our employees in maintaining a safe and healthy work environment through risk assessments, periodic reviews of operational procedures, safe work methods and adoption of new technology.
- Develop a culture of safety through active leadership and provide appropriate training at all levels to enable employees developing their skills to work safely.
- Incorporate appropriate health & safety criteria into business decisions for selection of plant and technology, performance appraisal of individuals and appointments in key positions.
- Ensure availability at all times of appropriate resources to fully implement the health & safety policy of the company.
- Promptly report incidents, investigate for root causes and ensure lessons learnt shared and deployed across the company.
- Ensure service providers and their workmen align with company's safety codes and practices for the health and safety of personnel working with us.
- Set safety & health metrics as indicators of excellence, monitor progress and continually improve performance.

We shall actively communicate this policy to all stakeholders by suitable means and periodically review its relevance in continuously changing business environment.



(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018

TATA POWER

Lighting up Lives!



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



(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018



CORPORATE SUSTAINABILITY POLICY

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

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

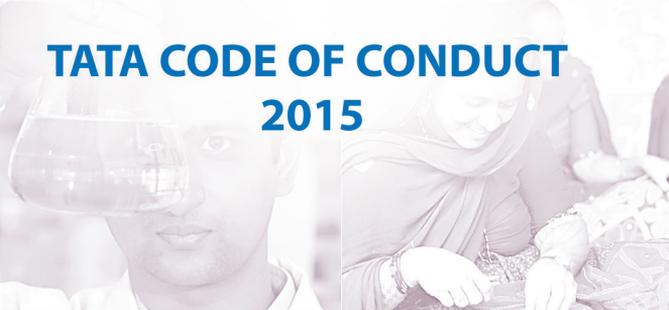
The management will commit all the necessary resources required to meet the goals of Corporate Sustainability.



(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018





**TATA CODE OF CONDUCT
2015**



LEADERSHIP THAT INSPIRES

For over 100 years, the Tata group has been led by visionaries who have stayed true to the vision of the founder, Jamsetji Tata.

A vision that placed the greater good of society at par with business growth.

A vision that put into practice pioneering social initiatives that changed the way responsible business was run.

And a vision that brought into the group a strong social conscience.



We do not claim to be more unselfish, more generous or more philanthropic than other people. But we think we started on sound and straightforward business principles, considering the interests of the shareholders our own, and the health and welfare of the employees, the sure foundation of our success.

Jamsetji Tata
Founder of the Tata group
Chairman (1868 – 1904)

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FOREWORD

Tata companies have consistently adhered to the values and ideals articulated by the Founder for over 150 years. The Tata Code of Conduct was first formalized by Mr Ratan Tata. It articulates the Group's values and ideals that guide and govern the conduct of our companies as well as our colleagues in all matters relating to business. Today, the Code is a bedrock on which we base our individual, as well as leadership commitments to core Tata values.

The Tata Code of Conduct outlines our commitment to each of our stakeholders, including the communities in which we operate, and is our guiding light when we are sometimes faced with business dilemmas that leave us at ethical crossroads. The Code is also dynamic in that it has been periodically refreshed in order to remain contemporary and contextual to the changes in law and regulations. However it remains unaltered at its core.

Our stellar reputation and success as a business entity has been defined by the powerful commitment and adherence to the core values and principles expressed in this Code, by all our employees, directors and partners. I trust every Tata colleague and Tata company will continue to not only comply with the laws and regulations that govern our business interests around the world, but will continue to set new standards of ethical conduct that will generate deep respect and inspire emulation by others.

N. Chandrasekaran

21st February, 2017



A. OUR VALUES

TATA has always been values-driven. The five core values that underpin the way we conduct our business activities are:



INTEGRITY

We will be fair, honest, transparent and ethical in our conduct; everything we do must stand the test of public scrutiny.

UNITY

We will invest in our people and partners, enable continuous learning, and build caring and collaborative relationships based on trust and mutual respect.

RESPONSIBILITY

We will integrate environmental and social principles in our businesses, ensuring that what comes from the people goes back to the people many times over.

PIONEERING

We will be bold and agile, courageously taking on challenges, using deep customer insight to develop innovative solutions.

EXCELLENCE

We will be passionate about achieving the highest standards of quality, always promoting meritocracy.

These universal values serve as the foundation for the Tata Code of Conduct. They find expression within the value system of every Tata company.

B. SCOPE AND PURPOSE OF THIS CODE

1. This Code sets out how we behave with:
 - our employees, or those who work with us;
 - our customers;
 - the communities and the environment in which we operate;
 - our value-chain partners, including suppliers and service providers, distributors, sales representatives, contractors, channel partners, consultants, intermediaries and agents;
 - our joint-venture partners or other business associates;
 - our financial stakeholders;
 - the governments of the countries in which we operate; and
 - our group companies.
 2. In this Code, “we or us” means our company, our executive directors, officers, employees and those who work with us, as the context may require.
 3. The term “our group companies” in this Code typically means companies Tata Sons intends for this Code to apply to, and / or to whom Tata Sons has issued this Code.
 4. This Code sets out our expectations of all those who work with us. We also expect those who deal with us to be aware that this Code underpins everything we do, and in order to work with us they need to act in a manner consistent with it.
-

REMEMBER...

It is our commitment to protect our reputation and our brand equity by adhering to the values and principles set out in this Code. By doing so, we strengthen our unique culture and identity.

OUR CORE PRINCIPLES



The Tata philosophy of management has always been, and is today more than ever, that corporate enterprises must be managed not merely in the interests of their owners, but equally in those of their employees, of the consumers of their products, of the local community and finally of the country as a whole.

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

C. OUR CORE PRINCIPLES

1. We are committed to operating our businesses conforming to the highest moral and ethical standards. We do not tolerate bribery or corruption in any form. This commitment underpins everything that we do.
2. We are committed to good corporate citizenship. We treat social development activities which benefit the communities in which we operate as an integral part of our business plan.
3. We seek to contribute to the economic development of the communities of the countries and regions we operate in, while respecting their culture, norms and heritage. We seek to avoid any project or activity that is detrimental to the wider interests of the communities in which we operate.
4. We shall not compromise safety in the pursuit of commercial advantage. We shall strive to provide a safe, healthy and clean working environment for our employees and all those who work with us.
5. When representing our company, we shall act with professionalism, honesty and integrity, and conform to the highest moral and ethical standards. In the countries we operate in, we shall exhibit culturally appropriate behaviour. Our conduct shall be fair and transparent and be perceived as fair and transparent by third parties.
6. We shall respect the human rights and dignity of all our stakeholders.
7. We shall strive to balance the interests of our stakeholders, treating each of them fairly and avoiding unfair discrimination of any kind.
8. The statements that we make to our stakeholders shall be truthful and made in good faith.
9. We shall not engage in any restrictive or unfair trade practices.
10. We shall provide avenues for our stakeholders to raise concerns or queries in good faith, or report instances of actual or perceived violations of our Code.
11. We shall strive to create an environment free from fear of retribution to deal with concerns that are raised or cases reported in good faith. No one shall be punished or made to suffer for raising concerns or making disclosures in good faith or in the public interest.
12. We expect the leaders of our businesses to demonstrate their commitment to the ethical standards set out in this Code through their own behaviour and by establishing appropriate processes within their companies.
13. We shall comply with the laws of the countries in which we operate and any other laws which apply to us. With regard to those provisions of the Code that are explicitly dealt with under an applicable law or employment terms, the law and those terms shall take precedence. In the event that the standards prescribed under any applicable law are lower than that of the Code, we shall conduct ourselves as per the provisions of the Code.

REMEMBER...

“Good faith” means having a reasonable belief that the information you have provided is truthful. It does not mean having ‘all the evidence’ about the potential violation or case reported.

OUR EMPLOYEES



Once you got the best people, the people who shared our values and ideals, we left them free to act on their own. We do not fetter them. We encourage them and give them opportunities for leadership.

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

D. OUR EMPLOYEES

Equal opportunity employer

1. We provide equal opportunities to all our employees and to all eligible applicants for employment in our company. We do not unfairly discriminate on any ground, including race, caste, religion, colour, ancestry, marital status, gender, sexual orientation, age, nationality, ethnic origin, disability or any other category protected by applicable law.
2. When recruiting, developing and promoting our employees, our decisions will be based solely on performance, merit, competence and potential.
3. We shall have fair, transparent and clear employee policies which promote diversity and equality, in accordance with applicable law and other provisions of this Code. These policies shall provide for clear terms of employment, training, development and performance management.

Q&A

A job requirement entails extensive travel. One of the candidates has excellent relevant experience and qualifications. However, this candidate is a single parent. As a result, I feel such a situation would significantly hinder this candidate's ability to cope with the job requirement. What should I do?

In accordance with the Code, the decision to recruit an employee should be based upon merit. We cannot make a presumption that the candidate would not be able to meet the travel requirements of the job. All eligible candidates should be provided with equal opportunity to demonstrate or justify that they can cope with the travel requirements of the job. Being a single parent cannot be a ground to be discriminated against at any stage of recruitment or ongoing employment in our company.

REMEMBER...

We do not tolerate harassment in any form and therefore we expect every employee to discourage such misdemeanours in the workplace.

Dignity and respect

4. Our leaders shall be responsible for creating a conducive work environment built on tolerance, understanding, mutual cooperation and respect for individual privacy.
5. Everyone in our work environment must be treated with dignity and respect. We do not tolerate any form of harassment, whether sexual, physical, verbal or psychological.
6. We have clear and fair disciplinary procedures, which necessarily include an employee's right to be heard.
7. We respect our employees' right to privacy. We have no concern with their conduct outside our work environment, unless such conduct impairs their work performance, creates conflicts of interest or adversely affects our reputation or business interests.

