

The Tata Power Company Ltd



OPEN TENDER NOTIFICATION

Tender Reference: CC25MSJ045

Document Date: 06th November 2024

OPEN TENDER NOTIFICATION

FOR

**SITC of Firefighting system for upgradation of 22 kV AIS by 33 kV
GIS at Kalyan Receiving station**

**Tender Enquiry No: CC25MSJ045
(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,
2nd Floor, Sahar Receiving Station, Near Hotel Leela,
Sahar Airport Road, Andheri (E), Mumbai 400 059**

The Tata Power Company Ltd		<i>OPEN TENDER NOTIFICATION</i>
<i>Tender Reference: CC25MSJ045</i>		<i>Document Date: 06th November 2024</i>

Procedure for Participating in Tender

Tender Enquiry No.	Work Description (OLA 03 Years)	EMD (Rs.)	Tender Participation Fee	Last date and time for Payment of Tender Participation Fee*	Last date and time for bid submission
CC25MSJ045	SITC of Firefighting system for upgradation of 22 kV AIS by 33 kV GIS at Kalyan Receiving station.	65,000/-	Rs. 2000/-	28th November 2024	28th November 2024

*** 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

The Tata Power Company Ltd



OPEN TENDER NOTIFICATION

Tender Reference: CC25MSJ045

Document Date: 06th November 2024

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”

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>

CONTENTS OF THE ENQUIRY

Following Documents Form Part of Tender Enquiry:	No. of Pages
A. Tender Notice Including Instruction to Bidders (this document)	1-16
B. Pre-Bid Queries Submission Format*	
B.1 Format for Technical Pre-Bid Queries	1-1
B.2 Format for Commercial Pre-Bid Queries	1-1
C. Pre-qualification Requirement and Submission Format*	
C.1. Techno-Commercial PQR (Pre-Qualification Requirement)*	1-1
D. Commercial Set of Documents / Format	
D.1. a. General Terms and Conditions -Supply	1-18
b. General Terms and Conditions -Service	1-19
D.2. STC additional for Open Tender	1-3
D.3. Special Conditions of Contract	1-3
D.4. Price Bid Format	1-1
D.5. Annexure to GCC and Safety T&Cs	1-84
E. Technical Set of Documents / Format	
E.1. Scope of Work	1-136
E.2. Schedule C	1-9
F. Other formats / templates	
F.1. Affidavit format	1-1
F.2. Format of Letter of Undertaking	1-1
F.3. E-auction Undertaking format	1-1
F.4. EMD Bank Guarantee Format	1-2
F.5. Contract Performance / Performance Bank Guarantee Format	1-2
F.6. Vendor Registration Form	1-6
G. Policies	
G.1. Health and Safety	1-1
G.2. Environment Policy	1-1
G.3. Sustainability Policy	1-1
H. Tata code of Conduct	1-40
I. ARIBA User manual	1-14

*_To be submitted in editable excel format

The Tata Power Company Ltd		<i>OPEN TENDER NOTIFICATION</i>
<i>Tender Reference: CC25MSJ045</i>		<i>Document Date: 06th November 2024</i>

Section A: Tender Notice including Instruction to Bidders

1. Tender Details

1.1 Key Tender Specific Details

Reference Number	CC25MSJ045
Description	SITC of Firefighting system for upgradation of 22 kV AIS by 33 kV GIS at Kalyan Receiving station.
Type of Tender	Firm Order
Period	Till the completion of work.
Tender Fee	Rs 2,000/-
Earnest Money Deposit (EMD)	Rs 65,000/- Rs Sixty Five Thousands 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.

The Tata Power Company Ltd		OPEN TENDER NOTIFICATION
Tender Reference: CC25MSJ045		Document Date: 06 th November 2024

1.2 Calendar of Events

(a)	Access to Tender Documents through Tata Power website	07 th November 2024
(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 28 th November 2024
(d)	Last Date of receipt of pre-bid queries, if any.	19 th November 2024
(e)	Last Date of Posting Consolidated replies to all the pre-bid queries as received	By 21 st November 2024
(f)	Last date and time of receipt of Bids	By 28 th November 2024

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.

The Tata Power Company Ltd		<i>OPEN TENDER NOTIFICATION</i>
<i>Tender Reference: CC25MSJ045</i>		<i>Document Date: 06th November 2024</i>

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

The Tata Power Company Ltd



OPEN TENDER NOTIFICATION

Tender Reference: CC25MSJ045

Document Date: 06th November 2024

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

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

The Tata Power Company Ltd



OPEN TENDER NOTIFICATION

Tender Reference: CC25MSJ045

Document Date: 06th November 2024

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.

The Tata Power Company Ltd



OPEN TENDER NOTIFICATION

Tender Reference: CC25MSJ045

Document Date: 06th November 2024

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

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

The Tata Power Company Ltd		<i>OPEN TENDER NOTIFICATION</i>
<i>Tender Reference: CC25MSJ045</i>		<i>Document Date: 06th November 2024</i>

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---

FORMAT C.1

Technical Pre-Qualification Requirement and Submission Format

Tender No

CC25MSJ045

Package Name

CC25MSJ045 SITC of Firefighting system for upgradation of 22 kV AIS by 33 kV GIS at Kalyan 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	Supply & Experience	Bidder shall fulfill following requirement to participate in the bid and shall clearly brought out in the offer by providing supporting document. 1) Bidder shall visit Tata Power Kalyan RSS. 2) Bidder shall have executed similar kind of two nos of project in past three (03) years of minimum cost 60 lakhs in Power plant, Petroleum refinery, steel plant.	Supply List & Performance Certificates from the utilities / clients. 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	Commercial Capability	Average Annual Turnover of the bidder for last three years shall not be less than INR 01 Crore.	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.		

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 Qualificaion 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.

3) In case the bidder has a previous association with any of the Tata Group companies for similar products and services, the performance feedback for that bidder by Tata Group companies shall only be considered for evaluation, irrespective of performance certificates issued by any third organization.

4) Apart from the above PQR bidder must also qualify in Safety evaluation. Details will be shared along with tender documents.

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.

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.

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 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

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 statues: (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

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.

The Tata Power Company Ltd



OPEN TENDER NOTIFICATION

Tender Reference: CC25MSJ044

Document Date: 05th November 2024

Tender No: CC25MSJ045

Tender Name: **SITC of Firefighting system for upgradation of 22 kV AIS by 33 kV GIS at Kalyan Receiving station**

The commercial terms and conditions are as follows: -

1) GENERAL - The following Special Conditions of Contract (SCC) shall supplement the General Terms & Conditions - Supply & Services.

Wherever there is a conflict, the provisions herein shall prevail over those in the "General Terms & Conditions (GTC)".

2) CONTRACT PRICE & CONTRACT STRUCTURE - The Price Bid 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.

Bidders to quote for the package on Firm Price basis. The prices shall remain firm during the entire contract period and no price variation is applicable.

Tata Power reserves the right to distribute the scope of work among multiple bidders.

3) COMMENCEMENT / EFFECTIVE DATE - The bidder will commence work / manufacturing of equipment on issue of Letter of Award (LOA) / Purchase Order by TATA POWER and notice to proceed by the Order Manager.

No equipment shall be delivered without specific dispatch clearance from project Manager TATA POWER.

4) SCOPE OF WORK - The scope of work includes Design, Supply, Installation, Testing and Commissioning of Firefighting system for upgradation of 22 kV AIS by 33 kV GIS at Kalyan Receiving station

BA has a clear understanding of the job & confirms to deliver the material & execute the services as per scope of work / bill of quantity & subsequent confirmations provided by Tata Power Engineering team.

5) CONTRACT PERFORMANCE BANK GUARANTEE - This is as per General Terms & Conditions - Supply CI no 09.

Successful bidder shall submit CPBG cum PBG for 10% of contract value in format specified by Tata Power within 15 days after placement of confirmed Purchase Order, valid till warranty period plus 06 months claim period.

6) TERMS OF PAYMENT - This is further to General Terms & Conditions - Supply CI no 06 and General Terms and conditions-Services CI 8.0 respectively.

A. Payment Terms for Supply Part:

- i) Ninety Percent (90%) of Supply part inclusive of 100% taxes, duties (pro-rata basis) after receipt and acceptance of the Equipment/Materials on site.
- ii) Ten Percent (10%) of Total Supply Price on successful commissioning and take over by Owner/Project Manager.
- iii) Credit Period is 60 days (45 days for MSME).

Sunset clause: In case commissioning & subsequent completion of the overall project gets delayed beyond 60 days from the scheduled date of supply due to reason attributable to Tata Power, then the retained 10 % of Supply payment will be released with 45 days of Contractual credit period (Provided contractual CPBG is in place).

B. Payment Terms Service Part:

- i) Hundred Percent (100%) of the Service part of the Contract price shall be paid in the form of monthly running bills (not more than one invoice per month) based on actual progress of Erection/services.
- ii) Safety Retention as per safety terms and conditions
- iii) Credit Period is 60 days (45 days for MSME).

C. All payments are subject to the unconditional acceptance of the PO and submission of the performance bank guarantee as mentioned above, as per approved format.

D. As per "Retention for Safety Compliance" clause of GCC Services clause 8.3, a percentage of the total services amount, shall be held towards Contractor's safety performance. The said payment will be released after the safety audit / performance score is calculated by the Company for the period, provided there is no safety incident / violations reported during the period and after deduction of LDs (if any) towards safety non-performance as per the enclosed Safety T&C guidelines

7) LIQUIDATED DAMAGES - LD Clause percentages specific to this package will be:

The LD for delay in completion of Works shall be at 1.0% of total order value per week of delay or part thereof, limited to max 10% of total order Value.

8) WORK COMPLETION PERIOD - Post order placement,

- i) BA to submit drawings, datasheets, MDL, other technical documents, etc. within 1 week of award of PO.
- ii) Tata Power shall review and provide manufacturing clearance within next 1 week.
- iii) Delivery, Installation, Testing, and Commissioning: Material delivery shall be completed within 01 month from date of award and commissioning work shall be completed within 02 months from date of award.

9) WARRANTY PERIOD –

- a. Warranty Period (Supply Scope) - The warranty shall be for a period of 24 months from the date of delivery of material at site or 18 months from the date of commissioning whichever concludes earlier.
- b. Defect Liability Period (Service Scope) - Contractor is responsible for defects in the works for a period of 12 months from the date of completion of services and in case of any defects observed, shall re-do the same without any additional charge to Tata Power.

10) INSURANCES -This is further to General Terms and conditions-Services Clause 12- complete Insurance will be in Bidder's scope.

11) TOTAL COMPLIANCE TO TCOC, SHE AND INTERNATIONAL SAFETY STANDARDS - Tata Power Contractor Safety Management (CSM) checklist is enclosed as Annex CSM format. Bidder shall have to abide fully without any deviation.

12) 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 enroll 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 enroll his and sub-contractors work force to the respective skills / crafts training (Levels L1/L2/L3) offered by TPSDI.

12) SPECIAL NOTE FOR STATUTORY REQUIREMENTS RELATED TO CONTRACT WORKMEN - In addition to all prevailing admin / statutory approvals bidder to take special note of following.

All employees should submit medical fitness on Form No 6. ESIC / PF is mandatory for all employees deputed for the project. Police Verification / Indemnity Bond to be produced for all employees working at site.

CC25MSJ045 SITC of Firefighting system for upgradation of 22 kV AIS by 33 kV GIS at Kalyan Receiving station

Sr. No.	Item Description	Qty	UoM	GST	Basic Price	Total Basic Price	Applicable Taxes	All Incl Price
SUPPLY PART								
1	Design & Supply of MVWS system for GIS cable basement & New station building	1	Lot	18%		-	-	-
2	Design & Supply of Internal hydrant system for proposed building	1	Lot	18%		-	-	-
3	Design & Supply of Fire detection & Alarm system for building	1	Lot	18%		-	-	-
4	Design & Supply of Sprinkler system for station building	1	Lot	18%		-	-	-
5	Design & Supply of Gas based fire suppression system for GIS Panel	1	Lot	18%		-	-	-
6	Design & Supply of Hoist (Fire pump & Switchgear building)	1	Nos	18%		-	-	-
7	Mandatory Spares	1	Lot	18%		-	-	-
Total Supply						-	-	-
SERVICE PART								
1	Installation, Testing and Commissioning of MVWS system for GIS cable basement & New station building	1	Lot	18%		-	-	-
2	Installation, Testing and Commissioning of Internal hydrant system for proposed building	1	Lot	18%		-	-	-
3	Installation, Testing and Commissioning of Fire detection & Alarm system for building	1	Lot	18%		-	-	-
4	Installation, Testing and Commissioning of Sprinkler system for station building	1	Lot	18%		-	-	-
5	Installation, Testing and Commissioning of Gas based fire suppression system for GIS Panel	1	Lot	18%		-	-	-
6	Installation, Testing and Commissioning of Hoist (Fire pump & Switchgear building)	1	Nos	18%		-	-	-
Total Service						-	-	-
Total Supply + Service						-	-	-

Assumption

Indoor GIS and new station building with cable basement has been considered

Tapping for Hydrant and MVWS system is from existing fire network.

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
3.0		Safety Organization & Responsibilities	3
	3.1	Contractor Site Management and Supervision	3
	3.2	Contractor Supervisors and General Staff	4
	3.3	Contractor Workforce	4
	3.4	Vendor/Contractor/sub-contractor	5
4.0		<u>Tools and Tackles(R5)</u>	6
5.0		Site Safety Rules and Procedures	6
6.0		Critical safety Rules and Procedures	6
7.0		<u>General Safety Rules and Procedure(R5)</u>	8
8.0		Training and Capability Building	10
9.0		Pre-Employment and Periodic Medical check-up	12
10.0		Safety performance retention(R5) and Safety Performance Evaluation	12
11.0		<u>Recognition to the Prior Learning in Safety-R5</u>	12
12.0		Other Conditions	13
<u>General Safety Conditions for various contracts Specific to Discom(R5)</u>			
13.0		<u>Safety Conditions for maintenance of STS (Sub Transmission System) Network for Discom(R5)</u>	14
14.0		<u>Safety Conditions for maintenance of 11 KV and LT Network for Discom(R5).</u>	15
15.0		<u>Safety Conditions for the major contract work in Civil Projects for Odisha Discom(R5)</u>	16
16.0		<u>Safety Conditions for the major contract work in Commercial Department like - MMG, RRG, EAG, etc(R5)</u>	17
17.0		<u>Safety Conditions for Major Projects in Distribution Network(R5)</u>	18
18.0		<u>Schedule of Safety Audits by BA Safety Staff(R5)</u>	19

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

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.

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

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.

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	TPWODL	Date of Issue: 01/08/2023
TATA POWER				

- 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.

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

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**.

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

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.

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

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)

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

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):

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

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

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

- 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

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

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

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

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

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.



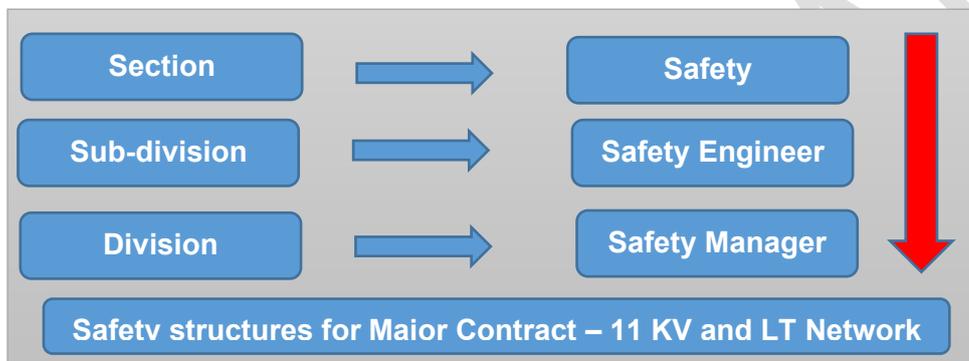
14.0 Safety Conditions for maintenance of 11 KV and LT Network.

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.

The Tata Power Company Ltd	     	<i>Appendix 3 to CSCC Safety Terms and Conditions</i>
<i>Document No. TPSMS/GSR/STC/009 REV 05</i>		<i>Date of Issue: 01/08/2023</i>

- 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.

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	TPWODL	Date of Issue: 01/08/2023
TATA POWER				

- 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.



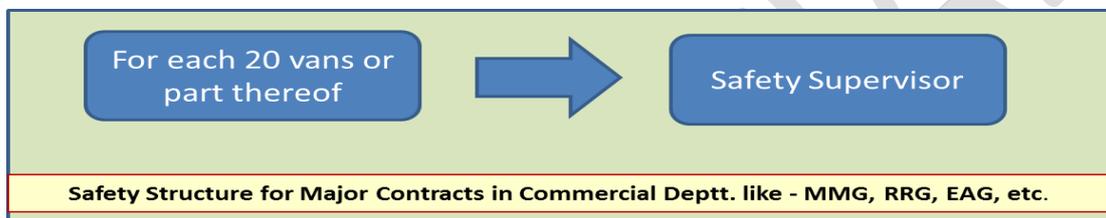
16.0 Safety Conditions for the major contract work in Commercial Department like - MMG, RRG, EAG, etc.:

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.

The Tata Power Company Ltd	     	<i>Appendix 3 to CSCC Safety Terms and Conditions</i>
<i>Document No. TPSMS/GSR/STC/009 REV 05</i>		<i>Date of Issue: 01/08/2023</i>

- 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

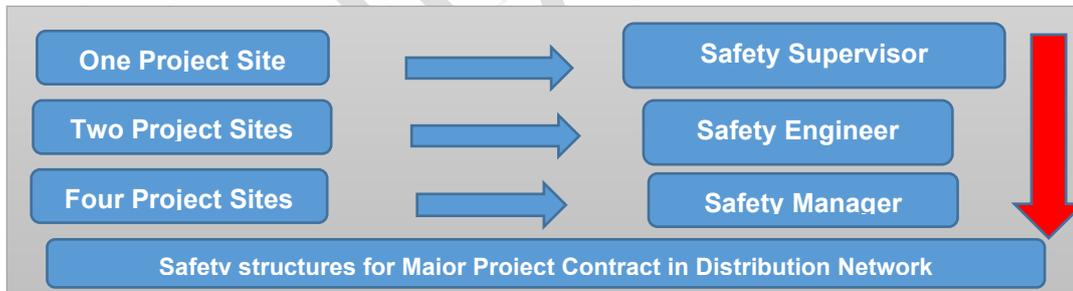
A BA awarded a major Projects in Distribution Network shall be required to fulfil the following conditions:

- 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	 	 	 	Appendix 3 to CSCC Safety Terms and Conditions
Document No. TPSMS/GSR/STC/009 REV 05				Date of Issue: 01/08/2023

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.