Human rights

8. We do not employ children at our workplaces.
9. We do not use forced labour in any form. We do not confiscate personal documents of our employees, or force them to make any payment to us or to anyone else in order to secure employment with us, or to work with us.

Bribery and corruption

10. Our employees and those representing us, including agents and intermediaries, shall not, directly or indirectly, offer or receive any illegal or improper payments or comparable benefits that are intended or perceived to obtain undue favours for the conduct of our business.

REMEMBER...

Violation by even a single employee of any law relating to anti-bribery, anti-corruption, anti-competition, data privacy, etc. could result in severe financial penalties and cause irreparable reputational damage to the company.

Gifts and hospitality

11. Business gifts and hospitality are sometimes used in the normal course of business activity. However, if offers of gifts or hospitality (including entertainment or travel) are frequent or of substantial value, they may create the perception of, or an actual conflict of interest or an 'illicit payment'. Therefore, gifts and hospitality given or received should be modest in value and appropriate, and in compliance with our company's gifts and hospitality policy.

Freedom of association

12. We recognise that employees may be interested in joining associations or involving themselves in civic or public affairs in their personal capacities, provided such activities do not create an actual or potential conflict with the interests of our company. Our employees must notify and seek prior approval for any such activity as per the 'Conflicts of Interest' clause of this Code and in accordance with applicable company policies and law.

REMEMBER...

As a general rule, we may accept gifts or hospitality from a business associate, only if such a gift:

- has modest value and does not create a perception (or an implied obligation) that the giver is entitled to preferential treatment of any kind;
- would not influence, or appear to influence, our ability to act in the best interest of our company;
- would not embarrass our company or the giver if disclosed publicly.

The following gifts are never appropriate and should never be given or accepted:

- gifts of cash or gold or other precious metals, gems or stones;
- gifts that are prohibited under applicable law;
- gifts in the nature of a bribe, payoff, kickback or facilitation payment*;
- gifts that are prohibited by the gift giver's or recipient's organisation; and
- gifts in the form of services or other non-cash benefits (e.g. a promise of employment).

(*'Facilitation' payment is a payment made to secure or speed up routine legal government actions, such as issuing permits or releasing goods held in customs.)

Working outside employment with us

13. Taking employment, accepting a position of responsibility or running a business outside employment with our company, in your own time, with or without remuneration, could interfere with your ability to work effectively at our company or create conflicts of interest. Any such activity must not be with any customer, supplier, distributor or competitor of our company. Our employees must notify and seek prior approval for any such activity as per the 'Conflicts of Interest' clause of this Code and in accordance with applicable company policies and law.

Integrity of information and assets

14. Our employees shall not make any wilful omissions or material misrepresentation that would compromise the integrity of our records, internal or external communications and reports, including the financial statements.
15. Our employees and directors shall seek proper authorisation prior to disclosing company or business-related information, and such disclosures shall be made in

accordance with our company's media and communication policy. This includes disclosures through any forum or media, including through social media.

16. Our employees shall ensure the integrity of personal data or information provided by them to our company. We shall safeguard the privacy of all such data or information given to us in accordance with applicable company policies or law.
17. Our employees shall respect and protect all confidential information and intellectual property of our company.
18. Our employees shall safeguard the confidentiality of all third party intellectual property and data. Our employees shall not misuse such intellectual property and data that comes into their possession and shall not share it with anyone, except in accordance with applicable company policies or law.
19. Our employees shall promptly report the loss, theft or destruction of any confidential information or intellectual property and data of our company or that of any third party.

Q&A

I am an accountant in the finance department of my company. Due to my artistic skills, I received an offer to pen cartoons for a children's publication for which I would receive compensation. I plan to undertake this activity during week-ends. What should I do before accepting this offer?

Before accepting the offer, you should ascertain whether the company policies and rules require you to make a disclosure to your supervisor so that the company may determine whether your undertaking this activity adversely affects our company's interests. On confirmation from the company that it does not do so, you would be free to take up the activity. It is also your duty to bring to the attention of the company whenever there is any change in the situation you have disclosed.

20. Our employees shall use all company assets, tangible and intangible, including computer and communication equipment, for the purpose for which they are provided and in order to conduct our business. Such assets shall not be misused. We shall establish processes to minimise the risk of fraud, and misappropriation or misuse of our assets.
21. We shall comply with all applicable anti-money laundering, anti-fraud and anti-corruption laws and we shall establish processes to check for and prevent any breaches of such laws.

Insider trading

22. Our employees must not indulge in any form of insider trading nor assist others, including immediate family, friends or business associates, to derive any benefit from access to and possession of price sensitive information that is not in the public domain. Such information would include information about our company, our group companies, our clients and our suppliers.

Q&A

Our company has recently announced the launch of a new business initiative. In connection with this, your friend who is a journalist with a leading business newspaper has asked you to provide some information that he could cover in his forthcoming article. He has promised not to quote you, or reveal your identity. Should you be giving him this information?

No. You should not be sharing information of this nature with the media, even if it is assured that the source would remain anonymous. Only authorised personnel in the company are permitted to speak to the media and provide information of this nature.

Our company has a “Use of Social Media” policy that lays down the “dos and don’ts” for use of social media even if you may access such media on your own time. Why is there such a policy?

External communication is a serious matter. It must be carefully managed because information put out with reference to our company or its businesses needs to be clear, truthful and not violate any undertakings we have given to other parties. In each business there are managers nominated to authorise and make different types of statements to the outside world. These managers should be consulted about any request for information you may receive or information you think we should give out.

In using social media, in particular blogs or social networking sites, you should exercise great caution while talking about our company or the business we do. It may feel like you are chatting with friends or expressing a personal opinion but even while doing so you cannot share any confidential information of our company.

REMEMBER...

We must respect the property rights of others by never misusing their assets, intellectual property or trade secrets, including the copying or downloading of unauthorised software, trademarks, copyrighted material or logos. We should never make unauthorised copies of computer software programs or use unlicensed personal software on company computers.

Prohibited drugs and substances

23. Use of prohibited drugs and substances creates genuine safety and other risks at our workplaces. We do not tolerate prohibited drugs and substances from being possessed, consumed or distributed at our workplaces, or in the course of company duties.

Conflicts of interest

24. Our employees and executive directors shall always act in the interest of our company and ensure that any business or personal association *including close personal relationships* which they may have, does not create a conflict of interest with their roles and duties in our company or the operations of our company. Further, our employees and executive directors shall not engage in any business, relationship or activity, which might conflict with the interest of our company or our group companies.
25. Should any actual or potential conflicts of interest arise, the concerned person must immediately report such conflicts and seek approvals as required by applicable law and company policy. The competent authority shall revert to the employee within a reasonable time as defined in our company's policy, so as to enable the concerned employee to take necessary action as advised to resolve or avoid the conflict in an expeditious manner.
26. In the case of all employees other than executive directors, the Chief Executive Officer / Managing Director shall be the competent authority, who in turn shall report such cases to the Board of Directors on a quarterly basis. In case of the Chief Executive Officer / Managing Director and executive directors, the Board of Directors of our company shall be the competent authority.

Q&A

You are responsible for maintaining our company's customer database. One of your friends is starting a business venture and requests you to share a few particulars from this database for marketing purposes of his business. He assures you that he would keep the data as well as his source confidential. Should you do so?

No. You should respect the confidentiality of customer information and not share any part of the database with any person without due authorisation.

You have access to revenue numbers of different business units of our company. While having a conversation with you over evening drinks, your friend enquires about the financial performance of our company. You do not share detailed information with your friend, but share approximate revenue figures. Is this conduct of yours correct?

No, it is not. You are not permitted to share financial information of our company with others who do not need to know this information. Financial information should always be safeguarded and disclosed only on a need-to-know basis after obtaining requisite approvals. Sharing of any price sensitive information that is not generally available with the public could also lead to violation of applicable insider trading laws.

27. Notwithstanding such or any other instance of conflict of interest that exists due to historical reasons, adequate and full disclosure by interested employees shall be made to our company's management. At the time of appointment in our company, our employees and executive directors shall make full disclosure to the competent authority, of any interest leading to an

actual or potential conflict that such persons or their immediate family (including parents, siblings, spouse, partner, children) or persons with whom they enjoy close personal relationships, may have in a family business or a company or firm that is a competitor, supplier, customer or distributor of, or has other business dealings with, our company.

REMEMBER...

A conflict of interest could be any known activity, transaction, relationship or service engaged in by an employee, his/her immediate family (including parents, siblings, spouse, partner, and children), relatives or a close personal relationship, which may cause concern (based upon an objective determination) that the employee could not or might not be able to fairly perform his/her duties to our company.

Examples of Potential Conflicts of Interest

A conflict of interest, actual or potential, arises where, directly or indirectly, an employee or executive director:

- (a) engages in a business, activity or relationship with anyone who is party to a transaction with our company;
- (b) is in a position to derive an improper benefit, personally or for any family member or for any person in a close personal relationship, by making or influencing decisions relating to any transaction;
- (c) conducts business on behalf of our company or is in a position to influence a decision with regard to our company's business with a supplier or customer where a relative of, or a person in close personal relationship with, an employee or executive director is a principal officer or representative, resulting in a personal benefit or a benefit to the relative;
- (d) is in a position to influence decisions with regard to award of benefits such as increase in salary or other remuneration, posting, promotion or recruitment of a relative or a person in close personal relationship employed in our company or any of our group companies;
- (e) undertakes an activity by which the interest of our company or our group companies can be compromised or defeated; or
- (f) does anything by which an independent judgement of our company's or our group companies' best interest cannot be exercised.

28. If there is a failure to make the required disclosure and our management becomes aware of an instance of conflict of interest that ought to have been disclosed by an employee or executive director, our management shall take a serious view of the matter and consider suitable disciplinary action as per the terms of employment. In all such matters, we shall follow clear and fair disciplinary procedures, respecting the employee's right to be heard.

Examples of activities normally approved (post-disclosure) as per applicable company policy

Acceptance of a position of responsibility (whether for remuneration or otherwise) in the following cases would typically be permitted, provided the time commitments these demand do not disturb or distract from the employee's primary duties and responsibilities in our company, and are promptly disclosed to the relevant competent authority:

- (a) Directorships on the Boards of any of our group companies, joint ventures or associate companies.
- (b) Memberships/positions of responsibility in educational/professional bodies, where such association will promote the interests of our company.
- (c) Memberships or participation in government committees/bodies or organisations.

Q&A

You are in a relationship with a colleague who has been recently moved into your team and would now be reporting to you. What should you do?

Romantic or close personal relationships with another employee where a reporting relationship exists and one is responsible for evaluating the other's performance, is likely to create a conflict of interest. In such a situation, you would need to report the potential conflict to your supervisor.

Your company is submitting a proposal to a company in which you were previously employed. You have confidential information pertaining to your previous employer, which you believe will help your present employer in winning the contract. Should you share this information?

No. You should not share this information with your company since it relates to confidential information of a third party. Your company respects its employees' duty to protect confidential information that they may have relating to their previous employers.

You are the purchasing manager in the procurement department of your company. You receive an invitation from a supplier to attend a premier sporting event as her guest. This particular supplier is one of the vendors who has submitted a proposal for an open tender issued by your company. Should you accept the invitation?

No. You should not accept the invitation in this instance. Since you are in a key decision-making role for the tender, any unusual benefit that you receive could be perceived as an inducement that could compromise your objectivity.

OUR CUSTOMERS



We have continued to enjoy prosperity, even with adverse times to fight against. Our relations with all concerned are the most friendly. We have maintained the same character for straight-forward dealing with our constituents and customers. Our productions have continued to be of the same high quality, and therefore command the best reputation and realise the highest prices. ... I mention these facts only to point out that with honest and straight-forward business principles, close and careful attention to details, and the ability to take advantage of favourable opportunities and circumstances, there is a scope for success.

Jamsetji Tata

Founder of the Tata group
Chairman, Tata Sons (1868 – 1904)

E. OUR CUSTOMERS

Products and services

1. We are committed to supplying products and services of world-class quality that meet all applicable standards.
2. The products and services we offer shall comply with applicable laws, including product packaging, labelling and after-sales service obligations.
3. We shall market our products and services on their own merits and not make unfair or misleading statements about the products and services of our competitors.

Export controls and trade sanctions

4. We shall comply with all relevant export controls or trade sanctions in the course of our business.

Fair competition

5. We support the development and operation of competitive open markets and the liberalisation of trade and investment in each country and market in which we operate.
6. We shall not enter into any activity constituting anti-competitive behaviour such as abuse of market dominance, collusion, participation in cartels or inappropriate exchange of information with competitors.
7. We collect competitive information only in the normal course of business and obtain the same through legally permitted sources and means.

Dealings with customers

8. Our dealings with our customers shall be professional, fair and transparent.
 9. We respect our customers' right to privacy in relation to their personal data. We shall safeguard our customers' personal data, in accordance with applicable law.
-

Q&A

You are the Regional Sales Manager of our company. You have become a member of an “informal group”, on an instant messaging service, whose members are the regional sales heads of our company’s competitors. The administrator of the group has requested an in-person meeting to informally discuss market conditions and brainstorm on “pricing strategy” from an industry perspective. What should you do?

Any meeting with competitors, especially to discuss “pricing strategy”, could be an attempt to promote an anti-competitive practice or manipulate prices. You should respond by declining this invitation and exiting the “informal group”. You should also report this incident to your supervisor and your Legal department.

You are attending a customer meeting with a colleague, and your colleague makes an untruthful statement about the company’s services. What should you do?

You should assist your colleague in correcting the inaccuracy during the meeting if possible. If this is not possible, raise the issue with your colleague after the meeting to enable him/her or the company to correct any misrepresentation made to the customer.

While working on a customer project, you receive a call from your colleague. He used to manage that customer account before you took over his role. He recalls that he had worked with the customer on developing a new ordering system which he thinks would be beneficial for another customer and requests you to send him the project details. What should you do?

You must not share this information without specific approval of the customer; you are not permitted to use a customer’s assets, including software, for another customer or for any personal use.

REMEMBER...

Striving for excellence in the standards of our work and in the quality of our goods and services is a core Tata value. It is the unwavering practice of this value that builds and sustains customer trust in our brand.

OUR COMMUNITIES AND THE ENVIRONMENT



“In a free enterprise, the community is not just another shareholder in business but is in fact the very purpose of its existence.”

Jamsetji Tata

Founder of the Tata group
Chairman, Tata Sons (1868 – 1904)

F. OUR COMMUNITIES AND THE ENVIRONMENT

Communities

1. We are committed to good corporate citizenship, and shall actively assist in the improvement of the quality of life of the people in the communities in which we operate.
2. We engage with the community and other stakeholders to minimise any adverse impact that our business operations may have on the local community and the environment.
3. We encourage our workforce to volunteer on projects that benefit the communities in which we operate, provided the principles of this Code, where applicable, and in particular the 'Conflicts of Interest' clause are followed.

The environment

4. In the production and sale of our products and services, we strive for environmental sustainability and comply with all applicable laws and regulations.
5. We seek to prevent the wasteful use of natural resources and are committed to improving the environment, particularly with regard to the emission of greenhouse gases, consumption of water and energy, and the management of waste and hazardous materials. We shall endeavour to offset the effect of climate change in our activities.

OUR VALUE-CHAIN PARTNERS



“If we had done some of the things that some other groups have done, we would have been twice as big as we are today. But we didn’t, and I would not have it any other way.”

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

(on the pace of expansion of the Tata group in the 1960s and 70s)

G. OUR VALUE-CHAIN PARTNERS

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

Q&A

You head the procurement function in our company. You have tight budgetary constraints for a project that you are working on. In order to complete the project within the targeted costs, you intend to request your supplier to provide you an exceptional discount on this project order on the understanding that you would “make it up to him” in future orders. Would you be violating the Code?

Yes, you would. Inducement in any form, including future benefits to the supplier, could compromise your ability to act objectively and in the best interests of the company and therefore must be avoided.

REMEMBER...

Our value-chain partners would include our suppliers and service providers, distributors, sales representatives, contractors, channel partners, consultants, intermediaries and agents; joint-venture partners and other business associates.

OUR FINANCIAL STAKEHOLDERS



Ethical behaviour in business – in every sphere and with all constituents – has been the bedrock on which the Tata group has built, and operates, its enterprises. This has been an article of faith for the group ever since its inception, a fundamental element of our cherished heritage and the essence of our way of life.

Ratan Tata

Chairman, Tata Sons (1991 – 2012)

H. OUR FINANCIAL STAKEHOLDERS

1. We are committed to enhancing shareholder value and complying with laws and regulations that govern shareholder rights.
 2. We shall inform our financial stakeholders about relevant aspects of our business in a fair, accurate and timely manner and shall disclose such information in accordance with applicable law and agreements.
 3. We shall keep accurate records of our activities and shall adhere to disclosure standards in accordance with applicable law and industry standards.
-

GOVERNMENTS



Business, as I have seen it, places one great demand on you; it needs you to impose a framework of ethics, values, fairness and objectivity on yourself at all times. It is not easy to do this; you cannot impose it on yourself forcibly because it has to become an integral part of you.

Ratan Tata

Chairman, Tata Sons (1991 – 2012)

I. GOVERNMENTS

Political non-alignment

1. We shall act in accordance with the constitution and governance systems of the countries in which we operate. We do not seek to influence the outcome of public elections, nor to undermine or alter any system of government. We do not support any specific political party or candidate for political office. Our conduct must preclude any activity that could be interpreted as mutual dependence/favour with any political body or person, and we do not offer or give any company funds or property or other resources as donations to any specific political party, candidate or campaign.

Any financial contributions considered by our Board of Directors in order to strengthen democratic forces through a clean electoral process shall be extended only through the Progressive Electoral Trust in India, or by a similar transparent, duly-authorised, non-discriminatory and non-discretionary vehicle outside India.

Government engagement

2. We engage with the government and regulators in a constructive manner in order to promote good governance. We conduct our interactions with them in a manner consistent with our Code.
3. We do not impede, obstruct or improperly influence the conclusions of, or affect the integrity or availability of data or documents for any government review or investigation.

OUR GROUP COMPANIES



I do not think anyone was on par with Jamsetji as an industrial visionary. But that is not the sole reason why I have been an admirer of Jamsetji. The major reason was his sense of values, sterling values, which he imparted to this group. If someone were to ask me, what holds the Tata companies together, more than anything else, I would say it is our shared ideals and values which we have inherited from Jamsetji Tata.