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

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

CONFIDENTIAL

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
<u>Project /AMC Manager(R7)</u>						
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

The Tata Power Company Ltd	  	Contractor's Safety Code of Conduct
Document no TPSMS/GSP/ CSM/015/REV 07	  	Date of Issue: 01/08/2023

- 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.

The Tata Power Company Ltd	 	Contractor's Safety Code of Conduct
Document no TPSMS/GSP/ CSM/015/REV 07		Date of Issue: 01/08/2023

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

The Tata Power Company Ltd	     	Contractor's Safety Code of Conduct
Document no TPSMS/GSP/ CSM/015/REV 07		Date of Issue: 01/08/2023

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.

The Tata Power Company Ltd	     	Contractor's Safety Code of Conduct
Document no TPSMS/GSP/ CSM/015/REV 07		Date of Issue: 01/08/2023

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.	

The Tata Power Company Ltd	TPCODL TPSODL	 TATA TATA POWER	TPNODL TPWODL	<i>Contractor's Safety Code of Conduct</i>
<i>Document no TPSMS/GSP/ CSM/015/REV 07</i>				<i>Date of Issue: 01/08/2023</i>

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

The Tata Power Company Ltd		Contractor's Safety Code of Conduct
Document no TPSMS/GSP/ CSM/015/REV 07		Date of Issue: 01/08/2023

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>

The Tata Power Company Ltd	     	<i>Contractor's Safety Code of Conduct</i>
<i>Document no TPSMS/GSP/CSM/015/REV 07</i>		<i>Date of Issue: 01/08/2023</i>

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.)*

The Tata Power Company Ltd	     	Contractor's Safety Code of Conduct
Document no TPSMS/GSP/ CSM/015/REV 07		Date of Issue: 01/08/2023

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)	

The Tata Power Company Ltd	     TATA POWER	Contractor's Safety Code of Conduct
Document no TPSMS/GSP/ CSM/015/REV 07		Date of Issue: 01/08/2023

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	

The Tata Power Company Ltd	     	<i>Contractor's Safety Code of Conduct</i>
<i>Document no TPSMS/GSP/ CSM/015/REV 07</i>		<i>Date of Issue: 01/08/2023</i>

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

The Tata Power Company Ltd	     	Contractor's Safety Code of Conduct
Document no TPSMS/GSP/ CSM/015/REV 07		Date of Issue: 01/08/2023

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

	<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	Violation in Scaffolding work w.r.t. to TPSMS/CSP/SCAF/007 <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	Violation in Excavation Work w.r.t. to TPSMS/CSP/EXS/002 <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	Action Required
2	Major Injury (Bone injury or burn or hospitalization >48 hrs.) Non-Fatal (Two or more non-Fatal in one event)	G	G	H		Intolerable
3	Single fatality	G	H			
4	Multiple fatalities (Two or more fatalities in one event). Anywhere in Tata power.	H				

The Tata Power Company Ltd	     	<i>Contractor's Safety Code of Conduct</i>
<i>Document no TPSMS/GSP/ CSM/015/REV 07</i>		<i>Date of Issue: 01/08/2023</i>

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.

The Tata Power Company Ltd	     	<i>Contractor's Safety Code of Conduct</i>
<i>Document no TPSMS/GSP/ CSM/015/REV 07</i>		<i>Date of Issue: 01/08/2023</i>

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

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

(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

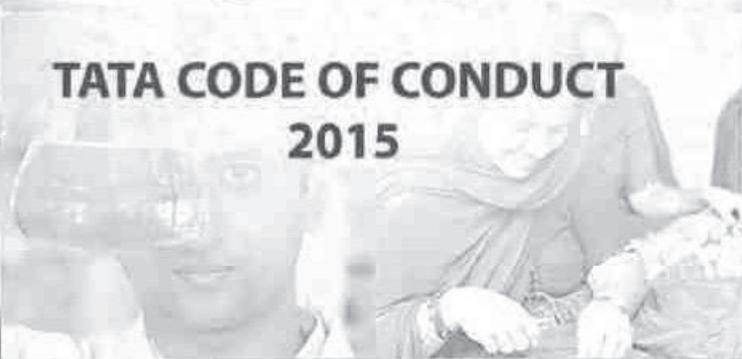
The management will commit all the necessary resources required to meet the goals of Corporate Sustainability.



(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)

CONTENTS

Foreword	3
A Our values.....	4
B Scope and purpose of this Code.....	5
C Our core principles.....	7
D Our employees.....	9
E Our customers.....	18
F Our communities and the environment.....	21
G Our value-chain partners.....	23
H Our financial stakeholders.....	25
I Governments.....	27
J Our group companies.....	29
Raising concerns	30
Accountability	31
Acknowledgement sheet	33



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

THE TATA POWER COMPANY LIMITED

Generation Division

TECHNICAL SPECIFICATION

FOR

Kalyan GIS Fire Protection System

SPECIFICATION NO - GE00516- P-SP-001



Tata Power

Generation Engineering

		Signature		Signature		Signature	
RO	16/10/24	Name	Jitendra Shinde	Name	Dipankar Das	Name	Naveen Kumar Mishra
Rev No	Date	Prepared By		Reviewed By		Approved By	

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – A Page 2 of 25
	Kalyan GIS Fire Protection Package	

SECTION NO	DESCRIPTION	Page No.
A	SPECIFICATIONS	
1	INTRODUCTION	
2	SCOPE OF WORK	
3	TERMINAL POINTS	
4	EXCLUSIONS	
5	Project Specific Requirement	
6	Bidder Qualification Requirement	
7	PROJECT SCHEDULE / MILESTONES	
8	SUBMISSIONS BY BIDDERS	
9	PROJECT INFORMATION	
10	PERFORMANCE & GUARANTEE TESTS	
11	EQUIPMENT TECHNICAL SPECIFICATIONS *	
B	STANDARD SPECIFICATION	
	Chapter No 1 Medium Velocity Water Spray System	
	Chapter No 2 Panel flooding Gas based fire suppression system.	
	Chapter No 3 Fire detection and alarm system	
	Chapter No 4 Passive fire protection	
	Chapter no 5 Fire Hydrant system	
	Chapter no 6 Sprinkler system	
	Chapter no 7 Quality assurance requirement	
	Chapter no 8 Standard quality plan	
C	SCHEDULES	
C1	Schedule of Quantities and Prices (including services)	
C2	Time Schedule for the project	
C3	Schedule of Deviations from Technical Specifications	
C4	Schedule of Deviations from General & Special conditions of contract	
C5	Schedule of Drawings/ Document submission	
C6	Schedule of Mandatory Spares	
C7	Schedule of special erection, maintenance tools & tackles	
C8	Schedule of places of tests & inspection	
C9	Schedule of Recommended Spares (to be listed by bidders)	
D	Data sheets	
	Annexure: 1 Drawings of Kalyan GIS station	
	Annexure 2 Drawing of Kalyan Hydrant network	

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – A
	Kalyan GIS Fire Protection Package	

1.0 INTRODUCTION

1.1 The Tata Power Company Limited (Tata Power) is having a requirement of fire protection system for upcoming Kalyan GIS building to enhancing round the clock fire protection system to the equipment.

2.0 SCOPE OF WORK

2.1 Design, Engineering, Supply, Transport to Site & Installation, Testing & Commissioning of fire hydrant system (internal and external) for GIS building only as per specification.

2.2 Design, Engineering, Supply, Transport to Site & Installation, Testing & Commissioning of Medium velocity water spray system for cable vault at ground floor.

2.3 Design, Engineering, Supply, Transport to Site & Installation, Testing & Commissioning of sprinkler system for common area in GIS building as per IS 15105.

2.4 Design, Engineering, Supply, Transport to Site & Installation, Testing & Commissioning of panel based gas flooding system in GIS building 3 nos. location will be decided during detail engineering.

2.5 Design supply, installation testing and commissioning of addressable automatic fire detection and alarm system for GIS building. Make Notifire, Appolo, Advance

2.6 Design supply, installation testing and commissioning of Fire resistance paint for cable vault as per specification. Quantity 100 Sq meter for GIS building cable entry and exit

2.7 Design, supply, installation testing and commissioning of fire stops for cable vault as per specification. Quantity 10 Cubic meter for GIS building cable entry and exit.

3.0 TERMINAL POINTS

3.1 Terminal point will be tap-off from existing hydrant / spray line.

4.0 EXCLUSIONS

4.1 Nil

5.0 Project Specific Requirement

5.1 Bidder to visit the site and ascertain exact dimension

5.2 The drawing provided in section D is for information only to give understanding to bidder for size and shape.

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – A
	Kalyan GIS Fire Protection Package	

- 5.3 Interfacing of the other system such as shutdown of HVAC system, deactivation of access control system, interfacing of system with DCS etc is in bidder scope of work.
- 5.4 All pipes' networks including fittings for MVWS system will be hydrotested at 15 bar.
- 5.5 Tapping shall be taken from existing hydrant line with isolation gate valve.
- 5.6 Separate tapping shall be taken for each MVWS system.
- 5.7 Prefabricated deluge cabinets shall be considered. Prefabricated deluge valve shall be with factory fitted butterfly valve with limit switch.
- 5.8 Each Deluge valve shall be provided with isolation gate valve plus Y type strainer at inlet.
- 5.9 Deluge valve shall be operated through LHS cable and detector signal provided in cable vault or both.
- 5.10 LHS cable shall be provided on every cable tray for MVWS protected area. It shall be with distance locater.
- 5.11 DVLCPC shall be interfaced with main fire alarm panel and Deluge system shall be interfaced with SCADA for remote monitoring and operation through SCADA.
- 5.12 All required cabling (power and control) is in scope of bidder.
- 5.13 Local deluge valve control panel shall be provided near to deluge valve with 4 nos of potential free contact.
- 5.14 Deluge valve shall be provided as per specification provided in section B.
- 5.15 Any discrepancy between two clauses of specification then more stringent as per interpretation of tata power will prevail and binding on bidder without extra claim.

6.0 Bidder Qualification Requirement

Bidder shall fulfill following requirement to participate in the bid and shall clearly brought out in the offer by providing supporting document.

- 6.1 Bidder shall visit Kalyan RSS.
- 6.2 Bidder shall have executed similar kind of two nos of project in past three (03) years of minimum cost 60 lakhs in Power plant, Petroleum refinery, steel plant.

7.0 PROJECT SCHEDULE / MILESTONES

- 7.1 Bidder to complete job and handover system to Tata Power in two months from date of order.

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – A
Kalyan GIS Fire Protection Package		

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

7.2.1 Start of 'Engineering'

7.2.2 Completion of 'Engineering'

7.2.3 Commencement of 'Manufacturing'/Manufacturing process

7.2.4 Commencement of Supply

7.2.5 Commencement of erection, testing and commissioning

8.0 SUBMISSIONS BY BIDDERS

Bidder shall submit the following documents / information along with the Technical Bid.

8.1 With Bid Document

8.1.1 System write-up for clean agent system.

8.1.2 Schematic diagram dully showing scope.

8.1.3 Signed and stamped copy of project specification.

8.2 After Award of contract

8.2.1 Layout drawing of the systems.

8.2.2 Isometric drawing

8.2.3 Pipe support details

8.2.4 Schematic drawing of interface between Main fire alarm panel and DVLC

8.2.5 Hydraulic calculation of MVWS system by sing PIPENET software.

8.2.6 As built drawing

8.2.7 Operation and maintenance manual

8.2.8 QAP of all equipments covered under this specification.

8.2.9 Field quality plan

8.2.10 Any other documents as required by engineer in charge.

9.0 PROJECT INFORMATION

9.1 Please refer Annexure provided in section D of this specification.

9.2 Bidder to note that all equipments supplied under this specification shall comply to all conditions/parameter mentioned in the project information.

10.0 PERFORMANCE AND GUARANTEE TESTS

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – A
	Kalyan GIS Fire Protection Package	

10.1 Performance guarantee test of complete system shall be carried out as per specification and as per applicable code of the system.

10.2 Bidder shall be responsible for the performance guarantee of installed system for 24 months from date of handover of system to Tata Power.

11.0 EQUIPMENT TECHNICAL SPECIFICATIONS

11.1 Refer Section B & section D for technical specification supplied under this specification.

11.2 Requirement of section A of this specification governs over requirement specified in other section of this specification.

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – B
	Kalyan GIS Fire Protection Package	

SECTION B

CHAPTER 1- MVWS System for Cable Gallery

THE TATA POWER COMPANY LIMITED

STANDARD

TECHNICAL SPECIFICATION

FOR

Medium Velocity Water Spray system for cable gallery

DOCUMENT NO - ENGG/ P&L/STD-SPEC/ 015



Tata Power

Generation Engineering

R3	22/12/2021	Revised and issued for use	J Shinde	D Das	N Mishra
R2	22/12/2021	Revised and issued for use	J Shinde	N Mishra	R Gadre
R1	31/03/16	Issued for Info or Use	SP	JSS	SMG
R0	7/7/2014	Issued for Info or Use	JSS	RSG	AJ
Rev. No	Date	Description	Prepared By	Checked By	Approved By

ENGG P&LSTD-SPEC 015 Rev: R2 Date: 22/12/2021	Fire Protection System	Section B
	MVWS system for Cable Gallery	

1. Scope

- 1.1. This specification covers standards specification for Medium Velocity Water Spray system for cable gallery for the areas specified in section A.

2. Codes and Standards

- 2.1. All equipment, system and services covered under this specification shall comply with all currently applicable statutes, regulations, and safety codes.
- 2.2. Following are some of the important codes and standards relevant to this specification.

NFPA-15	Standard for Water Spray fixed system for the fire protection system
IS 3034	Fire Safety of Electrical Buildings: Electrical Generating and Distribution Station – Code of Practise
NFPA 850	Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations
IS 12459	Code of Practise for Fire Safety in cable run

3. Design Criteria of MVWS system for Cable Gallery:

- 3.1. Medium Velocity Water Spray system for cable gallery shall be designed as per NFPA 15 guidelines for extinguishment purpose.
- 3.2. Design Density 6.1 LPM/ M² On the projected plane containing cable tray or run. Protected area shall be divided into number of zones. Each zone shall have separate water supply network controlled by a deluge valve.
- 3.3. Bidder to consider main motor driven pump is in operation only. Accordingly, bidder to select the length of each deluge zone.
- 3.4. Zoning of MVWS system shall be such that if fire is in one zone than deluge valve of that zone shall actuate along with the actuation of all immediate neighbouring deluge valve which are supposed to actuate to prevent spread of fire in any direction.
- 3.5. Zoning shall be done considering actual water required per zone as per hydraulic calculation.
- 3.6. Zone length shall not exceed total actual water requirement of all zone (zone on Fire and adjacent zones of zone on fire) plus hose stream of 3400 LPM as per IS 3034.
- 3.7. Actual water requirement of MVWS system shall not be more than 120% of the Design water requirement of that zone.
- 3.8. For separate system (Separate Hydrant and spray network) zone length of MVWS system shall be such that actual water requirement of three zones (i.e., zone on Fire and adjacent two zones of zone on fire) shall not exceed pumping capacity of main motor driven spray pump. In any case zone length shall not exceed 45 meters for one deluge valve of separate spray system.
- 3.9. The fire in the cable vault/gallery shall be detected by a detection system, comprising of cross zoning of Detector at ceiling & LHS cable mounted cable tray which shall give an electrical signal for the operation of the deluge valve.
- 3.10. The system shall be hydraulically so designed that a minimum pressure of 2.8 bars is available at the remotest sprayer of cable gallery. Maximum pressure shall not exceed 3.5 Bar in the system.

ENGG P&LSTD-SPEC 015 Rev: R2 Date: 22/12/2021	Fire Protection System	Section B
MVWS system for Cable Gallery		

- 3.11. The velocity produced in the distribution pipes shall not exceed more than 5 m/sec.
- 3.12. Deluge valve of MVWS system shall actuate by means of (1) Fire signal from ceiling mounted detector (3) Fire Signal from LHS cable) (4) manual override valve on deluge valve.
- 3.13. Only latest version of PIPENET spray/sprinkler module to be used for carrying out hydraulic calculation of the complete system.

4. Layout Requirement of MVWs system for Cable Gallery

- 4.1. Each of the cable rows shall be provided with a network of water distribution piping and nozzles. The distribution network shall consist of distribution header for each row of cable tray and on these headers drop pipes located at an interval not exceeding 3 meters shall be provided to cover all the tiers.
- 4.2. If in one cable rack no of cable trays exceed three (03) then separate nozzles shall be provided for every fourth cable tray onward.
- 4.3. The distance between the last sprayer and the external wall or limits of area shall not exceed 1.5m anywhere.
- 4.4. The sprayers shall be installed in rows / number of rows at the central aisle between the cable trays and spaced at not more than 3 m from each other.
- 4.5. Each deluge valve shall provide with Manual call point with Hooter and flasher.
- 4.6. Linear heat detection system shall comprise digital LHS cable.
- 4.7. Linear heat sensor cables shall be provided on every alternate cable tray in Zig-Zag pattern for covering maximum surface area of cable tray.
- 4.8. LHS cable shall fix with cable tray with recommended mfg. fittings. If LHS cable runs straight in suspended manner, then LHS cable shall be supported with steel guide wire support at every 1.5 meter. The clear air space between protected surface and LHS cable shall not exceed Manufacturer recommendation.
- 4.9. LHS Cable shall terminate in one zone. Zone length of LHS cable shall not exceed 300 meter or Manufacturer recommendation whichever is less.
- 4.10. Isolation gate valve shall be provided for every 150 meter of spray/hydrant header.
- 4.11. Isolation gate valve shall be provided at the starting of tapping location from exiting/new spray/hydrant header wherever applicable.
- 4.12. One no. of isolation valve gate valve with Y type strainer shall be provided at the inlet of each deluge valve. The isolation valve and strainer will be located outside of deluge valve.
- 4.13. Each deluge valve shall have independent tapping from spray header/hydrant header. Clubbing of deluge valve with common gate valve and strainer or common manifold arrangement is not acceptable.
- 4.14. Deluge valve Housing with 2 hrs fire rating shall be provided along the DV. Bidder can use factory assembled Deluge Cabinet with Butterfly valve & limit switch arrangement at Upstream, downstream, & bypass line of deluge valve.
- 4.15. Location of deluge valve on header shall have easy and smooth access from the adjacent road. Bidder to locate deluge valve accordingly.