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

J. OUR GROUP COMPANIES

1. We seek to cooperate with our group companies, including joint ventures, by sharing knowledge, physical resources, human and management resources and adopting leading governance policies and practices in accordance with applicable law including adherence to competition law, where relevant.
2. We shall strive to achieve amicable resolution of any dispute between us and any of our group companies, through an appropriate dispute resolution mechanism so that it does not adversely affect our business interests and stakeholder value.
3. We shall have processes in place to ensure that no third party or joint venture uses the TATA name/brand to further its interests without proper authorisation.
4. Our Board of Directors shall consider for adoption policies and guidelines periodically formulated by Tata Sons and circulated to group companies.

Q&A

You are in the process of selecting potential vendors for an IT project in our company. In the final shortlist of two companies, one is a new start-up with limited references and a lower price-quotation, while the other is a Tata company with thirty years of implementation experience and good references, but a marginally higher quote for the same job. With all other parameters of choice being nearly equal, which company should you select for the job?

While price is undoubtedly an important criterion for decision making, it is clearly not the only one to be evaluated. You may also need to consider good customer references, proven track record and shared value systems in order to decide on your IT partner.

You are in the process of selecting potential vendors for a project. One of the three finalists is a group company. In reviewing the final proposals, you rank the group company second out of the three proposals based on pricing and total cost of ownership, and select the first-ranked vendor. Is this the right decision?

Yes. You should select the vendor that, on its own merits, is the vendor that is most appropriate for your company's requirements. You should not select a group company only because of its affiliation.

RAISING CONCERNS

We encourage our employees, customers, suppliers and other stakeholders to raise concerns or make disclosures when they become aware of any actual or potential violation of our Code, policies or law.

We also encourage reporting of any event (actual or potential) of misconduct that is not reflective of our values and principles.

Avenues available for raising concerns or queries or reporting cases could include:

- immediate line manager or the Human Resources department of our company
- designated ethics officials of our company
- the 'confidential reporting' third party ethics helpline (if available)
- any other reporting channel set out in our company's 'Whistleblower' policy.

We do not tolerate any form of retaliation against anyone reporting legitimate concerns. Anyone involved in targeting such a person will be subject to disciplinary action.

If you suspect that you or someone you know has been subjected to retaliation for raising a concern or for reporting a case, we encourage you to promptly contact your line manager, the company's Ethics Counsellor, the Human Resources department, the MD/CEO or the office of the group's Chief Ethics Officer.

Q&A

My supervisor has asked me to do something which I believe may be illegal. I am afraid if I do not do what I am told, I could lose my job. Should I do it?

No. Breaking the law is never an option. Discuss the situation with your supervisor to be certain that you both understand the facts. If your concerns are not resolved, contact a higher level supervisor, the Ethics Counsellor, the Legal department or report them via the company's confidential reporting system, if available.

I feel that my supervisor is treating me unfairly for reporting a concern to the Ethics Counsellor. What should I do?

Retaliation against anyone who raises a concern is a violation of the Code. You should therefore promptly report this action of your supervisor to the Ethics Counsellor or the MD/CEO of your company or via the company's confidential reporting system, if available.

ACCOUNTABILITY

This Code is more than a set of prescriptive guidelines issued solely for the purpose of formal compliance. It represents our collective commitment to our value system and to our core principles.

Every person employed by us, directly or indirectly, should expect to be held accountable for his/her behaviour. Should such behaviour violate this Code,

they may be subject to action according to their employment terms and relevant company policies.

When followed in letter and in spirit, this Code is 'lived' by our employees as well as those who work with us. It represents our shared responsibility to all our stakeholders, and our mutual commitment to each other.

SPEAK UP...

If you are unsure whether a particular action you are about to take is consistent with the principles set forth in the Code, ask yourself:

- Could it directly or indirectly endanger someone or cause them injury?
- Is it illegal/unlawful or out of line with our policies and procedures?
- Does my conscience reject it? Does it conflict with my personal values?
- Would I feel uncomfortable if the story appeared in the media? Would it shame my company, spouse, partner, parent or child?
- Does it 'feel' wrong?

If the answer to any of these questions is "Yes", please stop and consult your reporting manager, the Ethics Counsellor, the Human Resource department, the Legal department or any member of the senior management team, to assist you in making the decision.

When faced with a dilemma: Stop, Think, Act Responsibly

NOTE

The Code does not provide a comprehensive and complete explanation of all expectations from a company standpoint or obligations from a stakeholder standpoint.

Our employees have a continuing obligation to familiarise themselves with all applicable law, group-level advisories and policies, company-level policies, procedures and work rules as relevant. For any guidance on interpretation of the Code, we may seek support from our company's Ethics Counsellor or from the group's Chief Ethics Officer, as appropriate.

All joint ventures are encouraged to adopt the Tata Code of Conduct (TCOC) or a code of conduct that incorporates all elements of the TCOC.

This version of the Tata Code of Conduct supersedes all earlier versions and associated documents and stands effective from 29th July, 2015.

For any query or clarification on the Code, please contact the office of the group's Chief Ethics Officer via email at: ethicsoffice@tata.com.



TATA CODE OF CONDUCT – 2015

I acknowledge that I have received the Tata Code of Conduct.

I have read the Tata Code of Conduct and I acknowledge that as a Tata employee, I am required to comply with the guidelines described therein and failure to do so may subject me to action as per my employment terms and relevant company policies.

If I have a concern about a violation, or a potential violation of the Tata Code of Conduct, I understand that there are channels available to me in my company to report such concerns. By making use of these channels when necessary, I will play my part in maintaining the high ethical standards to which we hold ourselves.

Signature: _____

Date: _____

Name: _____

Department: _____

Address: _____

(Please submit this declaration to your Ethics Counsellor or the Human Resource department of your company.)



For further information on the Code please contact:
 The Ethics Office,
 Tata Sons Ltd.,
 Bombay House,
 24, Homi Mody Street,
 Mumbai – 400001, India.
 Email: ethicsoffice@tata.com



**SUPPLIER MANUAL ANSWERING
TO
E-BIDDING & E-AUCTION**

CELEBRATING 100 YEARS OF INVISIBLE GOODNESS

TATA POWER

Company Confidential	Version 1.1
	DEC - 2016

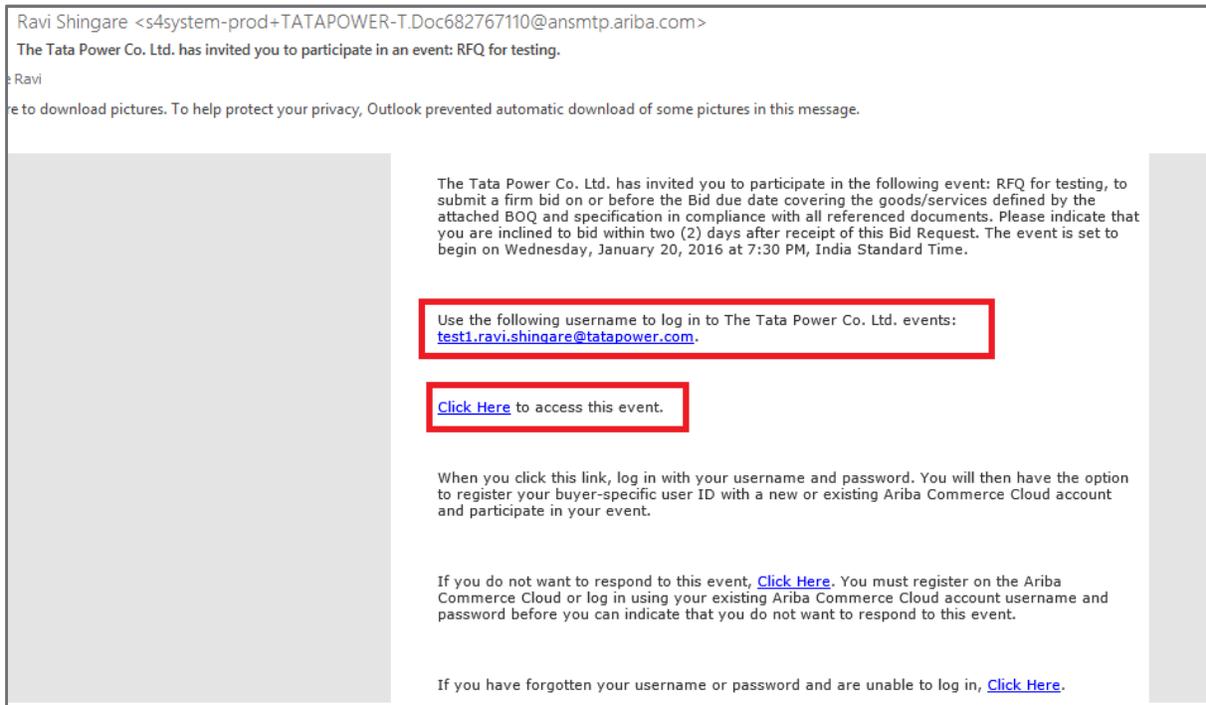
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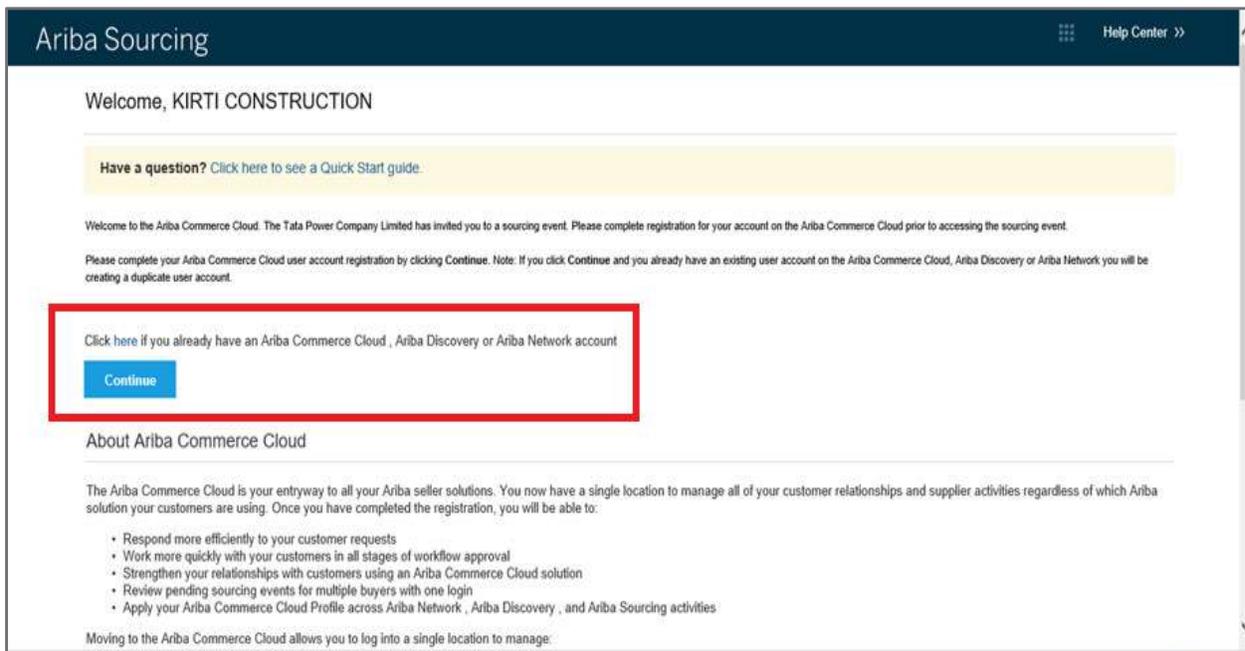
1- Accessing Ariba Sourcing