5. Technical Parameter of Equipment's covered under HVWS System

- 5.1. Pipe, Pipe Fittings & Valves etc shall confirm standard specification no ENGG/ P&L/STD-SPEC/ 004 attached with this specification.

ENGG P&LSTD-SPEC 015 Rev: R2 Date: 22/12/2021	Fire Protection System	Section B
MVWS system for Cable Gallery		

5.2. Deluge valve and its accessories shall be as per standard specification no ENGG/ P&L/STD-SPEC/ 001 attached with this specification.

5.3. MVWS nozzle shall have SS 304 MOC and shall have inbuilt strainer. Nozzle shall have UL listing.

6. Operation & Performance Testing of MVWS system

6.1. Deluge valve shall operate by following means

6.1.1. By actuating Detector mounted at ceiling level & By actuating LHS cable mounted on cable tray due to heat.

6.1.2. By opening manual override valve provided in deluge trim.

6.1.3. By pressing push button on Deluge valve control panel

6.2. Performance parameter of MVWS system shall be measured as per NFPA 15 only.

7. Inspection and Marking Requirements of Fire Hydrant system equipment's

7.1. TATA POWER or its authorized representative shall have access at all reasonable times to the manufacturer's works, where the equipment's of Fire Hydrant system are being manufactured and/or tested. Any defect / shortcomings pointed out shall be rectified to the satisfaction of inspectors.

7.2. Tata Power will inspect the any or all material at any stage of manufacturing as per approved Manufacturer quality assurance plan. Bidder is responsible for getting approval of all documents before proceeding further.

7.3. Bidder to refer minimum Inspection Requirement of various equipment's attached with this specification ENGG/ P&L/STD-SPEC/ 012.

7.4. Bidder to refer attached standard specification no ENGG/ P&L/STD-SPEC/ 013 for quality assurance requirement.

8. Performance Testing of MVWS System

8.1. Spray system shall be hydraulically tested and shall be capable of withstanding thirty minutes a pressure equivalent to 150% of the design pressure.

8.2. Full flow tests with water shall be done for the system piping as a means of checking the nozzle layout, discharge pattern and coverage, any obstructions and determination of relation between design criteria and actual performance, and to ensure against clogging of the smaller piping and the discharge devices by foreign matter carried by the water.

8.3. Rigidity of pipe supports shall also be checked during the water flow.

8.4. The maximum number of systems that may be expected to operate in case of fire shall be in full operation simultaneously to check the adequacy and condition of the water supply.

8.5. The discharge pressure at the highest and most remote nozzle shall not be less than the value for which the system was designed.

8.6. Operation of deluge/ alarm valve shall be checked by actuating detection system or opening the drain valve of deluge valve.

8.7. Resetting of deluge valve shall also be checked.

8.8. Cutting water supply to DV and restoring the same after some time shall not actuate the DV.

9. Spares

ENGG P&LSTD-SPEC 015 Rev: R2 Date: 22/12/2021	Fire Protection System	Section B
	MVWS system for Cable Gallery	

9.1. Bidder shall provide 10% of MVWS nozzle of all size (K factor & Angle) as spares with the quoted price.

10. Data Submission by Bidder

10.1. Bidder shall furnish drawings and data sheet below listed equipment's for information along with the Offer.

- i. Technical Data sheets and Product catalogue of the pipes, pipe fittings, HVWS Nozzles, Valves, and Strainers etc.
- ii. Technical data sheet and product catalogue of Solenoid valve, Pressure switch & pressure Gauge.

10.2. Drawing document to be submitted by bidder after award of Contract

- i. Technical Data Sheets of all listed equipment's covered under High Velocity Water Spray system
- ii. Layout drawing of the complete system
- iii. P&ID of complete system
- iv. GA drawing of DVLCP
- v. PG test procedure & Operation manual

Note: - Above listed document list is indicative only. Bidder to provide each detail asked by Purchaser of any equipment's covered in the overall project specification scope.

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – B
	Kalyan GIS Fire Protection Package	

SECTION B

CHAPTER 2- Panel based Gas Flooding system

THE TATA POWER COMPANY LIMITED

STANDARD

TECHNICAL SPECIFICATION

FOR

Gas Based Fire Protection System for Panels

(DOCUMENT NO - ENGG: P&L:STD-SPEC: 028)



Tata Power

Generation Engineering

Rev. No	Date	Description	Prepared By	Checked By	Approved By
R2	14/5/2024	Revised and issued for use	J Shinde	D Das	N Mishra
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Contents

1. Scope.....	3
2. Codes and Standards.....	3
3. Design Requirement.....	3
4. Quality Assurance	4
5. Bidder Qualification Criteria	4
6. Document Submission	4
7. System Description & Operation	5
8. Material & Equipment Technical Detail	5
9. Performance Testing & Acceptance	7

ENGG/ SPEC/ 028 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Page 3 of 8
		Standard Specification for Panel Fire Protection	

1. **Scope**

- 1.1. This section covers the design, layout, performance guarantee, Operation and maintenance, quality requirement of local flooding type gas based panel fire protection system.
- 1.2. The scope covers supply, installation, testing and commissioning of automatic fire extinguishing clean gas based flooding system complete suitable for electrical panels with fire detection tube, cylinder, valves, and integration with fire alarm control panel for annunciation.
- 1.3. The work described in this specification includes all engineering, labour, materials, equipment and services necessary, and required, to complete and test the suppression system.
- 1.4. The work shall cover briefly as under:
 - 1.4.1. Providing fire detection tube inside the panels for direct/indirect systems.
 - 1.4.2. Arrangement of fire extinguishing clean gas/agent for flooding of the as per NFPA 2001 only.
 - 1.4.3. Audio-visual annunciation devices for indicating incidence of fire on panel.
 - 1.4.4. Wiring /Connection to local/remote fire alarm systems.
 - 1.4.5. Any other item required for successful commissioning of the system.

2. **Codes and Standards**

- 2.1. Design of the complete system shall be carried out as per the Contract documents indicated below and will conform to the relevant IS & NFPA specification for the system, material and workmanship.
- 2.2. The following Standards of latest revision along with its all amendments shall be referred to for carrying out job.

NFPA 2001	Standard on Clean Agent Fire Extinguishing Systems
NFPA 850	Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations.
NFPA 72	National Fire Alarm and Signalling Code.
NFPA 76	Standard for the Fire Protection of Telecommunications Facilities

3. **Design Requirement**

- 3.1. System shall be designed strictly as per NFPA 2001 only.
- 3.2. Only NFPA 2001 approved gas shall be used as extinguishment agent. No other preoperatory agent shall be used in system.
- 3.3. Gas shall be suitable for panel operation and should non toxic in nature. The fire extinguishing agents addressed in this standard shall be electrically nonconducting and leave no residue upon evaporation.
- 3.4. The design, installation, service, and maintenance of clean agent systems shall be performed by those skilled in clean agent fire extinguishing system technology.
- 3.5. Design density and holding time is as per NFPA 2001 for selected agent for enclosure

ENGG/ SPEC/ 028 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Page 4 of 8
		Standard Specification for Panel Fire Protection	

- 3.6. Which panel is to be protected by clean agent system will be determined by tata power and same is binding on bidder.
- 3.7. Extra gas shall be considered for recurrence of the fire as per NFPA 2001.
- 3.8. The components used for fire fighting system should be UL Listed & FM approved only.
- 3.9. Installations shall conform to IS 15528:2004 or NFPA requirement strictly.
- 3.10. One no of dedicated gas release panel shall be provided to monitor status of the pressure in the cylinder at all time.
- 3.11. Suitable no of initiating devices in Panel and Notification devices in the room void shall be provided as per NFPA 72 in the control room.
- 3.12. The bidder will be responsible for total integration of designing the product, manufacture/supply, assembling, erection, testing and commissioning at site to the satisfaction of Tata Power representative.
- 3.13. The bidder shall submit the General Technical Particulars (GTP) along with their offer for purpose of evaluation of technical suitability of the offered material.
- 3.14. General construction features shall be in line with IS specification No. IS 15528:2004 or NFPA, however CO2 gas shall not be used as extinguishing agent as it is not a clean gas.

4. Quality Assurance

- 4.1. The name of the manufacturer shall appear on all major components.
- 4.2. All devices, components and equipment shall be new, standard products of the manufacturer's latest design and suitable to perform the functions intended.
- 4.3. The manufacturer/Bidder should be ISO 9001:2008 certified company

5. Bidder Qualification Criteria

- 5.1. The installing contractor/bidder shall have an experienced staff firm regularly engaged in the installation of various types of fire fighting systems.
- 5.2. The Installing contractor shall have nationwide service network and should ensure the availability for spares for maintenance at least for 10 years.

6. Document Submission

- 6.1. Drawings for Approval. The installing contractor shall submit the following design information and drawings for approval prior to starting work on this project:
 - 6.1.1. Field installation layout drawings detailing the location of all agent storage cylinders, Heat Sensitive Tube, pipe runs including pipe sizes and lengths.
 - 6.1.2. A separate layout or drawing shall show isometric details of agent storage containers, mounting details, proposed Heat Sensitive Tube/pipe runs and sizes, and symbol legend.
 - 6.1.3. Submit technical data sheets for approval to Tata Power before starting installation.

ENGG/ SPEC/ 028 Rev: RO Date: 10/10/2017	Standard Specification	Page 5 of 8
	Standard Specification for Panel Fire Protection	

7. System Description & Operation

- 7.1. The heat sensitive tubing acts as a detection device as well as extinguishing agent delivery system in case of direct system.
- 7.2. Distance between detection tube in same plane shall not exceed 500 mm.
- 7.3. Tube shall be provided preferably placed at centre of the panel. If in case tube is not able to place at the centre then there should be separate run for front and back side of the panel.
- 7.4. Shelf life of the detection tube shall be minimum 10 years from date of installation. Bidder to submit required type test certificate to validate shelf life of the detection tube.
- 7.5. When a fire is detected, the tube bursts at that point and forms a miniature nozzle through which extinguishing agent is sprayed and fire is suppressed.
- 7.6. The system shall be simple, self detecting and activating system, specifically designed for installation inside enclosures, cabinets of electrical panels to detect automatically and extinguish fire at source, at its very early stage.
- 7.7. It should be suitable for application where the potential fire risk is located within an enclosed or confined space such as electrical panels.
- 7.8. The system shall be designed by expert design cell and installed by expert team after an assessment of location and risk. The most suitable option can be installed based on assessment and requirement of the location/hazard.
- 7.9. The single heat-sensitive polymer tubing should be connected to an extinguishing agent container via a pressure release valve.
- 7.10. In case of fire, when it reaches 95-105°C, the heat-sensitive tubing bursts at the point it is in contact with the flame to form a miniature nozzle. The extinguishing agent is sprayed out of the container and through the miniature nozzle, flooding the localized area and instantly extinguishing the flame.
- 7.11. The system shall have capability of linear detection i.e. detection of fire not only at a single stage point but also at any place along the tubes length.
- 7.12. The system should have fast response i.e. less than 10 seconds.
- 7.13. The system should extinguish fire at early stage and should trigger automatically.
- 7.14. The system should be safe against malfunction and should not need power supply for detection and extinguishing of fire.
- 7.15. The system should be capable of suppressing fire at limited region so as to avoid the major damage of equipment inside panels.

8. Material & Equipment Technical Detail

- 8.1. GENERAL REQUIREMENTS
 - 8.1.1. The system design should be modular storage.
 - 8.1.2. All the detecting devices, alarm, indicating devices, containers and other related equipment shall have required approvals & Authorization.

ENGG/ SPEC/ 028 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Page 6 of 8
		Standard Specification for Panel Fire Protection	

- 8.1.3. Systems shall be designed in accordance with relevant IS specification No IS 15528:2004/ NFPA 2001.
- 8.1.4. Each supply shall be located within the hazard area, or as near as possible, to reduce the amount of Tubing/pipe and fittings required installing the system.
- 8.1.5. Containers shall be actuated by suitable valve mounted on cylinder in case of tube burst due to fire.
- 8.1.6. Suitable components shall be provided to monitor the cylinder leakage and shall have a separate audio visual monitoring device to be placed to monitor the pressure of the system on each panel.
- 8.1.7. Each container shall have a pressure gauge to provide visual supervision of the container pressure. The pressure gauge shall be color coded to provide an easy, visual indication of container pressure.
- 8.1.8. Distribution Tubing/piping, and fittings, shall be installed in accordance with the manufacturer's requirements guidelines.
- 8.1.9. All the system shall be installed by qualified individuals using accepted practices and quality procedures.
- 8.2. Component Specification
- 8.2.1. Valve
- 8.2.1.1. The valve should be low/high pressure valve.
- 8.2.1.2. It should operate on sensing the drop in the pressure.
- 8.2.1.3. The valve has an inbuilt pressure gauge to show the pressure inside the cylinder.
- 8.2.2. Heat Sensing Tube
- 8.2.2.1. Shelf life of the detection tube shall be minimum 10 years
- 8.2.2.2. The tube should be non – conductive, non- corrosive and flexible. The tube should be capable of withstanding pressure up to 20 bars.
- 8.2.2.3. The tube must have approval for using to detect fire from loss prevention council or Tube manufacturer should submit the declaration of tube functions.
- 8.2.2.4. Tube attachment as per design and drawing of the system offered.
- 8.2.3. Main Vessel and the Extinguishing Agent/Gas:
- 8.2.3.1. Fire extinguishing gas medium should follow specific Standards or have approvals for optimum or peak performance as per relevant specifications such as NFPA/UL/FM/ISO/CE certified.
- 8.2.3.2. The extinguisher vessel should be tested & certified for compliance to relevant IS specification or NFPA requirement and submit the test report of independent laboratory.
- 8.2.3.3. Clean agent should be Non-ozone depleting and should have a short atmosphere lifetime
- 8.2.4. Accessories:
- The system shall include but not limited to the following:
- 8.2.4.1. Fire detection tube,
- 8.2.4.2. low/high pressure valves,

ENGG/ SPEC/ 028 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Page 7 of 8
		Standard Specification for Panel Fire Protection	

- 8.2.4.3. Pressure switches,
- 8.2.4.4. Spring top,
- 8.2.4.5. Pressure switch to sense the drop in pressure.
- 8.2.4.6. Filling in adapter to change the tube.
- 8.2.4.7. Suitable valve for closing and releasing.
- 8.2.4.8. The spring top to protect the Fire detection tube at the cylinder end.
- 8.2.4.9. Straight fitting for connecting Fire detection tube in case of need.
- 8.2.4.10. Cross fittings T fittings.
- 8.2.4.11. Cross panel fittings.
- 8.2.4.12. End of line adapter.
- 8.2.4.13. Non return valves.
- 8.2.4.14. Fire Panel
- 8.2.4.15. Multisensor Detector
- 8.2.4.16. Cabling
- 8.2.4.17. The bidder will ensure supply of all accessories required for completion of their offered system.

9. Performance Testing & Acceptance

- 9.1. Testing
 - 9.1.1. Testing shall be carried out by using smoke stick inside the panel and a confirm fire signal shall be raised by fire alarm in Fire panel as well as same shall be reflected in DCS SCADA.
 - 9.1.2. Gas has to release by manually puncturing the detection tube and oxygen level inside the panel has to be dropped below LEL level and should be sustained till panel door is open.
 - 9.1.3. Necessary signal has to be generate by fire panel to auto shut down of the ventilation fan of the panel.
- 9.2. SYSTEM INSPECTION
 - 9.2.1. After the system installation has been completed, the entire system shall be checked out, inspected and functionally tested by qualified, trained personnel, in accordance with the manufacturer's recommended procedures.
 - 9.2.2. All containers and heat sensitive tubing shall be checked for proper mounting and installation.
- 9.3. TRAINING REQUIREMENTS
 - 9.3.1. Prior to final acceptance, the installing contractor shall provide operational training to staff nominated by Tata Power.
- 9.4. OPERATION and MAINTENANCE
 - 9.4.1. Prior to final acceptance, the installing contractor shall provide complete operation and maintenance instruction manuals, four (4) copies for each system, to Tata Power.
 - 9.4.2. All aspects of system operation and maintenance shall be detailed, including piping isometrics, a written description of the system design, sequence of operation and drawing(s) illustrating control logic and equipment used in the system.

ENGG/ P&L/STD- SPEC/ 028 Rev: RO Date: 10/10/2017	Standard Specification	Page 8 of 8
	Standard Specification for Panel Fire Protection	

- 9.4.3. Checklists and procedures for emergency situations, troubleshooting techniques, maintenance operations and procedures shall be included in the manual.
- 9.5. AS-BUILT DRAWINGS
- 9.5.1. Upon completion of system, the installing contractor shall provide four (4) copies of system "As-Built" drawings to Tata Power.
- 9.5.2. The drawing shall show actual installation details including all equipment locations & details.
- 9.6. WARRANTY
- 9.6.1. All system components furnished and installed under this contract shall be warranted against manufacturing defects in design, materials and workmanship for two year from the date of system acceptance.
- 9.7. ACCEPTANCE.
- 9.7.1. Acceptance will be issued by Tata Power only after successful submission of above documents and commissioning of the entire system to the satisfaction of Tata Power representative associated installation, testing and commissioning of the system.