Step 1: You will get an invitation to your email from Ariba System. Keep this email, it contains your login Information and a direct link to Ariba.

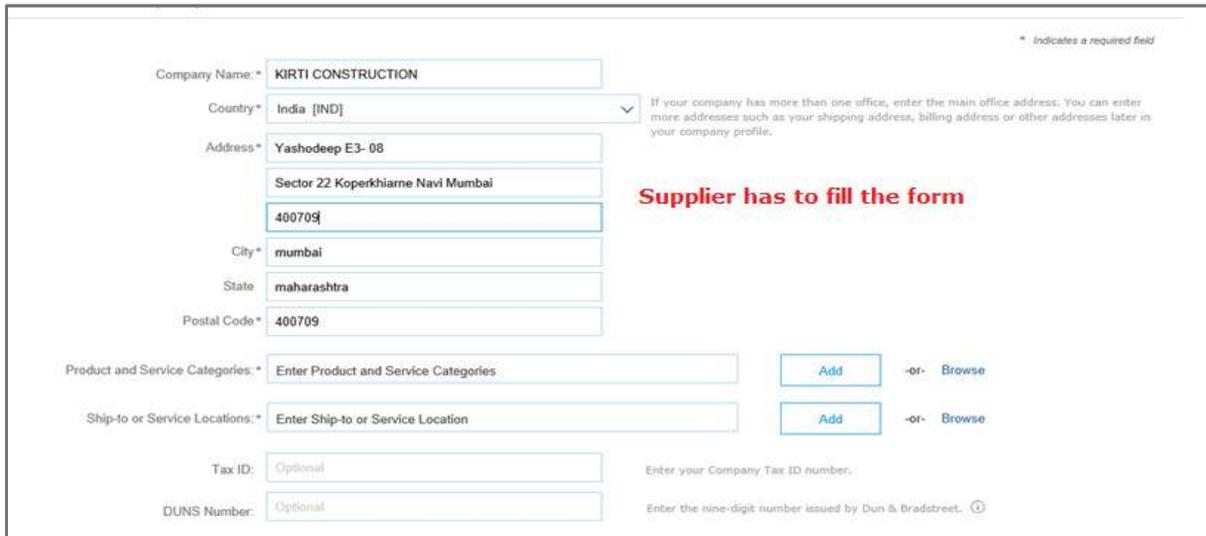
Step 2: Click "Click Here" to access the Ariba Web Site.



Step 3: Supplier has to click on "Continue"



Step 4: The registration process only takes a few moments, with a simple one-page registration. Define your password and secret question. Click “OK”

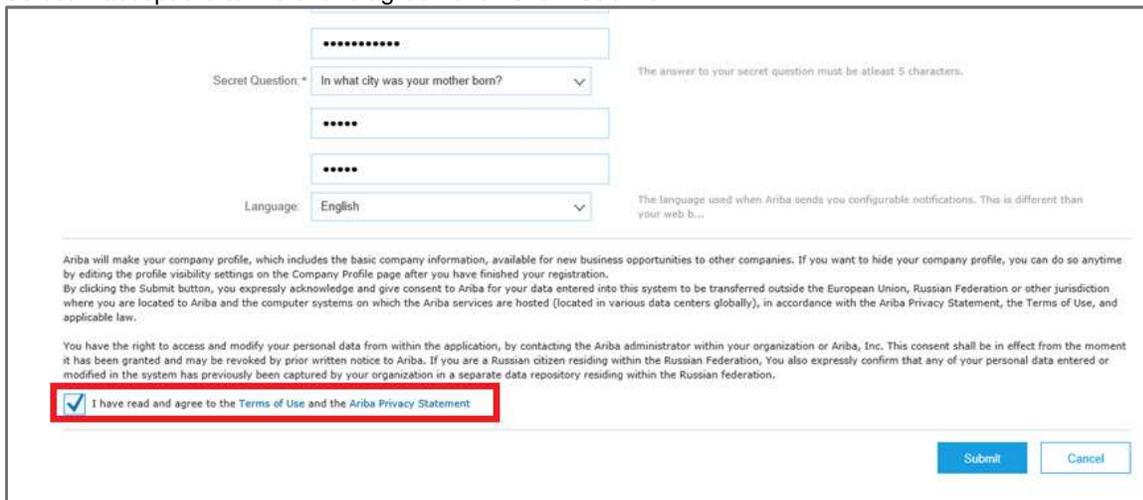


The form is for a supplier named KIRTI CONSTRUCTION. It includes fields for Country (India), Address (Yashodeep E3-08, Sector 22 Koperkhaima Navi Mumbai, 400709), City (mumbai), State (maharashtra), and Postal Code (400709). There are also fields for Product and Service Categories, Ship-to or Service Locations, Tax ID, and DUNS Number. A red box highlights the text "Supplier has to fill the form".



The form is titled "Expired Password" and is for a user named USER_TEST2. It prompts the user to create a new password and confirm it, and to select a secret question and answer. The secret question is "Who is your favorite sports team?" and the answer is "lives". A red box highlights the password and secret question fields. Another red box highlights the "OK" button at the bottom.

Step 5: If it's the first time you are invited to use UPM Ariba, you'll need to accept the “Participant Terms”. Select “I accept the terms of this agreement”. Click “Submit”.



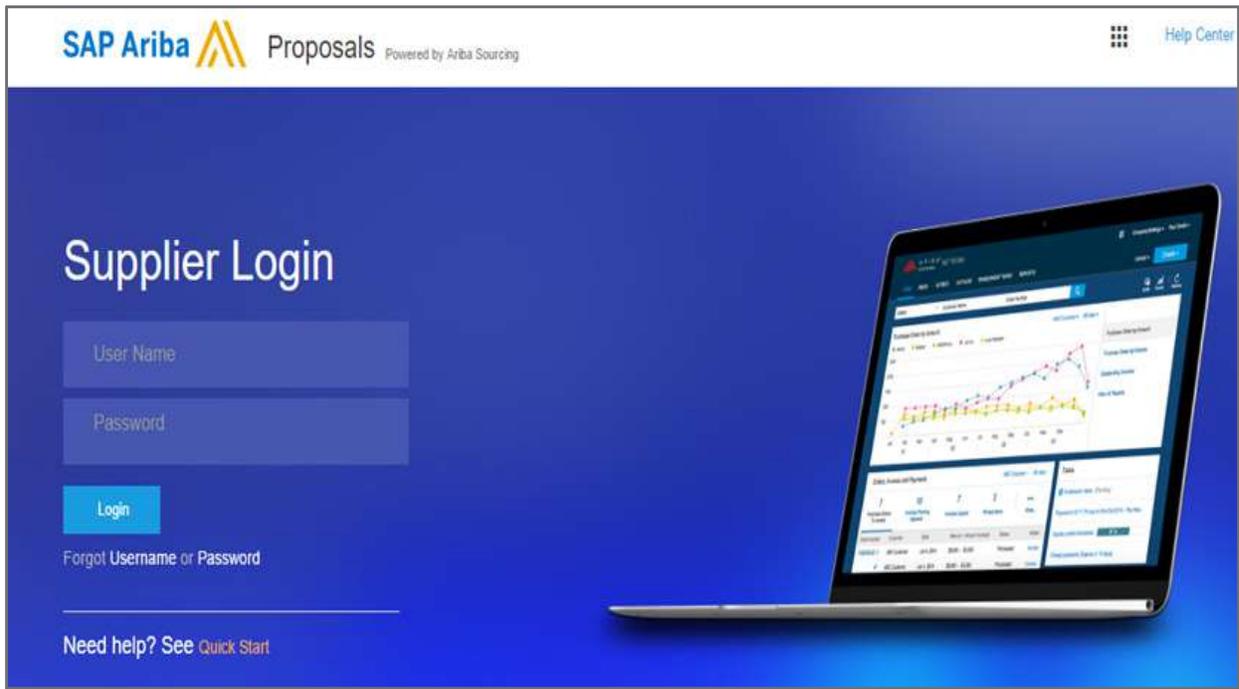
The form is for accepting the Participant Terms. It includes a Secret Question field with the question "In what city was your mother born?" and a Language field set to "English". A red box highlights the checkbox "I have read and agree to the Terms of Use and the Ariba Privacy Statement". The "Submit" button is highlighted in blue.

2 Vendor Screen

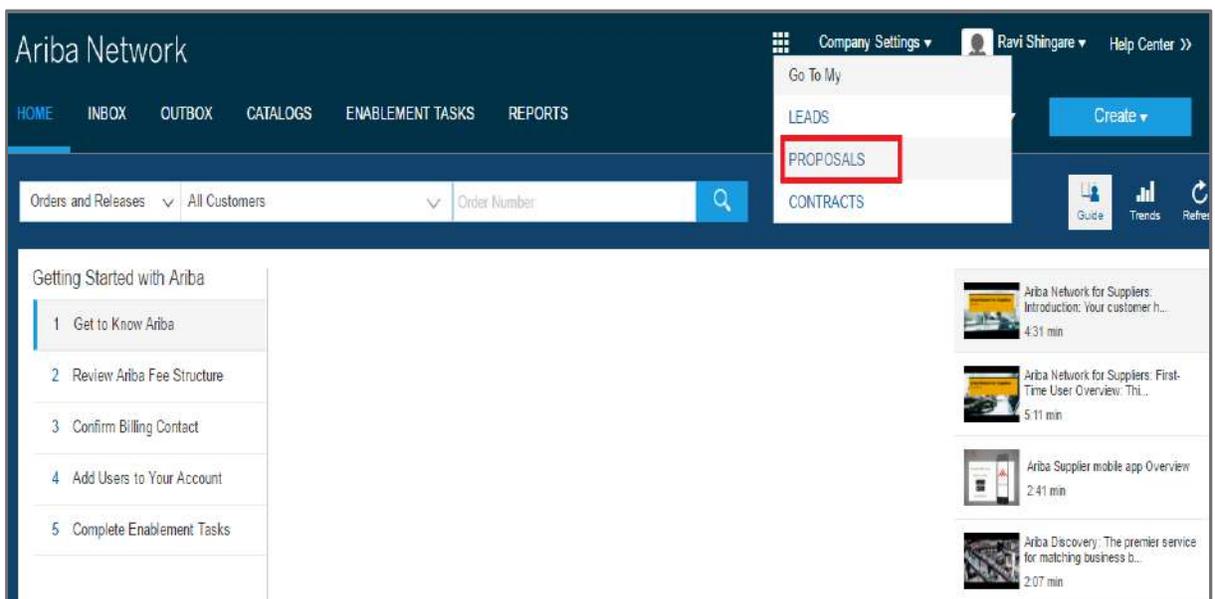
2.1.1 If vendor goes through mail invitation then directly Screen 3.1.1 will appear, but if you have used Ariba before and have already accessed an event for the buyer-specific account with your current log in ID, click the **Login** button to continue. Log in with your Ariba username and password in order to participate in the event OR you have to follow the following steps.

Step 1 - Log on supplier.ariba.com

Step 2 - Put your USER ID and Password in following screen



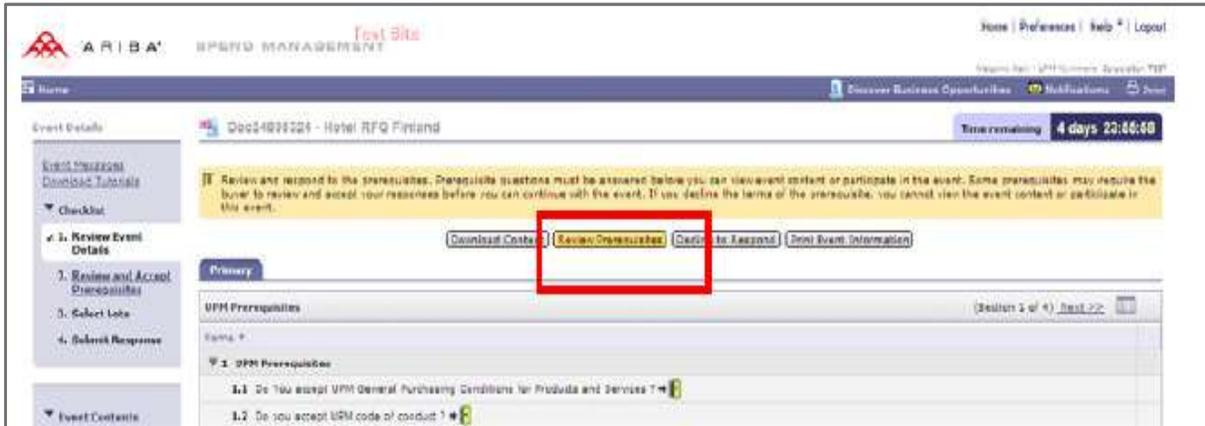
Step 3 - Go to ARIBA APPS  and click on Proposals.



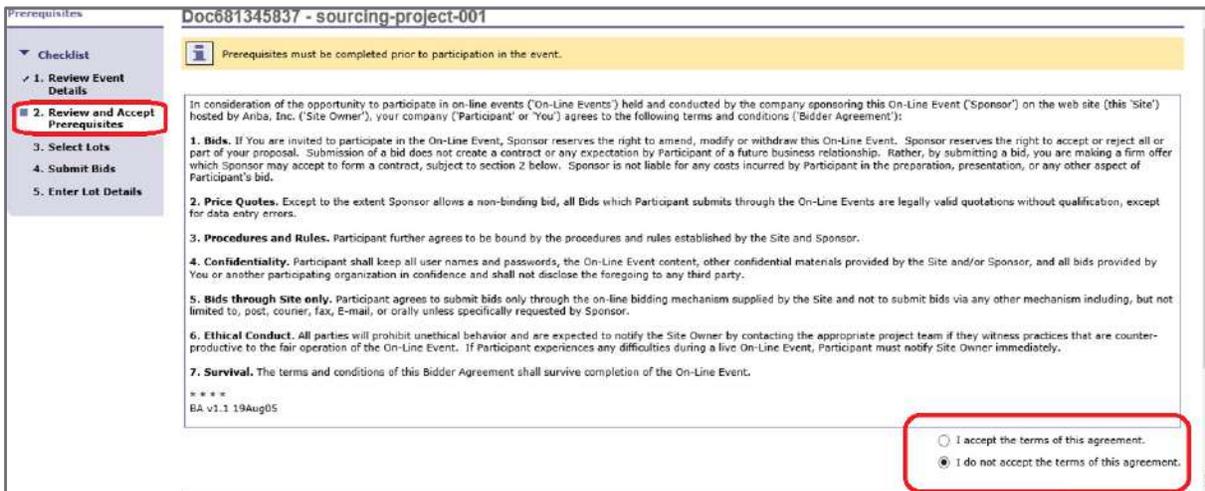
3 Submitting Your Answers / Proposal

3.1.1 Review and Approve “Prerequisites”

Step 1: Review and download all documents & then Click on “Review Prerequisites”



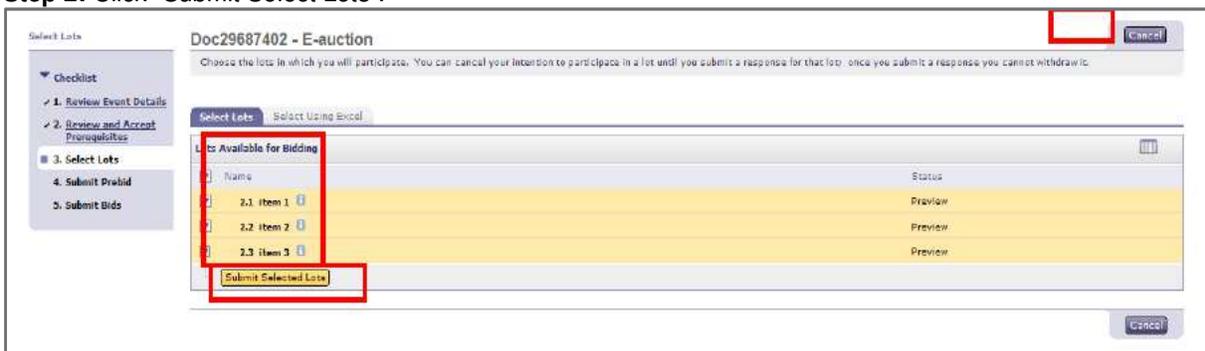
Step 2: Review and accept “Bidder Agreement”.



3.1.2 Select Items or Lots

Step 1: Select Items. - If you do not want to quote for any items/lots then you do not select that lot / items and then go ahead for select and submit lot.

Step 2: Click “Submit Select Lots”.



3.1.3 Entering your offer for RFQ

Step 1: as per following screen Vendor Dashboard will appear where RFQ from TATA Power will be visible.

Step 2 - Follow all the steps of 3.1.1 to 3.1.3

Step 3 - Vendor has to submit their techno commercial offer in 2.1. In this field Do No attach any price content. For Price Bid put all the unit price and taxes and duties in provided field. Put "0" (ZERO) in not applicable field.