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – B
	Kalyan GIS Fire Protection Package	

SECTION B

CHAPTER 3 – Fire Detection and Alarm System

THE TATA POWER COMPANY LIMITED

STANDARD TECHNICAL SPECIFICATION FOR FIRE DETECTION AND ALARM SYSTEM

(DOCUMENT NO - ENGG/ P&L/STD-SPEC/ 002)



Tata Power

Generation Engineering

Rev. No	Date	Description	Prepared By	Checked By	Approved By
R2	14/5/2024	Revised and issued for use	J Shinde	D Das	N Mishra
R1	16/1/2022	Revised and issued for use	J Shinde	N Mishra	R Gadre
R0	3/7/2014	Issued for Info or Use	JSS	RSG	AJ

Contents

1.0	Scope	3
2.0	Codes & Standards	3
3.0	Design Requirement	3
3.1	General	3
3.2	Number, Layout Requirements and Grouping of Detectors.	4
4.0	Technical Particulars of Products in Fire Alarm System- General Requirement.	4
4.1	Main Fire Alarm Panel	4
4.2	Central Processing Unit	6
4.3	Video Display Unit	6
4.4	Loop Control Module	7
4.5	Batteries	7
4.6	Repeater Panel	7
5.0	Initiating Devices	7
5.1	Smoke Detector	7
5.2	Fixed Temperature Heat Detectors	8
5.3	Combination Fixed—Temperature and Rate of Rise Heat Detectors	8
5.4	Manual Call Point	8
5.5	Projected Beam Type Detector	8
5.6	Ventilation duct smoke detector	8
5.7	Input Output Module	8
5.8	CO Detectors	8
5.9	IR Detector	8
5.10	Linear Heat sensing cable.	8
6.0	Notification Devices	9
6.1	Hooter cum Flasher	9
6.2	Fire Siren	9
7.0	Miscellaneous Equipments	9
7.1	Junction Boxes (JB)	9
7.2	Conduit	9
7.3	Cable	9
8.0	Installation	10
9.0	Performance Test	10
10.0	Spares	10
11.0	Quality assurance Requirement	11
12.0	Data Submission By Bidder	11
12.2	To be Submitted with Bid	11
12.3	To be Submitted after Award of contract.	11

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
	Fire Detection and Alarm System	

1.0 Scope

1.1 The scope includes the design, engineering, manufacturing, supply, installation, commissioning and testing of the addressable fire detection & alarm system for specified area as shown on the drawings and as specified in main specification.

2.0 Codes & Standards

2.1 All equipment, system and services covered under this specification 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 the VENDOR of this responsibility.

2.2 The standards not indicated in the specification are also acceptable subject to the prior approval of purchaser.

2.3 In the event of any conflict between the codes and the standards referred to in the specification and the requirements of this specification, more stringent of the two shall govern and interpretation of the Purchaser shall be final and binding on Supplier for quoted price.

2.4 List of Standards**2.4.1 National Fire Protection Association (NFPA) - USA:**

- | | | |
|------|-----------|--|
| i. | NFPA 72 | National Fire Alarm Code |
| ii. | NFPA 2001 | Clean Agent Extinguishing Systems |
| iii. | NFPA 101 | Life Safety Code |
| iv. | NFPA 90A | Air conditioning & ventilation system |
| v. | NFPA 850 | Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations |
| vi. | NFPA 851 | Recommended Practice for Fire Protection for Hydroelectric Generating Plants |

2.4.2 IS 2189

2.4.3 IS 3034

3.0 Design Requirement**3.1 General**

3.1.1 The fire detection and alarm system shall comprise of Automatic soft Addressable Modular design Main fire alarm control panels, Repeater panels, smoke detectors, heat detectors, flame detectors, Remote response indicators and Manual call points, hooters flashers, modules etc.

3.1.2 Intelligent, Addressable double action type manual call points, distributed throughout the plant, at each natural exit of each room, & along the access road.

3.1.3 Intelligent, Addressable type optical smoke, heat, multi sensor & flame detectors, distributed according to NFPA 72, IS 2189 & as per standard engineering practice throughout the area covered under scope of work.

3.1.4 In the event of a failure, a short circuit, or a wire break in a detector or in the fire alarm system cable, all other detectors and connected input and output modules must remain fully functional.

3.1.5 There must be an individual user management with password and user level possible; furthermore, each user change must be recorded.

3.1.6 Original equipment manufacture of the main fire alarm panel must handover all dongle, access key card, password to enable purchaser or authorised person to access the main fire alarm panel and do the modification, reconfiguration of the devices to meet the new requirement due to change in layout / configuration of the room / area / station. This requirement is must for all main fire alarm panel must abide by the bidder.

3.1.7 It must be possible to connect the fire alarm system to computer systems or fire alarm control systems by means of data interfaces.

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
Fire Detection and Alarm System		

- 3.1.8 The Main fire alarm panel must be equipped with interfaces to be integrated into the Tata Power DCS/ SCADA system.
- 3.1.9 Fire alarm system shall be designed to provide continuous surveillance against fire in the areas covered by the system under all conditions. Relative Humidity to be considered for the equipment being supplied is 95% and the devices being supplied should not give false alarms at ambient temperature conditions (maximum ambient temperature is 50 Deg. C and Minimum ambient temperature is 10 Deg. C)
- 3.1.10 All the equipment quoted shall be suitable for continuous operation and satisfactory performance for the following power supply condition.
- a) Variation in supply voltage : +/- 10%
 - b) Variation in supply frequency : +/- 5%
 - c) Combined voltage and frequency variation : +/- 10%
- 3.1.11 All equipment's viz. Detection devices, Notification devices, Panels shall have UL / FM / VDS approval.

3.2 Number, Layout Requirements and Grouping of Detectors.

- 3.2.1 The number of fire detectors to be installed is governed by the total area to be protected, type of building construction, air movement, air velocity, ceiling obstructions, smoke value concentration of equipment in the area covered and the sensitivity required. Bidder to refer drawings of the area for designing of the complete system.
- 3.2.2 Detector shall be placed as per NFPA 72 and IS 2189 strictly.
- 3.2.3 If ducts / beams which is having depth from finish ceiling level of more than 600mm and make obstruction to the spreading of heat / smoke, then in each void shall be treated as separate area and shall be provided with at least one separate detector in each void.
- 3.2.4 The individual detectors shall be wired on a common connecting line. The number and exact location of detectors to be installed in the various areas shall be finalized during detailed engineering stage by the bidder.
- 3.2.5 Looping philosophy shall be decided during detail engineering in consultation with the Purchaser.
- 3.2.6 Looping shall be such that each identical area in each unit / station / building shall have separate loop so that alarm / maintenance of loop in particular area shall affect the loop only.

4.0 Technical Particulars of Products in Fire Alarm System- General Requirement.

4.1 Main Fire Alarm Panel

4.1.1 General Requirements

- i. Equipment supplied against this specification shall be given tropical and fungicidal treatment in view of climatic conditions prevailing at site as described in site information.
- ii. All cable entries shall be from bottom or suite at site condition and suitable undrilled cable gland plate shall be provided. The painting shall be with epoxy powder coating and the paint shade shall be matching with that of the existing adjoining panels.
- iii. All doors, removable covers etc. shall be provided with neoprene gaskets all around. Ventilating louvers if provided, shall have screens and filters. The screens shall be made of either brass or GI wire mesh.
- iv. Each panel/cubicle shall be provided with a 230V, 1 phase, 50 Hz, 40W fluorescent lighting fixture for interior illumination controlled by ON-OFF switch and 230V, 1 phase, 5/15 Amp, 3/5 pin receptacle. Power source for interior lighting and receptacles shall be completely independent of control power source.
- v. All foundation hardware/accessories as may be required for mounting the panel/ cubicle(s) shall be provided by the Bidder. All panel/ cubicle(s) shall have a 25 x 3 mm copper-earthing strip running through the length of the panel/ cubicle(s) and at both ends suitable stud type terminals shall be brought out for connections to PURCHASER's earthing grid.

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
	Fire Detection and Alarm System	

4.1.2 Construction & Design of Main Fire Alarm Panel

- i. All the components of the Fire detection & alarm System shall be as far as possible of modular construction and the modules or sub-units shall be plug in type for easy installation and maintenance.
- ii. The fault diagnostics capability built into the system shall be up to the major component level. The fault messages shall be in clear plain texts.
- iii. All components & modules shall be clearly and unambiguously marked, and all wiring shall be colour coded & tagged.
- iv. Ground terminals with isolating links shall be provided. Bidder to indicate any specific earthing requirement for the fire detection & alarm System.
- v. No component will be connected by dry soldering. Solder will not be applied on the end contacts of PCB to improve contacts.
- vi. All plugs in PCB's should be coded for ensuring its insertion in correct position.
- vii. Clips or channels shall be provided for securing the PCB in position.

4.1.3 Operation & Performance Requirement of Main Fire Alarm Panel

- i. The automatic fire alarm system must be assembled using a microprocessor-controlled detectors. The controllers and the software for the fire alarm system must be laid out in such a way that a single error of any electronic element or of an external device does not compromise the fire alarm system from functioning normally.
- ii. In the event of a single fault in the control panel or in peripheral devices, all detectors and functions must remain fully functional, and all controllers must remain fully active. When the fault is detected and displayed whilst the system must continue to function fully.
- iii. Every detector and every controller module must constantly check its own status and send status information to the microprocessor-controlled and monitored fire alarm control panel and give feedback to MFAP.
- iv. Main fire alarm panel shall perform
 - a) Supervise and monitor all intelligent addressable detectors and monitor modules connected to the system for normal, trouble and alarm conditions.
 - b) Supervise all initiating signalling and notification circuits throughout the facility by way of connection to monitor and control modules.
 - c) Detect the activation of any initiating device and the location of the alarm condition. Operate all notification appliances and auxiliary devices as programmed.
 - d) Visually and audibly annunciate any trouble, supervisory, security or alarm condition on operator's terminals, panel display, and annunciator.
- v. All above condition shall be reflected in Cause-and-effect diagram and shall be checked at site during commissioning of the system.
- vi. To obtain early warning of incipient or potential fire conditions, the system shall support a programmable option to determine system response to real-time detector sensing values above the programmed setting. Two levels of Pre-alarm indication shall be available at the control panel: alert and action.
- vii. The system shall provide means to allow panel programming either through an off-line software utility program away from the panel or while connected and on-line.
- viii. The system shall also support upload and download of programmed database and panel executive system program to a Personal Computer/laptop.
- ix. For System which is upgraded through use of manufacturer USB / DONGLE, bidder must submit the same to purchaser

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
Fire Detection and Alarm System		

- x. The system shall support different password levels, master, and user. Only the master password shall allow access to password change screens.
 - xi. Sensitivity Adjust: The system shall provide Automatic Detector Sensitivity Adjust based on Occupancy schedules including a Holiday list of up to 14 days.
 - xii. The system shall provide means for setting Environmental Drift Compensation by device.
 - xiii. The Addressable Main Power Supply shall provide sufficient power to the CPU, using a switching 24 VDC regulator and shall incorporate a battery charger for 48 hours of standby power using dual rate charging techniques for fast battery recharge.
 - xiv. The Addressable Main Power Supply shall provide a very low frequency sweep earth detect circuit, capable of detecting earth faults.
- 4.1.4 Operator Control
- Operator control panel shall be provided with below
- a) Acknowledge Switch:
 - b) Signal Silence Switch:
 - c) Drill Switch:
 - d) System Reset Switch:
 - e) Lamp Test:
 - f) Scroll Display Keys:
 - g) Print Screen:
- 4.2 **Central Processing Unit**
- i. The Central Processing Unit shall be communicate with, monitor, and control modules within the control panel. Removal, disconnection, or failure of any control panel module shall be detected and reported to the system display by the Central Processing Unit.
 - ii. The Central Processing Unit shall also provide a real-time clock for time annotation, to the second, of all system events. The time-of-day and date shall not be lost if system primary and secondary power supplies fail.
 - iii. The CPU shall be capable of being programmed on site without requiring the use of any external programming equipment.
 - iv. The CPU and associated equipment are to be protected so that voltage surges or line transients will not affect them.
 - v. Each peripheral device connected to the CPU shall be continuously scanned for proper operation. Data transmissions between the CPU and peripheral devices shall be reliable and error free. The transmission scheme used shall employ dual transmission or other equivalent error checking techniques.
- 4.3 **Video Display Unit**
- i. The display assembly shall contain, and display as required, custom alphanumeric labels for all intelligent detectors, addressable modules, and software zones.
 - ii. The system display shall provide a 240-character backlit alphanumeric Liquid Crystal Display (LCD). It shall also provide Light-Emitting-Diodes (LEDs) that indicate the status of the following system parameters: AC POWER, FIRE ALARM, PREALARM, SECURITY, SUPERVISORY, SYSTEM TROUBLE, OTHER EVENT, SIGNALS SILENCED, POINT DISABLED, and CPU FAILURE.
 - iii. The system display shall include the following operator control switches: ACKNOWLEDGE, SIGNAL SILENCE, RESET, DRILL, and LAMP TEST. Additionally, the display interface shall allow scrolling of events by event type including, FIRE ALARM, SECURITY, SUPERVISORY, TROUBLE, and OTHER EVENTS.

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
Fire Detection and Alarm System		

- iv. A detachable keyboard shall be provided that may be used for programming, testing, and control of the system. Individual keys shall be provided on the keyboard for the ACKNOWLEDGE, RESET, LAMP TEST, SYSTEM TEST, and SIGNAL SILENCE functions of the control panel.
- v. Size of the monitor of the fire detection system shall be 21 Inch and shall be in main control room as per direction of site in-charge.

4.4 Batteries

- i. The battery shall have sufficient capacity to power the fire alarm system for not less than forty-Eight hours & 30 minutes of alarm condition upon a normal AC power failure.
- ii. The batteries are to be completely maintenance free. No liquids are required. Fluid level checks for refilling, spills, and leakage shall not be required.
- iii. If necessary, to meet standby requirements, external battery and charger systems may be used.

4.5 Repeater Panel

- i. Repeater panel shall be listed VDS approved / UL 9th edition listed. It shall have LCD display like main panel.
- ii. Each Repeater panel shall be powered from main fire alarm panel.
- iii. Enclosure for repeater panel shall be IP 55. Quantity of repeater panel shall be decided during detail engineering.
- iv. Each repeater panel shall have the following indicators and operator Controls:
 - a) Alarm Acknowledge/Signal Silence/Reset Switch
 - b) Power LED
 - c) System alarm LED
 - d) System trouble LED
 - e) Local piezoelectric signal

5.0 Initiating Devices

5.1 Smoke Detector

- i. The detectors shall constantly monitor their surrounding conditions and shall calculate the optimum smoke and heat sensitivity for the area it is deployed. The sensitivity of the smoke detection part shall permanently and automatically adapt to the surrounding conditions.
- ii. These shall be plug—in type separate base and sensing unit. A LED shall be provided in the base, which will operate when detector has been activated.
- iii. Adequate numbers of detectors to be provided in each room floor and ceiling voids.
- iv. All floor and ceiling voids mounted detectors shall be provided with remote lamp indicators.
- v. For ceiling points this should be installed on the suspended ceiling and for floor void lamp on the wall near the detector at the height of 2 Meter from FFL.
- vi. Care should be taken to protect the detectors from proximity of air flow from ducts. Detectors shall be installed not less than one meter from air diffuser.
- vii. Detectors shall be provided for every beam pockets beam depth is more than 600mm as per the requirements of NPFA 72.
- viii. While installing smoke detectors they shall be located where the largest combustible gas concentration can be expected.
- ix. The number of detectors and their location shall be so selected that complete coverage is obtained. The zones of individual detectors shall overlap, and no blind zone shall be left. Spacing per detector shall be such that it covers complete area.

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
Fire Detection and Alarm System		

5.2 Fixed Temperature Heat Detectors

- i. Fixed temperature heat detectors shall be entirely electronic in operation and have a thermistor as ambient temperature sensor with fully reset table.
- ii. Detector temperature rating shall be approximately 120% of the maximum expected ambient temperature of the area to be protected.

5.3 Combination Fixed—Temperature and Rate of Rise Heat Detectors

- i. The fixed temperature element shall be independent of the rate of rise element.
- ii. The rating for the combination fixed temperature and rate of rise type shall be approximately 120% of the expected ambient temperature and rate of rise shall have the setting of 8°C per minute.
- iii. All elements shall be reset table and entirely solid state. Adequate special detectors as required for air-conditioning system shall be provided accordingly.

5.4 Manual Call Point

- i. Manual call point shall be provided at several convenient points located in the natural path of each exit, so that alarm can be given by operating personnel independently of automatic system.
- ii. Each manual call point shall be provided with Notification devices (Audible and Visual) irrespective the area where MCP has been located to annunciate the local alarm in case of fire.
- iii. All MCP shall be double action Type.
- iv. Manual pull station for zone shall be connected on the same circuit as the detector being provided for the zone.
- v. Manual call point which is located inside the room shall have IP rating of IP44
- vi. Manual call point which is located outside area (external MCP) enclosure shall be IP66.
- vii. Manual call point shall be inclusive of control, Monitor module to make it addressable.

5.5 Projected Beam Type Detector

- i. In high ceiling area projected type smoke detector should be provided having sensitivity 30% ±5% of Total Obstruction and spacing as per Manufacturer recommendation.
- ii. Beam detector should be provided with Metal canopy fabricated from metal stripes. This Canopy will fix on the detector so as it cannot obstruct the projected path of the detector and protect the device by bird's intrusion, shape and size will be decide during detail engineering.

5.6 Ventilation duct smoke detector

- i. The Detector should be able to work up to 20m/s Air flow. The detector should have inbuilt fault isolator.
- ii. Approval: VdS / UL 9th edition

5.7 Input Output Module

- i. The input output module, control module shall contain 4 inputs for the monitored and non-monitored querying of potential-free contacts. It shall contain an integrated short-circuit to achieve the desired function.
- ii. The protection class of Input module shall be IP 66 with case and operating Ambient temperature range shall be -20 to +60°C
- iii. Approval: VdS / UL 9th edition

5.8 CO Detectors

- i. The area where chances of CO accumulation are more such as underground area, basement parking, Coal hopper etc. shall be provided with CO monitor.

5.9 Linear Heat sensing cable.

- i. Linear heat sensing cable shall be digital type.
- ii. Braiding material of LHS cable shall be SS.

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
Fire Detection and Alarm System		

iii. Zone length of LHS cable shall not exceed 300 meters.

6.0 Notification Devices

6.1 Hooter cum Flasher

- i. A warning hooter cum flasher shall be installed and shall be activated simultaneously with detection of fire in particular zone.
- ii. Every compartment to be provided with hooter cum flasher installed at entrance of the room.
- iii. Flasher shall be red and visible enough to be noticed even during daytime for quick identification by the concern authority.
- iv. Enclosure of Alarm hooter cum flasher shall be weatherproof (IP55).
- v. Sound intensity of hooter shall be 90 dB from 1 meter of equipment.
- vi. During testing of complete system, it shall transmit pre-recorded test voice message to aware the public about the ongoing test.