Item ID	Description	Unit Price	Quantity	Unit
3.1	Bidder to specify the prices either in terms of percentage (%) or Value where the options are available for both. In case price is specified in percentage (%) , please Specify Zero (0) in the amount field and vice-versa.			
3.2	Bearingfor motor 1.90991	15,000.00	30	each
3.3	AMC 20,000 IS-U/CCS CONTRACTS	35,000.00	35	month
3.4	ANALYSIS TAILRACE WTR SAMPLE	35,000.00	45	each

Step 4 - After successfully putting Techno commercial offer and price part then click on "Submit Entire Response"

3.1.4 Entering Your Prebid for e-auction

Before participation to the e-auction you must place a pre-bid. If you haven't placed a Prebid in the Prebid time you won't be able to participate to the auction itself.

Step 1: Populate Your Answers.

Step 2: Click "Submit Entire Response".

The screenshot shows the 'Tata Power Company Limited-TEST Dashboard' for document Doc681345837 - sourcing-project-001. A yellow banner at the top right indicates 'Time remaining in preview 1 day 04:05:05'. A message states: 'The event owner has requested that you submit a prebid before the end of the preview period. You have not yet submitted a prebid.' The left sidebar contains a checklist with '4. Submit Bids' highlighted in red. The main content area shows a table with columns 'Name' and 'Extended Price'. The table includes sections for '1 Introduction', '2 Commercial Terms' (with a sub-item '2.1 lot-1' for '4 core cable' at a price of 5000 INR), and '3 Pricing' (with a sub-item '3.1 FOR SITE DELIVERY P&F INCLUSIVE' and a file upload 'COMP-1.xlsx'). At the bottom, the 'Submit Entire Response' button is highlighted in red.

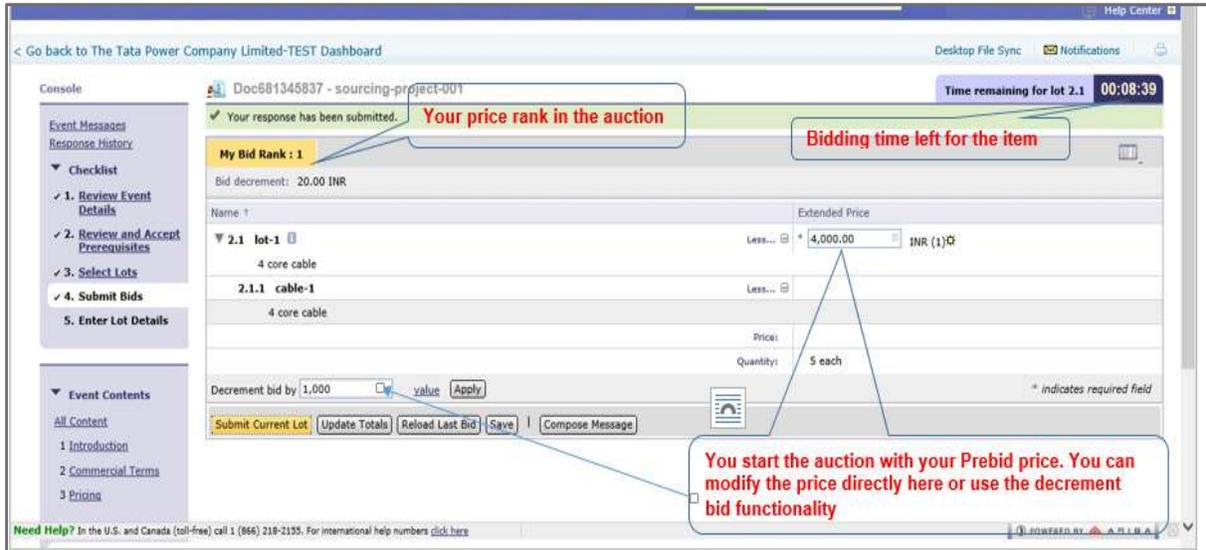
When the Prebid time is still open you can still modify your Prebid:

Click on "revise Prebid" and repeat in step 1 and step 2.

The screenshot shows the same dashboard after a prebid has been submitted. A green banner at the top right indicates 'Time remaining in preview 1 day 04:02:39'. A message states: 'Your prebid has been submitted. You will be notified when the event is open for bidding.' The left sidebar checklist now has '4. Submit Bids' highlighted in red. The main content area table is updated with the 'Extended Price' for '2.1 lot-1' as '5,000.00 INR' and for '3.1 FOR SITE DELIVERY P&F INCLUSIVE' as '5,000.00 INR'. The 'Revise Prebid' button is highlighted in red.

3.1.5 Participate to the e-auction

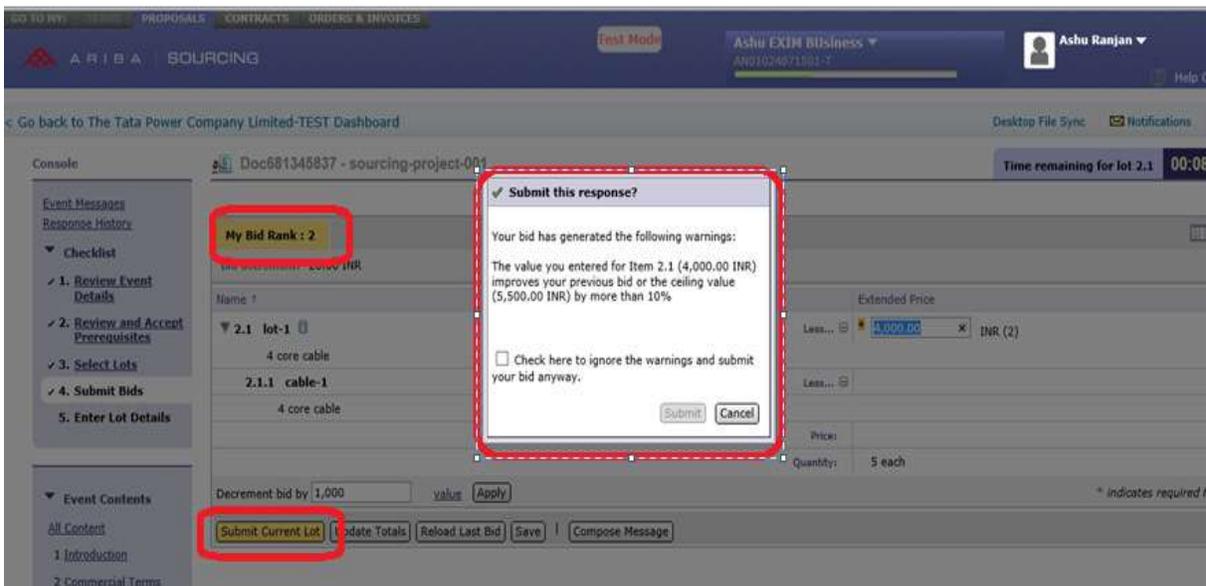
If you have placed a bid in the Prebid time you will be able to participate to the e-action. E-auctions are rather sort in time (usually less than 20 min per item). Once the time is closed you won't be able to bid anymore.



When you want to submit your price presses "submit current lot"

In case the new price you submit is lower by 10% of the starting price (Prebid Price) the following warning Message will be displayed.

To submit the new price, check the box and press submit. If you made a mistake press cancel so that you Mistake would not be submitted.



3.1.5.2 What to do if you have a problem during the e-auction?

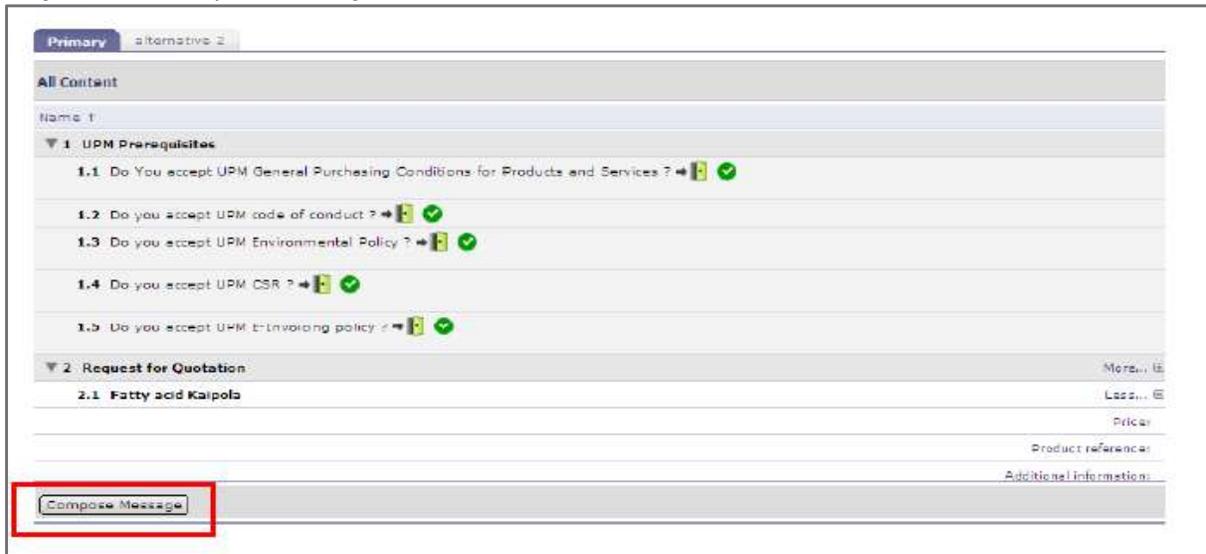
If you have any problem related the system: - **Call first Tata Power e- Bidding / Auction Cell**