6.2 Fire Siren

- i. Fire sirens supplied shall have an identical wave tone. The sirens shall be capable of being heard distinctly throughout the plant area. Average ambient sound level shall be 95 (dBA).
- ii. The sirens shall be suitable for installation outdoors and shall be complete with rain shades and all other mounting accessories.
- iii. The sirens shall be motor operated type with AC motors of three-phase design. The Operator panel required for switching the sirens ON / OFF shall be supplied with them. Enclosure of the panel shall have IP65.

7.0 Miscellaneous Equipment's

7.1 Junction Boxes (JB)

- i. Junction boxes shall be fabricated out of 2.0mm thick CRCA sheet steel & shall be hot dip galvanized. For outdoor installation, they shall be of cast iron type and provided with a canopy at the top.
- ii. JB's for outdoor installation shall have a degree of protection of IP-55 & shall be provided with neoprene gasket.
- iii. All the junction boxes shall have a weeping hole at the bottom plate and provided with necessary double compression brass cable glands. Two earthing terminals suitable for terminating 8 SWG GI wire shall be provided. All structures required for mounting the JB's shall be included in Contractor's scope.

7.2 Conduit

- i. Conduit shall be in accordance with The National Electrical Code (NEC), local and state requirements.
- ii. Where required, all wiring shall be installed in conduit or raceway. Conduit fill shall not exceed 40 percent of interior cross-sectional area where three or more cables are contained within a single conduit.
- iii. Cable must be separated from any open conductors of power, or Class 1 circuits, and shall not be placed in any conduit, junction box or raceway containing these conductors.
- iv. All circuits shall be provided with transient suppression devices and the system shall be designed to permit simultaneous operation of all circuits without interference or loss of signals.
- v. Conduit shall not enter the fire alarm control panel or any other remotely mounted control panel equipment or back boxes, except where conduit entry is specified by the FACP manufacturer.

7.3 Cable

- i. Wiring shall be in accordance NFPA 72, Class A and as recommended by the manufacturer of the fire alarm system. Number and size of conductors shall be as recommended by the fire alarm system manufacturer, but not less than 0.5 sq. mm for Initiating Device Circuits and Signalling Line Circuits, and 1.5 sq. mm for Notification Appliance Circuits.

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
Fire Detection and Alarm System		

- ii. All wire and cable shall be listed and/or approved by a recognized testing agency for use with a protective signalling system.
- iii. Wire and cable shall have a fire resistance rating suitable of 2 hours at 650-degree temperature
- iv. All field wiring shall be electrically supervised for open circuit and ground fault.

8.0 Installation

- 8.1 Installation shall be done in accordance with the NFPA 72, applicable codes, as shown on the drawings, and as recommended by the equipment manufacturer.
- 8.2 All conduit, junction boxes, conduit supports, and hangers shall be concealed in finished areas. Smoke detectors shall not be installed prior to the system programming and test period. If construction is ongoing during this period, measures shall be taken to protect smoke detectors from contamination and physical damage.
- 8.3 All fire detection and alarm system devices, control panels and remote annunciator shall be flush mounted when located in finished areas and may be surface mounted when located in unfinished areas.
- 8.4 Manual call point shall be mounted on 1200mm above finish floor level.

9.0 Performance Test

- 9.1 The service of a competent, factory-trained engineer or technician authorized by the manufacturer of the fire alarm equipment shall be provided to technically supervise and participate during all the adjustments and tests for the system. All testings shall be in accordance with NFPA 72.
- 9.2 Before energizing the cables and wires, check for correct connections and test for short circuits, ground faults, continuity, and insulation.
- 9.3 Close each sprinkler system flow valve and verify proper supervisory alarm at the FACP.
- 9.4 Verify activation of all water-flow switches.
- 9.5 Open initiating device circuits and verify that the trouble signal actuates.
- 9.6 Open and short signalling line circuits and verify that the trouble signal actuates.
- 9.7 Open and short notification appliance circuits and verify that trouble signal actuates.
- 9.8 Ground all circuits and verify response of trouble signals.
- 9.9 Check presence and audibility of tone at all alarm notification devices.
- 9.10 Check installation, supervision, and operation of all intelligent smoke detectors using the walk test.
- 9.11 Each of the alarm conditions that the system is required to detect should be introduced on the system. Verify the proper receipt and the proper processing of the signal at the FACP and the correct activation of the control points.
- 9.12 When the system is equipped with optional features, the manufacturer's manual shall be consulted to determine the proper testing procedures. This is intended to address such items as verifying controls performed by individually addressed or grouped devices, sensitivity monitoring, verification functionality and similar.
- 9.13 During above testing each testing will verified as per "Cause and Effect Chart"
- 9.14 System performance deemed acceptable if bidder design, supply, install and commission the system as per scope of work and prepare the submit filled in cause-and-effect diagram of each equipment in each area and demonstrated performance of the entire system satisfactorily to the purchase for 24 months from date of handover of the system. The cause-and-effect diagram shall be submitting by bidder to purchaser every month.
- 9.15 At the end of every month bidder must submit report fetched from log of main fire alarm panel and its satisfactory resolution signed by purchaser. This will be main criteria for the acceptance of the entire system and release of the security deposit from the purchaser to bidder.

10.0 Spares

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
	Fire Detection and Alarm System	

10.1 A list of Essential spares is specified in the list below.

Schedule of Spares for Fire Detection & Alarm System

Sr. No	Item Description	Qty
1	Detector	10% Sets of each type used
2	Manual Pull Station	5% installed capacity of each type used.
3	Flasher	5% installed capacity of each type used.
4	Hooter	5% installed capacity of each type used.
5	Response Indicator	5% installed capacity of each type used.
6	Control Module	5% installed capacity of each type used.
7	Monitor Module	5% installed capacity of each type used.
8	LHS cable with its module and LHS controller.	10% of installed quantity

11.0 Quality assurance Requirement

11.1 QAP to be prepared by Bidder and get approval before manufacturing.

11.2 Bidder is responsible for getting purchaser approval for QAP and Material dispatch certificate before sending material to site

12.0 Data Submission by Bidder

12.1 All the drawings and instruction manuals submitted should be written in English language, MKS Units and / or SI Units. The drawings shall have sufficient details to indicate the type, size, arrangement, weight of components, breakdown for packing and shipment, external connections, fixing arrangement, interconnection with other equipment, clearances and space required, foundation for installation etc. Soft copy of the drawings in pdf & auto CAD form are required in addition to hard copies.

12.2 The instruction manuals shall contain full details and drawings of all the equipment furnished, erection procedures, testing procedures, operation procedures, maintenance procedures, handling, and storage procedures of the equipment.

12.3 A separate section of the manual shall be devoted to each type of the equipment with list of parts, relevant pamphlets etc. Instructions shall include preventive and predictive maintenance schedules.

12.3.1 Bidder to submit all the drawings, documents, calculation, catalogue, operation & maintenance manual of all equipment's etc. covered under the scope of this specification to be submitted for Purchaser approval.

12.4 To be Submitted with Bid

12.4.1 Technical data sheet of main fire alarm panel, repeater panel, Optical smoke detector, manual call point, heat detector, monitor module, workstation, hooter, flasher, siren, junction boxes, pressure switch, cable glands, cable fittings.

12.4.2 Quality assurance plan of main fire alarm panel, repeater panel, optical smoke detector, manual call point, heat detector, monitor module, workstation, hooter, flasher, siren, junction box, pressure switch, cable glands, cable fittings.

12.4.3 Type test certificates of all equipment's showing IP conformance according to project specification.

12.4.4 Company profile

12.4.5 Commissioning certificates of similar system installed in power plants, substation, & industrial complex.

12.5 To be Submitted after Award of contract

12.5.1 General arrangement drawings showing outline dimensions, cable entry openings, fixing / foundation details, weights, and door openings.

12.5.2 Front & cross-section views showing arrangement details of equipment and terminals and with a Bill of Material for all equipment.

ENGG/ P&L/STD-SPEC/ 002 Rev: R1 Date: 16/1/2022	Standard Specification	Section B
	Fire Detection and Alarm System	

- 12.5.3 Schematic diagram indicating terminal numbers for external connections.
- 12.5.4 Manufacturer's technical literature on various equipment's supplied.
- 12.5.5 Wiring diagram of complete excitation system and accessories. The correctness of this drawing shall be the responsibility of the bidder.
- 12.5.6 Cause and Effect chart.
- 12.5.7 Performances guarantee Test procedure.
- 12.5.8 Operation & maintenance manuals shall be furnished for PURCHASER's review. Operation manual in pdf version is a must. The contractor shall provide 5 copies of complete operation, maintenance, and spare parts manual for fire alarm system in English languages, includes.
 - i. Detailed outline drawings with part numbers.
 - ii. Detailed procedure for disconnecting and re—assembly of equipment
 - iii. Detailed procedure for operation and maintenance
- 12.5.9 As built drawings of all area

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – B
	Kalyan GIS Fire Protection Package	

SECTION B

Chapter No 4 – Passive Fire Protection System

THE TATA POWER COMPANY LIMITED

STANDARD
TECHNICAL SPECIFICATION
FOR
Standard Specification for Passive Fire Protection System for Cables
(Power & control Cable)
(DOCUMENT NO - ENGG: P&L:STD-SPEC: 029)



Tata Power

Project Engineering

Rev No	Date	Prepared By	Checked By	Approved By
R0	16/07/2018	Jitendra Shinde	N K Mishra	R Gadre

Contents

1. Scope.....	3
2. Codes and Standards.....	3
3. Design Requirement – Fire Stops.....	4
4. Material Requirement – Fire Stop.....	5
5. Installation Requirement – Fire Stop.....	6
6. Design Requirement – Fire resistance coating / Paint.....	8
7. Material & Installation Requirement – Fire Resistance Paint / Coating.....	8
8. Quality Assurance.....	10
9. Bidder Qualification Criteria.....	10
10. Document Submission.....	10
11. Performance Guarantee of system.....	11
12. Data Sheet – Fire Stop.....	12
13. Data Sheet – Fire Resistance Paint / Coating.....	13

ENGG/ SPEC/ 029 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Section - B Page 3 of 16
		Standard Specification for Passive Fire Protection	

1. Scope

- 1.1. This section covers the design, layout, performance guarantee, Operation and maintenance, quality requirement of Passive fire protection system for power and control cables.
- 1.2. The scope covers supply, installation, testing and commissioning of all materials, services, performance testing required to meet requirement specified in this technical specification.
- 1.3. The Passive Fire Protection for power & control cable installations shall be provided for
 - 1.3.1. Sealing of openings in brick / concrete walls / floors / trench through which cables are taken.
 - 1.3.2. Sealing of pipes embedded in walls / floors / duct banks provided for routing of cables
 - 1.3.3. Openings below GIS installation, switchgear, panels etc.
 - 1.3.4. Fire breaks along the length of cable routes
- 1.4. The Passive Fire Protection for power & control cable installations shall broadly consist of the following:
 - 1.4.1. Cable penetration fire stops / seals
 - 1.4.2. Cable fire breaks

2. Codes and Standards

- 2.1. Design of the complete system shall be carried out as per the Contract documents indicated below and will conform to the relevant IS & NFPA specification for the system, material and workmanship.
- 2.2. The following Standards of latest revision along with its all amendments shall be referred to for carrying out job.

IS 3034	Electrical Generating & Distribution Stations
IS 1642	Materials & Details of Construction - IS 1642
IS 1646	Electrical Installations - IS 1646
IS 12459	Code of practice for fire safety in cable runs - IS 12459
IEEE 422	IEEE Guide for design and installation of cable systems - IEEE 422
ANSI UL 1479	Fire Stops - ANSI UL 1479
IS 12458	Fire resistance test of fire stops
ASTM E-814	Fire tests of through penetration fire stops
IEEE634	IEEE Standard cable penetration fire stop qualification test
IS 3809 / BS 476 / ASTME 119	Fire tests on building materials / structures / constructions
IS 11000	Fire Hazard Testing
IS 3144	Methods of test for mineral wool thermal insulation materials
ASTM E-84	Tests for surface burning characteristics of buildings materials
IEC 331	Fire resisting characteristics of cables
IEC 332 - 3A	Tests on electric cables under fire conditions
IS 10810-53	Method of tests for cables (flammability test)

ENGG/ SPEC/ 029 Rev: RO Date: 10/10/2017	Standard Specification		Section - B Page 4 of 16
	Standard Specification for Passive Fire Protection		

ANSI IEEE-383	IEEE standard for type test of class 1E Electric cables, field splices, and connections for nuclear power generating stations
NFPA 850	Fire Protection requirement of Generating plant & Current converting station

3. Design Requirement – Fire Stops

- 3.1. Fire stops shall be provided for cable penetration openings listed below and as directed by site project Manager.
 - 3.1.1. The passage of POWER & CONTROL cables at wall crossing, from cable compartment to adjacent rooms / areas, between cable compartments, switchgear rooms to adjacent rooms and from indoor to outdoor locations shall be sealed suitably by fire stops
 - 3.1.2. Vertical POWER & CONTROL cables at floor crossing, from cable trench shall be sealed by fire stops
 - 3.1.3. POWER & CONTROL Cable entry through openings in floor slabs below switchgear, shall be effectively sealed by fire stops.
- 3.2. The material, design and construction of the fire stops shall be such as to provide the fire-rating specified and meet all requirements listed in this specification and the relevant codes and standards.
- 3.3. The fire stop shall positively contain the spread of fire through the seal for the specified duration and shall effectively seal the penetration opening by preventing the passage of flames, smoke, gases, released chemicals, as well as water from either side through the fire stop, under normal conditions as well as in the event of a fire.
- 3.4. Each fire stop shall have a fire rating of 120 minutes. The products shall be tested in National and International labs like UL, FM Global, LPCB, CBRI - Roorkee etc. Valid Test Certificates issued within last five (05) years, will have to be submitted along with the offer.
- 3.5. The Products shall be tested as per following standard / norms.
 - 3.5.1. UL 1479
 - 3.5.2. BS 476 p-20
 - 3.5.3. IS 12458
 - 3.5.4. ASTM E814
 - 3.5.5. DIN 4102 standards.
- 3.6. The fire stop shall be complying to other relevant standards of IS / BS/ EN/ IEC/ IEEE and shall be type tested in accredited lab only.
- 3.7. The fire stop shall be subjected to fire endurance test, hose stream test, temperature measurement of non-flaming side as per ASTM-E119 'Standard method of fire tests of building construction and materials'.

ENGG/ SPEC/ 029 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Section - B Page 5 of 16
		Standard Specification for Passive Fire Protection	

- 3.8. The fire stop shall also conform to the incombustibility test carried out in accordance with IS : 3144-1992. Under fire condition, the FPSS material shall not emit excessive smoke or any corrosive or toxic fumes
- 3.9. All fire stops shall be capable of withstanding for the duration specified, a fire on any side of the fire stop.
- 3.10. The fire stops shall be non-hygroscopic, totally humidity and moisture resistant, termite, rodent and vermin proof and suitable for damp, wet or outdoor conditions.
- 3.11. The penetration seal shall retain its integrity and perform satisfactorily even after remaining in water for long periods.
- 3.12. The fire stops shall not undergo shrinkage or cracking / peeling after setting or curing, for its entire operational life.
- 3.13. The BIDDER shall clearly indicate the performance variations if any, due to the ageing of the fire stops. The life time of the fire stops shall be at least 40 years and suitable for operation within an ambient temperature range of ZERO and 55 deg. C.
- 3.14. The fire stops shall be mechanically robust and firmly fixed in the penetration opening to withstand normal operating conditions.
- 3.15. The fire stops, especially in the case of floor seals shall have adequate mechanical properties and must be capable of withstanding foot-traffic and the impact of dropped loads such as working tools, without reduction in strength or loss of its sealing properties or fire rating.
- 3.16. The fire stops shall have a thermal insulation that restricts the temperature of the unexposed side of the fire-stop, in an event of fire, to within the limits specified in test procedures.
- 3.17. The fire stops shall withstand the high pressure of the fire water-jets and remain structurally firm and unaffected retaining its seal to ensure reliability during fire- fighting operations.
- 3.18. The fire stops shall take into account the fact that under normal load, short circuit and fire conditions, the cable / cable trays will be subject to movement, expansion and oscillations and this shall not result in any damage to the cable installation nor damage to or dislocation of the fire stops.
- 3.19. Fire proof sealing compound for pipe sleeves laid below the ground level / trenches shall be continuously water proof. Water proofing shall be provided in addition to fire proof. Test certificate shall be submitted to prove the above requirement.
- 4. Material Requirement – Fire Stop**
- 4.1. The sealing materials used in the fire stops must be capable of being filled into minute cavities, interstices and voids to provide a complete seal against fire, smoke, gases, chemicals and water.
- 4.2. All materials used in the fire stops, shall be non-combustible and shall not aid in the propagation of fire in any way. All combustible materials used for forming, damming or containment during the installation of the fire-stop shall be removed from the final completed penetration seal.

ENGG/ SPEC/029 Rev: RO Date: 10/10/2017	P&L/STD- Standard Specification	Section - B Page 6 of 16
Standard Specification for Passive Fire Protection		

- 4.3. The materials used shall be non-toxic, free of asbestos and shall not be harmful in any way to the personnel involved in its installation. The fire stop shall not contain solvents / materials which may constitute a fire hazard during installation or during normal conditions of operations.
- 4.4. The materials used in the fire stops, shall be compatible with any type of cable sheath and shall not corrode or damage the cable sheath or the galvanised / painted metal / structural parts of the cable carrier system.
- 4.5. All materials used in the fire stops shall not emit any corrosive or toxic gases, fumes or smoke in the event of a fire.
- 4.6. The system shall have compatibility with FRLS PVC, PVC neoprene, silicone rubber sheathing materials, or similar materials used in manufacturing of cables.
- 4.7. The material used for fire stops / barriers shall have 100% oxygen index. Limited Oxygen Index (LOI) test shall be as per ASTM-D-2863. Test certificates shall be made available for purchaser's review.
- 4.8. The material used in the fire stops for cable trenches / outdoor application shall be continuously water-proof.
- 5. Installation Requirement – Fire Stop**
- 5.1. The design and installation of the fire stops shall be done in a manner to give a neat and clean finish / appearance to the penetration seal / barrier.
- 5.2. Any minor work like chipping, breaking / modifications of the existing walls, floors or other civil structures and any other work or modification to the cable carrier system / pipe-sleeves to suit the installation of the fire stops shall be in the Contractor's scope and shall be carried out after obtaining prior approval of the PURCHASER.
- 5.3. The fire stops shall be suitable for retrofitting of cables through the penetration seal without disturbing the sealing of the cables already existing. It shall be easy to handle, cut or modify the fire stop material and to reseal the opening after the addition / deletion of cables with the minimum requirements for repair work such that the required fire rating and properties of the fire stop installed are not altered.
- 5.4. Generally, all openings and conduits / pipe-sleeves for cable penetrations through walls and floors will be sized to provide for 25% additional cabling. However, the percentage fill of cables in penetration openings cannot be guaranteed. In a few cases, spare openings / conduits / pipe-sleeves which are without any cables may have to be sealed. No extra cost shall be applicable on this account.
- 5.5. Conduits / pipes / pipe-sleeves for the passage of cables, shall be sealed either at one end or at both ends or shall be sealed entirely to achieve the fire rating specified.
- 5.6. The fire stops should be capable of being installed even when the cables are energised and installation during such conditions should not pose any danger to the personnel involved in the installation of the fire stop.

ENGG/ SPEC/ 029 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Section - B Page 7 of 16
		Standard Specification for Passive Fire Protection	

- 5.7. In case the FPS system offered requires an additional fire-resistant coating, the entire panel shall be coated with the fire resistant material. Also, in such cases, all cables, cable trays and pipe sleeves shall be coated on both sides of the fire seal. The area / length of the coating shall be as per the minimum requirements of the system offered, to achieve the specified fire rating.
- 5.8. The fire-resistant coating shall be sprayed to envelope the cables and cable trays and to penetrate the interstices and coat all the surfaces of the cables / cable trays which would normally be inaccessible when applied with a hand brush.
- 5.9. The coating provided on the cables to retard the propagation of fire shall not affect the current carrying capacity (ampacity) of the cables in any way. No derating of the cable shall be necessary.
- 5.10. The fire resistant coating shall not contain asbestos or solvents which may be inflammable, toxic or harmful to the cable sheaths, cable carrier system or personnel.
- 5.11. The coating shall be non-hygroscopic and weather-proof, resistant to abrasion and vibration and shall retain its properties even after prolonged use.
- 5.12. The coating shall be flexible to sustain moderate movement of the cables (including movement during short circuits in power cables) and shall not crack or peel off. It shall be mechanically tough to withstand foot-traffic without any damage or loss of its properties.
- 5.13. The coating shall allow the removal of individual cables out of a coated cable bundle.
- 5.14. The dimensions of the sealing system shall be such, so as to accommodate all sizes of cables that need to pass through the penetration opening.
- 5.15. All steel frames and hardware supplied within the system shall have adequate protection against corrosion, if any.
- 5.16. The use of seal bags shall generally be limited to provide a temporary seal or to provide fire protection in fire prone areas, during the construction phase. It may be used as a part of the 'Fire Sealing System', to provide an infill between two permanent fire-resistant boards. Whenever used, the seal bags shall be adequately enclosed or sealed to avoid removal / pilferage.
- 5.17. The installation work shall include below as per site requirement
 - 5.17.1. Installation of suitable brick and cement mason works with plastering to modify the opening size to nearest test design size
 - 5.17.2. Supporting barriers with installation of suitable steel angles, channels etc. for holding penetration, Barriers weight, Foot load etc.
- 5.18. On completion of fire stop barrier or sealing works, individual report on each fire stop / barrier for compliance to fire rating shall be made available to project manager / person in-charge of site.

ENGG/ SPEC/ 029 Rev: RO Date: 10/10/2017	Standard Specification		Section - B Page 8 of 16
	Standard Specification for Passive Fire Protection		

6. Design Requirement – Fire resistance coating / Paint

- 6.1. The fire-break shall be provided by applying a suitable fire-resistant coating on cables and cable trays for the required length, with or without a fire resistant panel, at the point of the fire break to obtain the fire-rating specified.
- 6.2. Fire breaks shall be provided by applying suitable fire- resistance coating on POWER & CONTROL cables in following areas and as directed by site project manager:
- 6.2.1. Fire break of one meter length below each cable terminations
- 6.2.2. Fire break of full length in vertical portion of the cable installations
- 6.2.3. Fire break of one meter length in straight portion of the horizontal cable installations at intervals of 3 meters (above ground & in cable trenches)
- 6.2.4. Fire break of one meter length on either side of cable joint
- 6.2.5. Fire break of one meter length on cable installations laid adjacent to cable joint
- 6.2.6. Fire break of one meter length on either sides of cable bend
- 6.2.7. Fire break of one meter length on cable installations having inter-sections and tee-offs (above ground & in cable trenches)

7. Material & Instllation Requirement – Fire Resistance Paint / Coating

- 7.1. The material, design and construction of the fire break shall be such, so as to provide the fire-rating specified and meet all requirements listed in this specification and relevant codes and standards.
- 7.2. The fire break shall effectively retard flame propagation along the long runs of horizontal or vertical cable trays in the same fire-zone or area, for the specified time duration, in the event of a fire.
- 7.3. Effectiveness of Fire break DFT and retarding properties shall have compliance to IEEE-383 & IEC-60332-3A and product certification as per FM 3971.
- 7.4. The material used for fire breaks shall have 100% oxygen index. Limited Oxygen Index (LOI) test shall be as per ASTM-D-2863. Test certificates shall be made available.
- 7.5. The Products shall be tested as per standard / norms.
- 7.5.1. FM 3971
- 7.5.2. IEC 332-3A
- 7.5.3. BS 476
- 7.5.4. IEC-331
- 7.5.5. IEEE-383
- 7.5.6. ASTM-D-2843
- 7.5.7. IEC-754 Part -1
- 7.5.8. IEC 60754 part-1
- 7.5.9. NES 713 & NCD 1409

ENGG/ SPEC/ 029 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Section - B Page 9 of 16
		Standard Specification for Passive Fire Protection	

- 7.6. The product shall be complying to other relevant standards of IS / BS/ EN/ IEC/ IEEE and shall be type tested in accredited lab only.
- 7.7. The products shall be approved / enlisted in National / International labs like National and International labs like UL, FM Global, LPCB, CBRI - Roorkee etc. for last five (05) years.
- 7.8. Fire Retardant coatings shall prevent propagation of fire arising from internal short circuit of cables and fire arising due to external sources as per applicable IEC / IEEE standards. Test and approvals certificates shall be submitted.
- 7.9. Fire Retardant coatings shall be tested and approved for its Flammability, Di-Electric Strength and Effect of Salt water exposure. Test certificates shall be submitted.
- 7.10. All fire coating shall be capable of withstanding for the duration specified, a fire on any side of the fire break.
- 7.11. The fire coating shall be non-hygroscopic, totally humidity and moisture resistant, termite, rodent and vermin proof and suitable for damp, wet or outdoor conditions.
- 7.12. The fire coating shall not undergo shrinkage or cracking / peeling after setting or curing, for its entire operational life.
- 7.13. The fire coating shall be water, oil and weather resistant and suitable for indoor as well as outdoor applications.
- 7.14. The BIDDER shall clearly indicate the performance variations if any, due to the ageing of the Fire coatings. The life time of the Fire coatings shall be at least 40 years and suitable for operation within an ambient temperature range of ZERO and 55 deg. C and after prolonged exposure to indoor / outdoor / damp environment.
- 7.15. The materials used shall be non-toxic, free of asbestos and shall not be harmful in any way to the personnel involved in its installation. The Fire coating shall not contain solvents / materials which may constitute a fire hazard during installation or during normal conditions of operations
- 7.16. The materials used in the Fire coatings, shall be compatible with any type of cable sheath and shall not corrode or damage the cable sheath or the galvanised / painted metal / structural parts of the cable carrier system.
- 7.17. All materials used in the Fire coatings shall not emit any corrosive or toxic gases, fumes or smoke in the event of a fire.
- 7.18. Any minor work like chipping, breaking / modifications of the existing walls, floors or other civil structures and any other work or modification to the cable carrier system / pipe-sleeves to suit the installation of the Fire coatings shall be in the Contractor's scope and shall be carried out after obtaining prior approval of the PURCHASER.
- 7.19. The Fire coatings should be capable of being installed even when the cables are energised and installation during such conditions should not pose any danger to the personnel involved in the installation of the Fire coating.

ENGG/ SPEC/ 029 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Section - B Page 10 of 16
		Standard Specification for Passive Fire Protection	

- 7.20. The fire-resistant coating shall be sprayed onto the envelope the cables and cable trays and to penetrate the interstices and coat all the surfaces of the cables / cable trays which would normally be inaccessible when applied with a hand brush.
- 7.21. The coating provided on the cables to retard the propagation of fire shall not affect the current carrying capacity (ampacity) as well as di-electrical strength of the cables in any way. No derating of the cable shall be necessary.
- 7.22. The fire resistant coating shall not contain asbestos or solvents which may be inflammable, toxic or harmful to the cable sheaths, cable carrier system or personnel.
- 7.23. The coating shall be non-hygroscopic and weather-proof, resistant to abrasion and vibration and shall retain its properties even after prolonged use.
- 7.24. The coating shall be flexible to sustain moderate movement of the cables (including movement during short circuits in power cables) and shall not crack or peel off. It shall be mechanically tough to withstand foot-traffic without any damage or loss of its properties.
- 7.25. The coating shall allow the removal of individual cables out of a coated cable bundle.
- 7.26. It should be possible to retrofit additional of new cables, etc, without damage / without removal of the fire protection system anytime after installation. Openings shall be made by soft drilling / sharp knife to accommodate new penetrating items i.e. cables, pipes etc.
- 8. Quality Assurance**
- 8.1. The name of the manufacturer shall appear on all major components.
- 8.2. All devices, components and equipment shall be new, standard products of the manufacturer's latest design and suitable to perform the functions intended.
- 8.3. The manufacturer/Bidder should be ISO 9001:2008 certified company
- 9. Bidder Qualification Criteria**
- 9.1. The installing contractor/bidder shall have an experienced staff firm regularly engaged in the installation of various types of fire fighting systems.
- 9.2. The installing contractor shall have nationwide service network and should ensure the availability for spares for maintenance at least for 10 years.
- 9.3. The bidder should have designed, manufactured, supplied, erected and commissioned at least Two (2) Passive Fire Protection Systems in industrial installations in last 5 years and one of the systems must have been commissioned in last 3 years.
- 9.4. The bidder / manufacturer's products shall be tested, approved and enlisted from National / International lab like National and International labs like UL, FM Global, LPCB, CBRI - Roorkee etc. Necessary documentary proof shall be submitted.
- 10. Document Submission**
- 10.1. Drawings for Approval. The installing contractor shall submit the following design information and drawings for approval prior to starting work on this project:
- 10.2. Field installation layout drawings detailing the location of fire stop & Fire coating on all types and sizes of the cable as required under this specification.

ENGG/ SPEC/ 029 Rev: RO Date: 10/10/2017	P&L/STD-	Standard Specification	Section - B Page 11 of 16
		Standard Specification for Passive Fire Protection	

- 10.3. Bidder to prepare the drawing showing location and dimension of each passive fire protection system used under this contract. Input drawing where ever available with us will be provided. However bidder shall prepare the drawing by doing survey as most of the drawings available with us does not reflect actual site condition present at station.
- 10.4. Duly filled data sheet along with Technical literature / catalogues
- 10.5. Brief description of material, sizing details, installation procedure
- 10.6. Standard QAP along with inspection and test plan
- 10.7. Experience list including places where the FPS system offered has been successfully installed.
- 10.8. Type test certificates for all tests specified.
- 10.9. All Approval /enlisted Certificates from National / International labs like National and International labs like UL, FM Global, LPCB, CBRI - Roorkee etc for last five (05) years
- 11. Performance Guarantee of system.**
- 11.1. The VENDOR shall guarantee that the design, materials, workmanship, installation and performance of all components and equipments used to make up the fire stops / fire breaks offered, shall meet all the requirements of this specification and relevant codes and standards.
- 11.2. Performance Tests on Fire Stops
- 11.2.1. Fire rating test
- 11.2.2. Hose stream test
- 11.2.3. The type tests shall be conducted on different fire stop test specimens each having a different type of penetration as listed below:
- 11.2.4. Cables penetrating through the fire stop.
- 11.2.5. Cable trays carrying cables penetration through the fire stop.
- 11.2.6. Conduit or pipe-sleeve penetrating through the fire stop
- 11.3. Type tests shall be conducted on different fire stop test specimens described above. The sizes of the fire stop test specimens, shall be similar to the largest of the sizes being used in this plant.
- 11.4. The cables / cable trays shall protrude to a minimum length as recommended in IEEE – 634. For fire stops requiring a fire-resistant coating on either side of the fire stop to achieve the specified fire rating, the cables / cable trays shall protrude on either side of the fire stop to the required length.
- 11.5. However, in such cases, the uncoated portion of the cables / cable trays shall extend beyond the coated to a minimum length of 300 mm + 5 mm on the exposed side and 900 mm + 25 mm on the unexposed side.
- 11.6. Performance Tests on Fire Breaks
- 11.7. Fire breaks shall undergo the following tests:
- 11.7.1. Ampacity Test
- 11.7.2. Flame Test
- 11.8. The BIDDER shall submit along with his offer, certified copies of test certificates for all the above tests, from recognised / testing laboratories acceptable to the PURCHASER for each type of

ENGG/ P&L/STD- SPEC/ 029 Rev: RO Date: 10/10/2017	Standard Specification	Section - B Page 12 of 16
	Standard Specification for Passive Fire Protection	

system / fire stop / fire break being offered under this contract. Only the certificates dated within last five years from the date of submission of Bid shall be accepted. In case the type test reports are not found to be meeting the specification requirements, the VENDOR shall conduct all such tests under this contract free of cost to the Purchaser and submit the reports for approval.

12. Data Sheet – Fire Stop

S No.	Description	Specific requirement	Bidder's data
1.0	FIRE STOPS		
1.1	Fire rating required	120 mins	
1.2	Material of conduits / pipes / pipe- sleeves	RCC/ AC/ MS / GS / HDPE	
1.3	General particulars	--	
1.3.1	Type of product provided	--	
1.3.2	Manufacturer's name	--	
1.3.3	Country of Manufacture	--	
1.3.4	Applicable standard	ASTM-E-814, UL-1479, IS - 12458, BS-467	
1.3.5	Applicable mode	--	
1.3.6	Shelf life unopened condition	Min 18 months	
1.3.7	Life expectancy	40 years	
1.3.8	Limiting oxygen index of the coating as per ASTM-D-2863	100%	
1.3.9	PH value	--	
1.3.10	Density	--	
1.3.11	Thermal conductivity	--	
1.3.12	Compressive strength	--	
1.3.13	Colour	White	
1.3.14	Di-electrical strength	--	
1.3.15	Toxicity	--	
1.3.16	Flash Point	--	
1.4	Performance Particulars		
1.4.1	Fire stops are suitable for water logged area	Yes	
1.4.2	Performance variation due to ageing	No	
1.4.3	Temperature withstand capability of the fire stop for normal operation (Max & Min)	950 Degree Celsius	
1.4.4	Max. Temperature recorded on unexposed side of	250 Degree Celsius	

ENGG/ P&L/STD- SPEC/ 029 Rev: RO Date: 10/10/2017	Standard Specification	Section - B Page 13 of 16
	Standard Specification for Passive Fire Protection	

S No.	Description	Specific requirement	Bidder's data
	the fire stop during the fire rating test		
1.4.5	Product tested at	FM/ IIT Roorkee	
1.5	Installation particulars		
1.5.1	Curing / Setting time of fire stop	--	
1.5.2	Fire resistance coating required on the fire stop (if yes, provide installation details)	Not required	
1.5.3	Fire resistant coating is required for cables/cable trays / pipe-sleeves in the vicinity of the fire stop. (if yes, provide installation details)	Not required	
1.5.4	Temperature rise in the cables under normal operating conditions due to the installation of the fire stops	--	
1.5.5	To achieve the specified fire rating whether the conduits / pipes / pipe-sleeves need to be sealed at one end / both ends / entirely	--	
1.5.6	Method of application		
1.5.7	Material Preparation		
1.5.8	Packaging details	--	
1.6	Applicable test data (please indicate certification lab details and enclosed type test reports)		
a)	Fire Resistance test as ASTM E-814, UL 1479, BS: 476 Part-20 and IS 12458		
b)	Impact test		
c)	Heat ageing test	Yes	
d)	Vibration test	Yes	
e)	Water absorption test	Yes	
f)	Hose stream test post fire exposure	Yes	

13. Data Sheet – Fire Resistance Paint / Coating

1.0	FIRE BREAKS		
1.1	Fire rating required	Compliance to IEC 60332-3A / IEEE 383 / FM 3971 product	

ENGG/ SPEC/ 029 Rev: RO Date: 10/10/2017	P&L/STD-		Standard Specification	Section - B Page 14 of 16
			Standard Specification for Passive Fire Protection	

		certification	
1.2	Type of cables used	All power & control Cable in station	
1.3	General particulars		
1.3.1	Type of product provided	--	
1.3.2	Manufacturer's name	--	
1.3.3	Country of Manufacture	--	
1.3.4	Applicable standard	IEC-332, IEC-331, IEEE-383, FM3971, ASTM-D-2843, IEC-754 Part -1, IEC 60754 part-1 NES 713 & NCD 1409	
1.3.5	Applicable mode	--	
1.3.6	Shelf life	Min 18 months	
1.3.7	Life expectancy	40 years	
1.3.8	Limiting oxygen index of the coating as per ASTM-D-2863	100%	
1.3.9	PH value	--	
1.3.10	Density	--	
1.3.11	Thermal conductivity	--	
1.3.12	Compressive strength	--	
1.3.13	Colour	--	
1.3.14	Di-electrical strength	--	
1.3.15	Toxicity	--	
1.3.16	Toxicity Index (as per NES-713 & NCD-1409)	--	
1.3.17	Flash point		
1.3.18	Solid content	--	
1.3.19	Temperature resistance	950 Degree Celsius	
1.3.20	Coverage @ 1.6mm DFT (as per FM 3971). Also provide details as requested in Table -1		
1.4	Performance Particulars	--	
1.4.1	Product tested at	FM / IIT Roorkee	
1.4.2	Whether cables required to be de-rated due to the coating	--	
1.4.3	Temperature rise in the cable due to the	--	