➤ **e- Bidding /Auction Cell details:-**

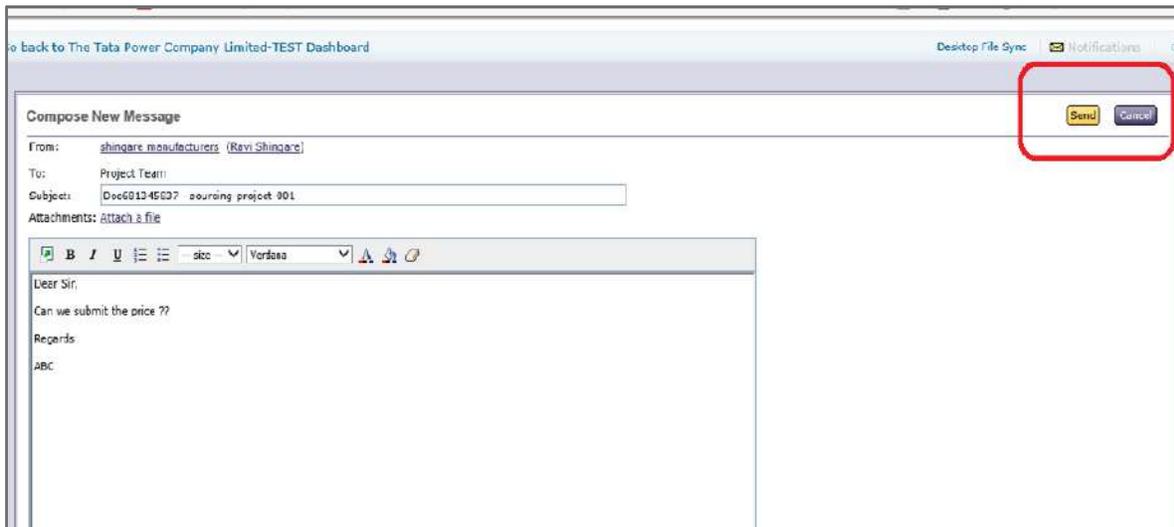
<u>Core team</u>		
<u>Contact Person</u>	<u>E-Mail Id</u>	<u>Contact Details</u>
Ravi Shingare	ravi.shingare@tatapower.com	9029004168
Himanshu Ranjan	himanshur@tatapower.com	9820339961
<u>Escalation Matrix</u>		
Paresh Bhatt	pareshbhatt@tatapower.com	
C T Prakash	ctprakash@tatapower.com	9223545185

4 Communicating with Tata Power Buyer & Auction team during auction / e- bidding

Step 1: Click “Compose Message”.



Step 2: Compose Your Message and click “Send”.



SUPPLIER FREQUENTLY ASKED QUESTIONS

If I registered on my buyer's Ariba Sourcing site in the past, do I need to register again?

Answer- Yes. Although you have registered on your buyer's Ariba Sourcing site in the past, registering on the Ariba Commerce Cloud is required. The registration process only takes a few moments, with a simple one-page registration. Registering on the Ariba Commerce Cloud gives you access to all your buyer relationships with one username and password.

What is the Ariba Commerce Cloud?

Answer: - The Ariba Commerce Cloud is your entry point to all of your seller solutions. Rather than managing log in information for multiple buyers' sites, you will have one log in and one account. This means fewer passwords to remember, easier user maintenance for your company, and a unified profile for your organization.

Do I need to add Product and Service Categories during registration?

Answer:-Yes; this is a required field. Product and Service Categories classify what your company sells, and the system uses this information to match potential business opportunities with your products and services.

Click **Add Product and Service Categories** to select one or more categories from the list of options. During registration, you only need to choose one category, preferably related to the event you are joining. You can add, refine, or remove categories any time after the registration process.

Do I need to add ship-to or service locations during registration?

Answer: - Yes; this is a required field. Ship-to or Service locations inform buyers where your company sells its products or provides its services, and the system uses this information to match potential business opportunities with your products and services.

Click **Add Ship-to or Service Locations** to select one or more sales territories from a list. You can add, refine, or remove ship-to or service locations any time after the registration process.

Do I need to enter a D-U-N-S number when I register?

Answer: - No; this is an optional field. You are only required to complete the fields marked with an asterisk (*). If you enter a D-U-N-S number, and you get a message that the value is already in use, leave the field blank, as D-U-N-S numbers must be unique within the Ariba Commerce Cloud. Your company can have multiple Ariba accounts, but only one account can use the D-U-N-S number.

Additional Information: - D-U-N-S is a registered trademark of Dun & Bradstreet or its subsidiaries in the United States and other countries.

Do I need to enter a Tax ID when I register?

Answer: - No, the Tax ID is an optional field. You are only required to fill in the fields marked with an asterisk (*).

What is the difference between the Email and Username fields in my profile?

Answer: - The Email field represents the email address where you wish to receive email notifications. The Username field is the identifier that you use to access your account. The Username field must be in email format, but you do not have to use a valid email address.

Note: Leave the **This is my username** box checked if you want your email address to be the same as your username.

How do I participate in my buyer's event using an email invitation?

Answer: - Use the **Click here** link in the email notification to access the sourcing event.

While buyers might customize the email content you receive, all email invitations contain a link to access the event.

Depending on your previous experience with Ariba solutions, do one of the following to access the event after you click the link:

- If you are new user, click **Continue** on the welcome page. You continue to register an Ariba account to link with your buyer and participate in the event.
- If you have used Ariba before and have already accessed an event for the buyer-specific account with your current log in ID, click the **Login** button to continue. Log in with your Ariba username and password in order to participate in the event.
- If you already have an existing Ariba Network, Ariba Discovery, or Ariba Sourcing supplier account, but you have not accessed any events for the inviting buyer's site, use the **Click here if you already have an Ariba Commerce Cloud, Ariba Discovery or Ariba Network account** link. After clicking the link, log in with your existing account to move your information to your buyer's site.

Additional Information :- Registering an Ariba account provides you with a consolidated view of all your customer relationships. With this one profile, you can view business opportunities, participate in sourcing events, participate in contract negotiations, and manage orders, catalogs, and invoices.

Why doesn't the link in the email invitation to participate in a sourcing event work?

Answer:-If you cannot click the link, or the link does not open the log in page, highlight and copy the Uniform Resource Locator (URL), and then paste the URL into your web browser.

Can my company have multiple accounts?

Answer:-Your Company can have multiple Ariba accounts, depending on your business needs. For example, if your company has several locations around the world, you might want a separate account for each region.

Most companies choose to have one account with multiple customer relationships, which provides a centralized location to maintain their company profile information and all of their customer relationships.

Additional Information

Consider the following items when deciding whether to have more than one account:

- **Administrators:** For each account, you can have only one account administrator, but the account administrator can provide access to multiple users. All users from your company have their own **Username** and **Password** to access the account.
- **DUNS** (data universal numbering system) **numbers:** You can add your company's DUNS number to only one account. If you plan to have multiple accounts, leave the DUNS number blank during registration.

How do I complete registration if my username already exists?

Answer: - This message means that you already have an Ariba Network, Ariba Discovery, or Ariba Sourcing supplier account registered under username you entered. You can either register a new account by creating a new username, or access one of the following sites to request a password reset for the registered username:

- [Ariba Network](#) (This login page is used for all Ariba Network, Ariba Sourcing, or Ariba Contracts suppliers).
- [Ariba Discovery login page](#)

To reset your password, click the **Having trouble logging in?** Link on the Login page.

Nothing happens when I click Forgot Username and enter my email address

Issue: - Nothing happens when I click the **Forgot Username** link and enter my email address.

Cause: - After you submit your request to retrieve your username, the Ariba Network sends an email notification with usernames that match the email address you submitted.

Some possible reasons why you may not receive this username retrieval email notification:

- The email address on your account does not match the email address you entered when submitting the request.
- Your buyer-specific account was deactivated before you could move it to the Ariba Commerce Cloud. Generally, that means you probably have not participated in an event with that buyer for a while.

Solution: -

- To ensure you receive this email notification:
- Make sure you type the email address configured within your account.

If your buyer-specific account has been deactivated, contact your buyer to determine how to proceed.

Where is my password reset email?

Answer: - After you submit your request for a password reset, Ariba sends instructions to the email address associated with your account. If you didn't receive a password reset email, check the following scenarios to troubleshoot.

The username you entered is in the wrong format, or it isn't associated with the email address you are checking.

- Keep in mind, your username is in the format of a full email address, but it can be associated with any email address you entered previously.
- Your username is also case-sensitive.
- To confirm that you are using the correct username and format, return to the Ariba login page, and click the **Having trouble logging in?** link (**Forgot Username** if you're working in Ariba Discovery).
 - Choose **I forgot my username**, and click **Continue**.
 - Enter the email address associated with your account, and click **Submit**.
 - You will receive an email that lists the exact format of the username associated with the email you entered.

You entered the correct username, but you still didn't receive the password reset email notification.

- This can occur if the configured email address is different from the account you are checking.
- You might have multiple accounts for your company, so make sure you are attempting to access the correct account.

Your email configuration or company's security settings might also prevent you from receiving the password reset email. To find out, check your junk mail folder or email filter settings to verify that automated emails from Ariba are not blocked from your email account.

 **Why do I get this message on the SAP Ariba Login page: "The username and password pair you entered was not found"?**

Answer: - You entered an incorrect **Username** or **Password**. You might receive this message if you entered a previous **Username** or **Password**. Remember that your **Username** has the format of an email address, and both the **Username** and **Password** are case sensitive.

Click the **Having trouble logging in?** Link on the Login page if you don't remember your log in information.