ENGG/ P&L/STD- SPEC/ 029 Rev: RO Date: 10/10/2017	Standard Specification	Section - B Page 15 of 16
	Standard Specification for Passive Fire Protection	

	coating.		
1.4.4	Whether the coating is resistant to water. Attach suitable test certificates.	Yes	
1.5	Installation particulars		
1.5.1	Setting / drying time of the coating		
1.5.2	At each fire break to achieve the specified fire rating a) Length of the coating required Thickness of the coating required	--	
1.5.3	Whether primer coat is required	--	
1.5.4	Bending radius of the coated cables to still withstand cracking or peeling of the coating	--	
1.5.5	Method of application	--	
1.5.6	Material Preparation	--	
1.5.7	Whether top coat required for saltwater test or for outdoor application	--	
1.5.8	Packing	--	
1.5.9	Shelf life if unopened and kept in 20-45 Deg. C	18 Month	
1.5.10	Material Safety Data Sheet (MSDS) on handling and application is available & attached with offer	--	
1.6	Applicable test data (please indicate certification lab details and enclosed type test reports)	Yes / No	
a)	Flame Retardance & ageing test as per FM3971		
b)	Long term Fire Resistance / circuit integrity (50 and 60 minutes with re-energisation) as per IEC 60331-11		
c)	Long term Flame Retardance prevention (120 minutes) as per IEC 60332-3-21		
d)	Hydrocarbon Fire test pass	Yes	
e)	Flame Retardance test as per IEEE383	Yes	
f)	Toxicity Index as per NES-713 & NCD-1409	Yes	

ENGG/ P&L/STD- SPEC/ 029 Rev: RO Date: 10/10/2017	Standard Specification	Section - B Page 16 of 16
	Standard Specification for Passive Fire Protection	

g)	14 days water immersion test pass &	Yes	
h)	Heat dissipation	Yes	
i)	Smoke density as per ASTM D 2843	Yes	
j)	Halogen acid gas as per IEC 60754 part-1	Yes	
k)	Acidity of gases (zero halogen) as per IEC 60754 part-2	Yes	
l)	smoke density as per IEC 61034	Yes	
m)	Flammability temperature as per ISO 4589-3 Annex A	Yes	

Table -1: Estimated consumption for 1.6 mm DFT / Sq.M (as per requirement of FM-3971)

Density/ Sp. Gravity (a)	WFT / DFT ratio (b)	Wet volume Consumption in lit / SQM without process wastage (C) = (b) X 1.6 lit (dry volume)	Consumption in Kg (d) = (C) X (a)
3rd party test report on (a) & (b) Required			

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – B
	Kalyan GIS Fire Protection Package	

SECTION B

Chapter No 5 – Fire Hydrant System

THE TATA POWER COMPANY LIMITED

STANDARD TECHNICAL SPECIFICATION FOR Fire Hydrant System

DOCUMENT NO - ENGG/ P&L/STD-SPEC/ 006



Tata Power Generation Engineering

R2	13/05/2024	Issued for use	J Shinde	D Das	N Mishra
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Contents

1. Scope.....	3
2. Codes and Standards.....	3
3. Design Criteria	3
4. Lay out Requirements	4
5. Pumping System for Hydrant System.....	5
6. Operation of Hydrant system.....	8
7. Fire Extinguisher	7
8. Technical Parameter of Equipments covered under Fire Hydrant system.....	9
9. Inspection and Marking Requirements of Fire Hydrant system equipments.....	8
10. Performance Requirement of Hydrant System.....	8
11. Spares.....	10
12. Data Submission By Bidder	11

ENGG/ P&L/STD- SPEC/ 006	Standard Specification	Section B Page 3 of 11
	Fire Hydrant System	

1. Scope

1.1. Scope of this standard specification covers fire hydrant system (internal and external) for all building, structures, areas for the location as described in Section A.

2. Codes and Standards

- 2.1. All equipment, system and services covered under this specification shall comply with all currently applicable statutes, regulations, and safety codes. Nothing in this specification shall be construed to relieve the BIDDER of his responsibility
- 2.2. In the event of any conflict between the codes and the standards referred to elsewhere in the specification and the requirements of this specification, more stringent of the two shall govern.
- 2.3. Following are some of the important codes and standards relevant to this specification.

IS:3034	Fire Safety of Industrial Building: Electric Generating and Distributing station – Code of Practice
NBC 2017	National Building Code
Life safety Act	Maharashtra Life safety Act 2007
NFPA 1	NFPA Fire Prevention Code
NFPA 14	Standard for the Installation of Standpipes and Hose Systems
NFPA 24	Standard for the Installation of Private Fire Service Mains and Their Appurtenances

3. Design Criteria

- 3.1. Hydrant system shall be designed as per applicable NBC / NFPA clause.
- 3.2. Ordinary hazard class shall be considered for designing of Fire hydrant system for Generating plant and current converting station.
- 3.3. Pump discharge capacity shall be designed as per project specification. Capacity mentioned in the section A is the minimum capacity required for the project. Bidder to analyse the capacity of pump and suggest any improvement needed.
- 3.4. If Common header system for hydrant & spray / sprinkler system is proposed in section A, then total discharge capacity of main pump shall be as per IS 3034 i.e. 3600 LPM Hose stream for hydrant system plus actual water requirement of fixed Spray system.
- 3.5. Head of the pump shall so selected that it shall meet combine requirement of Hydrant or spray system. i. e. Pump shall deliver residual pressure of 3.5 bar for spray system at hydraulically remote nozzle and 3.5 bar residual pressure at hydrant valve at hydraulically remote valve plus 10% margin.

ENGG/ SPEC/ 006	P&L/STD-	Standard Specification	Section B Page 4 of 11
		Fire Hydrant System	

- 3.6. Size of the hydrant header shall be such that minimum pressure at hydraulically remote nozzle shall meet the design requirement + 20% margin shall be kept for clogged condition. In any case size of the hydrant ring main shall not be less than 150mm.
- 3.7. Bidder shall clearly mention pump discharge and Head considered in their offer.
- 3.8. Velocity in the ring main shall not cross 2.8 m/s.
- 3.9. Pressure drop calculation shall be based on Hazen William constant of C = 100 for all types of pipes.
- 3.10. All the pipes, pipe fittings, Valves, Pipe support, joining method, shall conform to piping standards specification.
- 3.11. Underground pipe protection shall be as per standard specification of underground fire Hydrant Pipe Protection.
- 3.12. Each external Hydrant valve shall be equipped with One no of double headed Hydrant Valve, 2 x 15 Meter RRL Long Hose Pipe, Branch pipe, spanner etc. in FRP hose box.
- 3.13. Each Internal hydrant valve shall be provided with single headed Hydrant Valve, 2 x 7.5 Meter RRL Hose pipe, Branch Pipe, spanner etc. in FRP hose box.
- 3.14. All internal hydrants shall be provided with 25 mm diameter 30 m long hose reel as per applicable IS standards
- 3.15. For tall columns, structure, tower, and equipment having height more than 15-meter, water monitor shall be provided. Location and quantity of water monitor will be decided during detail engineering.
- 4. Lay out Requirements**
- 4.1. Total nos. of hydrant valves shall be finalized based on the latest plot plan considering 30 m spacing between two external hydrants.
- 4.2. Internal hydrant shall be provided at every landing platform of each staircase.
- 4.3. A network of hydrant ring main shall be provided for each building, area, structure.
- 4.4. Isolation valves shall be provided at every branch connection to facilitate easy maintenance of the hydrant network & ring mains shall be interconnected and water from any side of ring main can flow to other end.
- 4.5. Tapping shall be taken from the hydrant header for the risers inside various floors of buildings. Each riser pipe feeding the internal hydrants is provided with drain, vents, and isolation valve at ground level.
- 4.6. All isolation valves shall be rising spindle gate valve. Butterfly valve is not acceptable.
- 4.7. Orifice plate shall be fitted to each hydrant outlets to limit the residual pressure to within 7 kg/cm² to enable the operator to hold the branch pipe and nozzle without being subjected to excessive reaction thrust.

ENGG/ SPEC/ 006	P&L/STD-	Standard Specification	Section B Page 5 of 11
		Fire Hydrant System	

- 4.8. Each water monitor shall be provided with isolation gate valve.
- 4.9. Pipe shall run underground/aboveground as per direction of engineer incharge. Engineer incharge decision is final for routing of pipe during site execution. Bidder to take clarification from Tata Power regarding the pipe routing before finalization of order.
- 4.10. Above ground pipe shall run on the pedestal support as per approved civil drawings.
- 4.11. All isolating valves in the system shall be kept in 'LOCKED OPEN' condition.
- 4.12. All accessories required for external and internal hydrants shall be stored in hose boxes located alongside of each hydrant.
- 4.13. Exact location of hydrants shall be such that they are located nearer to, either a door or window opening of the respective building to enable quick access to interior areas of building and use of minimum hose length.
- 4.14. Isolation valves shall be provided in the network to enable isolation of any section of the network without affecting the flow in the rest.
- 4.15. The isolation valves shall be located normally near the loop junctions. Additional valves shall be provided in the segments where the length of the segment exceeds 150m.
- 4.16. Pipes shall run at least 6 m away from the face of the buildings and open storage areas in case of Ordinary Hazard Occupancies.
- 4.17. Wall opening, cut-out, floor opening wherever required for installation of hydrant system shall be provided by bidder
- 4.18. Additional internal hydrants shall be provided on the ground floor of each building.
- 4.19. Suitable operating platform shall be provided for hydrant valve or water monitor if height of hydrant valve / water monitor must increase beyond 1200mm from local Finish ground level due to plant / equipment layout.
- 4.20. Four-way Fire Brigade breaching connection shall be provided for each at main entrance gate.
- 4.21. Four-way Fire Brigade breaching connection shall be provided with flanged type NRV and isolation gate valve.
- 4.22. Draw out connection shall be provided for the fire water tank.
- 4.23. Air release valve shall be provided at highest point in the system. Air release valve shall be equipped with isolation gate valve and pressure gauge.
- 5. Pumping System for Hydrant System**
- 5.1. (Working) Fire water main pumps of Vertical / horizontal centrifugal type with AC electric motor drive, base plate etc., complete with all accessories to deliver required performance of system as per specification shall be provided
- 5.2. (Standby) Fire water pumps of Vertical / horizontal centrifugal type with diesel engine driven through suitable gear box, base plate etc., complete with all accessories as required. Diesel

ENGG/ SPEC/ 006	P&L/STD-	Standard Specification	Section B Page 6 of 11
		Fire Hydrant System	

engine shall be provided with independent fuel tanks of 6 hrs capacity and independent fuel, cooling, and exhaust system.

- 5.3. Fire water jockey Pumps of Vertical / horizontal centrifugal type with AC electric motor drive, base plate etc., complete with all accessories as required.
- 5.4. Pumps shall be full fill requirements specified in standard specification attached with the specification.
- 5.5. Piping inside the Fire Pump Room shall be designed and arranged in such a way as to allow free movement of personal inside the Fire Pump Room without any obstructions or limitations whatsoever. It shall full fill NFPA 20 requirements.
- 5.6. Pressure relief valve with isolation valve shall be provided for the delivery header, the relief line discharge routed to the fire water tank or nearest drain or fire water tank as per instruction of engineer incharge.
- 5.7. Waterproof padlock & GI chains with master key shall be provided for all isolation gate valves inside pump house.
- 5.8. Grouting shall be provided for the complete gap inside in-between the Pump foundation and base frame. Pump shall be aligned with the motor shaft as per applicable standard.
- 5.9. The vent arrangement (flame arrestor) for the Diesel Fuel Tank shall be extended outside of the Fire pump room.
- 5.10. Exhaust pipe of diesel engine shall be suitably routed outside of pump house with proper insulation.
- 5.11. Operation and control of complete pumping system shall be controlled through motor control panel situated in pump room.
- 5.12. Control panel shall be interfaced with DCS/SCADA.
- 5.13. Local push button shall be provided near each pump
- 5.14. Motor control panel shall be as per standard specification attached with this specification.
- 5.15. Pressure switch shall be used to sense the pressure in pump discharge line and same shall be used to Auto Start / STOP of the pump via MCC panel.
- 5.16. Digital indication type flow meter shall be provided for test line.
- 5.17. Common test line cum recirculation line with isolation gate valve shall be provided on common header. This recirculation valve shall be directed in main fire water tank.
- 5.18. Additional auto recirculation valve shall be provided on the common discharge header. Size of auto recirculation valve shall be sufficient to discharge water for minimum safe flow of safe flow of the maximum capacity of one pump.
- 5.19. Level gauge and level switch shall be provided on the fire water tank and same shall be interfaced with panel for water level indication in SCADA.

ENGG/ SPEC/ 006	P&L/STD-	Standard Specification	Section B Page 7 of 11
		Fire Hydrant System	

6. Operation of Hydrant System

6.1. The Fire water system shall be a pressurized system provided with automatic starting of fire water pumps. The mode of operation of fire water system shall be as follows:

1. If there is nominal pressure drop in the header pressure due to leakage, jockey pump will start and built the pressure up to set point and auto cut off.
2. In the event of fire when hydrant valves/water monitors/deluge valve are opened, the pressure in the header shall drop due to the resultant flow and at a preset low pressure in the header, the motor driven pump shall start automatically by getting an impulse from a pressure switch mounted on the header.
3. In case the motor driven pump, fails to start, the pressure in the mains shall drop further and sequentially start diesel driven pump. There shall be a provision to start the pump manually in case of emergency.

6.2. Stopping of main electrical driven pump and diesel engine driven pumps shall be manual.

6.3. Jockey pumps shall not be running when main pumps are in operation.

6.4. The pressure setting for the pumps shall be such that the all pumps in the fire fighting system shall be automatically start in sequentially manner.

6.5. Critical signal list Signal in fire hydrant system shall be relayed to main fire alarm panel and interfaced with SCADA/ DCS system of station.

7. Fire Extinguisher

7.1. Fire Extinguisher shall be provided through out the premises as per NBC and NFPA Guidelines.

7.2. For electrical equipments, it would be necessary to provide extinguishers as under

- For rooms containing electrical transformers, switchgears, motors and/or electrical apparatus only, not less than two 2 Kg dry powder or carbon dioxide type of extinguishers shall be provided within 15 m of the apparatus.
- Where motors and/or other electrical equipments are installed in rooms other than those containing such equipments only, one 5 Kg dry powder or carbon di oxide extinguisher shall be installed within 15 m of such equipments

7.3. The extinguisher locations are decided based on following considerations and shall confirm IS 2190 and NFPA 10 requirements.

- Travel distance of 15 meters maximum
- Uniform distribution,
- Easy accessibility,
- Nearness to doors, windows, and emergency doors,
- Access and escape route, Safe distance from application area.

ENGG/ SPEC/ 006	P&L/STD-	Standard Specification	Section B Page 8 of 11
		Fire Hydrant System	

7.4. Four nos. of bucket with stand arrangement filled with clear sand shall be provided.

8. Technical Parameter of Equipment's covered under Fire Hydrant system

- 8.1. Hydrant Valve shall be as per IS 5290 Type A, Oblique type outlet angled toward ground. MOC shall be SS 316.
- 8.2. Water Monitor shall be as per IS 8442, having nozzle size 32 mm, SS 316 Material shall be used for Nozzle. Performance testing shall be carried out as per IS 8442 before delivering to site. Test will be witnessed by purchaser.
- 8.3. Hose pipe shall be as per IS 636 Type B, proof pressure shall be conducted along with coupling assembled with hose as per IS 636.
- 8.4. Hose coupling shall be as per IS 903, shall have SS316 MOC.
- 8.5. Branch Pipe shall be as per IS 903, shall have SS 316 MOC. Branch pipe shall also provide with spanner.
- 8.6. Hose reel shall be as per IS 884.
- 8.7. Portable Fire Extinguisher – Water type shall be as per IS 940.
- 8.8. Portable fire extinguisher – DCP type shall be as per IS 2171.
- 8.9. Fire Bucket and its stand shall confirm IS 2546.
- 8.10. Co2 Type fire extinguisher shall confirm IS 2878.

9. Inspection and Marking Requirements of Fire Hydrant system equipments

- 9.1. TATA POWER or its authorized representative shall have access at all reasonable times to the manufacturer's works, where the equipments of Fire Hydrant system are being manufactured and/or tested. Any defect / shortcomings pointed out shall be rectified to the satisfaction of inspectors.
- 9.2. Tata Power will inspect the any or all material at any stage of manufacturing as per approved Manufacturer quality assurance plan. Bidder is responsible for getting approval of all documents before proceeding further.
- 9.3. Bidder to refer minimum Inspection Requirement of various equipments attached with this specification ENGG/ P&L/STD-SPEC/ 012.

10. Performance Requirement of Hydrant System.

- 10.1. General Requirement of PG Test.
- 10.1.1. Test shall be conducted by representatives of the contractor and the Employer. The contractor shall be given permission to inspect the entire system in advance and make it ready for the test. Contractor's representatives shall witness all phases of the test and record the data jointly with the Employer's representatives.
- 10.1.2. The responsibility for conducting the test rests with the contractor.
- 10.1.3. Any instruments required for the PG test will be provided by the contractor. Calibration of test instruments shall be the responsibility of the contractor.
- 10.1.4. Replacement of fused/damage parts, i.e., quartzoid bulb and linear heat sensing cable etc., during the test shall be the responsibility of contractor.
- 10.1.5. Provision shall be made for the disposal of water issuing from outlets to avoid property damage.

ENGG/ SPEC/ 006	P&L/STD-	Standard Specification	Section B Page 9 of 11
		Fire Hydrant System	

- 10.1.6. Contractor should furnish a written statement to the effect that the work covered in this contract has been completed and all specified flushing of underground, above ground piping has been successfully completed together with specified hydrostatic pressure tests.
- 10.1.7. All the erection/commissioning protocols in respect of hydro test of hydrant mains, spray lines, vibration/noise level data of pumps, holiday test results of pipe coating, IR/conductor resistance values of LHS cables, alarm/annunciation/control systems, batteries, pipe line flushing, laying of pipelines as per TAC accredited professional(s) approved drawings, compliance of all hand appliances and their accessories as well as all components of hydrant/ spray/ other protective equipments to BIS; all other systems/equipments shall be made available before conducting the P. G. Test. Sample checking of all the above mentioned items shall be carried out during P. G. Test.
- 10.2. Hydrant System.
- 10.2.1. Sequential auto start of the electric and diesel hydrant pumps shall be checked by opening the test hydrants.
- 10.2.2. The minimum running pressure of 3.5 Kg/sq. cm at the farthest/hydraulically most remote hydrant point shall be available with half the aggregate pumping capacity being discharged at the test point and half en-route.
- 10.2.3. Minimum running pressure of 3.5 Kg/ sq. cm at the highest/ farthest (hydraulically remotest hydrant point) shall be demonstrated with only one diesel hydrant pump running with half the aggregate pumping capacity being discharged at the test point and half en-route.
- 10.2.4. This test shall be repeated every month during guarantee period in the presence of contractor's representative.
- 10.2.5. Auto operation of jockey pump for pressurizing of the system shall be checked for eight hours and reading of actuating/cut off pressures shall be recorded.
- 10.2.6. Control panel/annunciation panel shall be checked for operation i.e., proper functioning and audiovisual indications as spelt out in system functional requirements of Fire Detection & alarm system.
- 10.2.7. Battery and battery charger shall be checked for auto charging and providing sufficient power for eleven consequent starting kicks each of 10 sec. duration to diesel engine (with diesel supply cut off) within five minutes with A.C. supply switched off. It shall be able to start the diesel engine in the 12th starting kick.
- 10.2.8. The hydrant mains shall be hydraulically tested and shall be capable of withstanding for 30 minutes a pressure equivalent to 150% of the design pressure or 200% of maximum operating pressure, whichever is higher. In case this test has been conducted before commissioning, such test is not mandatory, and protocols shall be verified.
- 10.2.9. All the hydrant valves, isolating valves and valves of monitors shall be operated repeatedly for smooth operation and there shall be no leakages / passing.
- 10.2.10. For diesel engine pump sets, six (06) hour full load test and 10% overload run test for 1 hour shall be carried out. Performance of diesel engine shall be observed at the end of the above test.
- 10.2.11. Vibration and noise level measurement shall also be taken at full load and at overload run test and shall be below the specified value indicated in approved data sheet. Vibration level of electric motor driven

ENGG/ SPEC/ 006	P&L/STD-	Standard Specification	Section B Page 10 of 11
		Fire Hydrant System	

pumps, their motors and diesel engine driven pumps shall be 75 micron and noise level less than 85 dB. Vibration and noise level for diesel engines shall be 15mm/sec rms and 85 dB at 1.5 m above floor and 1.0M from the equipments. Suitable acoustic enclosures shall be provided to limit the specified noise level for diesel engines.

10.2.12. Following readings shall be taken after every half an hour and shall be compared with the specified values indicated in the approved data sheet.

- a) Exhaust temp. (with engine mounted calibrated temp. gauge).
- b) Closed circuit water temp. (with engine routed calibrated temp. gauge).
- c) Lubricating oil temp. (with engine mounted calibrated temp. gauge).
- d) Lubricated oil pressure (with engine mounted calibrated pressure gauge).
- e) Speed (with digital non-contact RPM meter).

Efficiency of combustion shall be verified from the colour of the exhaust. The colour of exhaust shall be haze clear and not black.

11. Spares

11.1. Bidder to provide following spares for the Fire Hydrant System.

1.0	FIRE HOSES WITH COUPLINGS		
1.1	7.5m long fire hoses with end connectors	5% of Total population	
1.2	15m long fire hoses with end connectors	5% of Total population	
2.0	BRANCH PIPES WITH NOZZLES		
2.1	Nozzles with branch pipes & quick coupling ends	5% of Total population	
3.0	Gate Valve of each size used	Nos	1
4.0	Butterfly Valve of each size used	Nos	1
5.0	Non-Return Valve of each size used	Nos	1
6.0	Y – Type Strainer of each size used	Nos	1
7.0	Hydrant Valve of each type used	10% of Total population	
8.0	Water Monitor of each type used	1 Nos	
9.0	PORTABLE EXTINGUISHERS		
9.1	Pressurised Water type (9 lit. cap.)	Nos	2
9.2	Foam Type (9 lit. cap.)	Nos	2
9.3	CO2 Type (4.5 kg cap.)	Nos	2
9.4	Dry Chemical Type (ABC type, 6 kg cap.)	Nos	4
10.0	MOBILE EXTINGUISHERS		
10.1	Foam type (50 lit. cap.)	Nos	1
10.2	CO2 Type (22.5 kg cap.)	Nos	1
10.3	Dry Chemical Type (ABC type, 50 kg cap.)	Nos	1

Bidder to also provide list of recommended spares for next three years of operation.

ENGG/ SPEC/ 006	P&L/STD-	Standard Specification	Section B Page 11 of 11
		Fire Hydrant System	

12. Data Submission by Bidder

12.1. Bidder shall furnish drawings and data sheet below listed equipments for information along with the Offer.

- i. Technical Data sheets and Product catalogue of the pipes, pipe fittings, Hydrant Valve, Water Monitor, Main Pump, Jockey Pump. Electrical Motor, Diesel Engine, Motor control panel, PLC panel, Fire extinguisher.
- ii. Electrical Load list
- iii. Technical data sheet and product catalogue of Solenoid valve, Pressure switch & pressure Gauge.
- iv. General arrangement drawing of pump house.

12.2. Drawing document to be submitted by bidder after award of Contract

- v. Technical Data Sheets of all listed equipments covered under Fire Hydrant System
- vi. Layout drawing of the complete system
- vii. Hydraulic Calculation of the network.
- viii. P&ID of complete system
- ix. GA drawing of Pump house.
- x. GA drawing of MCC panel & PLC panel.
- xi. QAP / MQP of each equipments
- xii. PG test procedure
- xiii. O&M manual.

Note: - Above listed document list is indicative only. Bidder to provide each detail asked by Purchaser of any equipments covered in the overall project specification scope.

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Pipe, Pipe Fittings & its components			
Sl. No.	Description	Material Standard	Dimensional Standard
1.0	MAKES		
a	MS/GI Pipes	Jindal (Ghaziabad&Hissar)/ TATA(Jamshedpur up to 150NB)/ MSL/ Surya Roshni(Bahadurgarh up to 350NB)	
b	SS Pipes	Remi, Ratnamani, Choksi	
c	Forged Fittings, S.S Fittings & Flanges	Flash Forge, Gujarat Infra, M.S. Fittings, Tube Products Incorporate, Pipe Fit, Tube turn, EBY Industries, Navkar fittings, Sidharth & Gautam	
2.0	PIPES NORMALLY FILLED WITH WATER		
2.1	M.S. Pipes (Underground / Aboveground)		
i)	Up to 40 NB	Mild steel, Black ERW to IS: 1239, Part-I, Heavy Grade	IS: 1239, Part-I, Heavy Grade, plain ends for socket welding
ii)	50 NB to 150 NB		IS: 1239, Part-I, Heavy Grade, Bevel ends for butt welding
iii)	200NB to 350 NB	Mild steel, Black, ERW to IS: 3589, Gr. Fe 410	IS:3589,.6mm Thick, Bevel ends for butt welding, with tolerance as per IS:3589
iv)	400NB	Mild steel, Black, ERW to IS: 3589, Gr. Fe 410	IS:3589,.8mm Thick, Bevel ends for butt welding, with tolerance as per IS:3589
v)	Hydro-test pressure shall be 1.5 times pump shutoff head and holding time shall be 24 Hours.		
2.2	M.S Fittings (Underground / Aboveground)		
a) Elbow			
i)	Up to 40 NB	Forged to ASTM A 105	ASME B16.11,SW, #3000
ii)	50 NB to 150NB	ASTM A234,Gr.WPB	ASME B 16.9,SCH40,BW
iii)	200NB to 400NB	Mitre Fabricated from Parent Pipe (4 segments-15°, 30°, 30°, 15°)	ASME, B16.9, BW, Thickness matching with that of parent pipe.
b) Tee			
i)	Up to 40 NB	Forged to ASTM A 105	ASME B16.11, SW, #3000.
ii)	50 NB to 150NB	ASTM A234,Gr.WPB	ASME B 16.9,SCH40,BW.
iii)	200 NB to 300NB	Branching from Parent Pipe	ASME, B16.9, BW, Thickness matching with that of parent pipe.
c) Reducer			
i)	Up to 40 NB	Forged to ASTM A 105	ASME B16.11, SW, #3000.

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Sr. No.	Description	Material Standard	Dimensional Standard
ii)	50NB to 150 NB	ASTM A 234,Gr.WPB	ASME B16.9,SCH40, BW
iii)	200NB TO 400NB	Fabricated from parent pipe with included angle 30°	ASME B16.9, BW, Thickness matching with that of parent pipe.
d)	Half coupling		
i)	All sizes	Forged to ASTM A 105	ASME B16.11,SW,#3000
2.3	M.S Flanges		
a)	Slip-on Flange/ Blind Flange		
i)	Up to 150NB	Forged to ASTM A 105	ASME B16.5, #150, SOFF/RF
ii)	200 NB to 300NB	IS:2062, Gr. E250 A	
iii)	350NB and Above	IS:2062, Gr. E250 A	ANSI B16.5, Class 150#, SOFF/RF, Thickness as per AWWAC207,Class D of Table-2
2.4	Bolts, Nuts & Washers		
a)	Bolts	IS-1367	IS-1364 Cl. 4.6
b)	Nuts	IS-1367	IS-1364 Cl. 4.0
c)	Washers	IS-2016, Type-A	
2.5	Gasket		
a)	All Sizes	Black Rubber	B16.21, #150, 3mm thickness, Self centering type ,Shore Hardness 60D
3.0	PIPES NORMALLY EMPTY BUT PERIODICALLY FILLED WITH WATER (SPRAY WATER LINE/ FOAM-WATER SOLUTION LINE)		
3.1	G.I. Pipes (Aboveground)		
i)	Up to 40 NB	MS ERW to IS:1239, Part-I, Galvanized as per IS:4736	IS: 1239, Part-I, Heavy Gr. Screwed Ends
ii)	50 NB to 150 NB		IS: 1239, Part-I, Heavy Gr. Bevel End/Screwed End
iii)	Hydro-test pressure shall be 1.5 times pump shutoff head and holding time shall be 24 Hours.		
3.2	G.I Fittings (Elbows / Reducers / Tees)		
i)	Up to 40 NB	Forged to ASTM A 105, Galvanized as per IS:4736	ASME B16.11, Screwed Ends, #3000
ii)	50 NB to 150NB	ASTM A234,Gr.WPB, Galvanized as per IS:4736	ANSI B16.9, Screwed End , Sch.40, SMLS
3.3	G.I Flanges		
i)	Up to 150NB	Forged to ASTM A 105, Galvanized as per IS:4736	ASME B16.5, #150, SOFF.

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Sl.No.	Description	Material Standard	Dimensional Standard
3.4	Bolts, Nuts & Washers		
a)	Bolts	IS-1367, Galvanized as per IS:4736	IS-1364 Cl. 4.6
b)	Nuts	IS-1367, Galvanized as per IS:4736	IS-1364 Cl. 4.0
c)	Washers	IS-2016, Type-A, Galvanized as per IS:4736	
3.5	Gasket		
a)	All Sizes	Black Rubber	B16.21, #150, 3mm thickness, Self centering type ,Shore Hardness 60D
4.0	FOAM CONCENTRATE LINE		
4.1	SS Pipes		
	Up to 40NB	Stainless steel to ASTM A 312, TP 304, ERW	ASTM A 312, TP 304, Sch.40S, Plain End
a)	Up to 150NB	Stainless steel to ASTM A 312, TP 304, ERW	ASTM A 312, TP 304, Sch.40S, Bevel End
4.2	SS pipe fitting (Elbows/ Tees/ Reducers)		
a)	Up to 40 NB	Stainless steel to ASTM A 403, WP304	B16.11 Socket Weld, #3000
b)	50 NB and Above		ANSI B16.9 Bevel End, Sch.40S
4.3	SS Flanges / Blind Flanges		
a)	All size	ASTM A -182M	Drilling as per ANSI B16.5, Class 150#,RF/FF
4.4	SS Bolts, Nuts & Washers		
a)	Bolts	Material as per ASTM A193 B8	ASME B18.2.1
b)	Nuts	Material as per ASTM A194 Gr.8	ASME B18.2.2
c)	Washers	SS-304	IS-2016, Type-A
4.5	Gasket		
a)	All Sizes	Black Rubber	B16.21, #150, 3mm thickness, Self centering type ,Shore Hardness 60D

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – B
	Kalyan GIS Fire Protection Package	

SECTION B

Chapter No 6- Fire Sprinkler system

THE TATA POWER COMPANY LIMITED

STANDARD
TECHNICAL SPECIFICATION
FOR
Sprinkler System

DOCUMENT NO - ENGG/ P&L/STD-SPEC/ 016



Tata Power
Generation Engineering

R2	13/5/2024	Revised and issued for use	J Shinde	D Das	N Mishra
R1	22/12/2021	Revised and issued for use	J Shinde	N Mishra	R Gadre
R0	9/7/2014	Issued for Info or Use	JSS	RSG	AJ
Rev. No	Date	Description	Prepared By	Checked By	Approved By

ENGG/ P&L/STD-SPEC/ 016 Rev: R1 Date: 22/12/2021	Standard Specification	Section B
	Sprinkler System	

1. Scope

1.1. This specification covers technical requirement of sprinkler system specified in the section A.

2. Codes and Standards

2.1. Following are some of the important codes and standards relevant to this specification.

NFPA-13	Standard for installation of Sprinkler System
IS 3034	Fire Safety of Electrical Buildings: Electrical Generating and Distribution Station – Code of Practise
IS 15105	DESIGN AND INSTALLATION OF FIXED AUTOMATIC SPRINKLER FIRE EXTINGUISHING SYSTEMS - CODE OF PRACTICE
NFPA 850	Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations

3. Design Criteria & Lay out Requirements

3.1. Sprinkler system shall be designed as per NFPA 13.

3.2. The sprinkler installation shall be designed to the following hazard classification in accordance with NFPA 13

- Office area : Light Hazard
- Fire pump house : High Hazard
- Workshop : High Hazard

3.3. Minimum density for automatic sprinkler piping design:

- Light Hazard occupancy : 5 LPM\SQ.M over 140-sq. m area
- Storage : 20 LPM\SQ.M over 186-sq. m area

3.4. Maximum protection area per sprinkler 9 sq. meter and maximum spacing shall not exceed 3 meters between two sprinklers.

3.5. All equal and unequal fittings including but not limited to bends, elbows, tees, reducers, sockets shall be standard pipe fittings.

3.6. Pipe shall be size for 120% of design flow having design velocity 2.8 m/Sec at ambient temperature.

3.7. Pressure and flow requirement of the sprinkler system shall be as per NFPA 13.

3.8. Sprinkler head rating, type shall select as per NFPA 13 only.

3.9. The installation control valve shall be provided for each sprinkler riser. Installation control valve shall comprise of main stop valve, alarm valve with accessories, strainer, and motor gong.

3.10. Ball valve shall be provided for testing of sprinkler system at the farthest point and drainpipe shall be taken to nearest drain outlet by means of piping.

3.11. Sprinkler network for each floor shall be provided with suitable size of butterfly valve.

3.12. Flow switch shall be provided at the downstream of butterfly valve. Flow switch shall have UL listing.

3.13. Test and drain assembly shall be provided for each floor. Outlet of test and drain assembly shall be connected to drain riser.

3.14. Side wall sprinkler deflector shall be located not more than 150mm and not less than 102mm from ceiling.

3.15. Sprinkler shall be provided at false ceiling level and above false ceiling (if ceiling void is more than 800mm from the bottom of the slab)

3.16. CI gate valve shall be provided to Upstream of Alarm Control Valve.

ENGG/ P&L/STD-SPEC/ 016 Rev: R1 Date: 22/12/2021	Standard Specification	Section B
	Sprinkler System	

- 3.17. CI gate valve shall be provided with pad lock arrangement .
- 3.18. All Flow switch and Pressure switches shall be interfaced with fire detection and alarm system.
- 4. Technical Parameter of Equipment's covered under Sprinkler system**
- 4.1. Piping shall be galvanized to meet requirement of IS 4736. Pipes, Pipe fittings, Valves shall be as per standard specification no ENGG/ P&L/STD-SPEC/ 004.
- 4.2. Installation control valve shall be having UL listing and FM approved.
- 4.3. Flow switch shall have UL listing and FM approved.
- 4.4. Pressure switch shall have UL listing and FM approved.
- 4.5. Sprinkler head shall Have UL listing and FM approved. All sprinkler head shall powder coated.
- 5. Operation of Sprinkler System**
- 5.1. Complete sprinkler system is subjected for system acceptance test as per NFPA 13, chapter 25 (edition 2013)
- 6. Inspection and Marking Requirements of Fire Hydrant system equipment's**
- 6.1. TATA POWER or its authorized representative shall have access at all reasonable times to the manufacturer's works, where the equipment's of Fire sprinkler system are being manufactured and/or tested. Any defect / shortcomings pointed out shall be rectified to the satisfaction of inspectors.
- 6.2. Tata Power will inspect the any or all material at any stage of manufacturing as per approved Manufacturer quality assurance plan. Bidder is responsible for getting approval of all documents before proceeding further.
- 6.3. Bidder to refer minimum Inspection Requirement of various equipment's
- 6.4. Bidder to refer attached standard specification no ENGG/ P&L/STD-SPEC/ 014 for quality assurance requirement.
- 7. Spares**
- 7.1. Bidder shall provide 10% of sprinkler head of all size (K factor & Angle) as spares with the quoted price.
- 7.2. A cabinet shall also to be provided to store the sprinkler head as per NFPA.
- 8. Data Submission by Bidder**
- 8.1. Bidder shall furnish drawings and data sheet below listed equipment's for information along with the Offer.
- i. Technical Data sheets and Product catalogue of the pipes, pipe fittings, sprinkler head, Installation control Valves, Pressure switch, flow switch and Strainers etc.
 - ii. Technical data sheet and product catalogue of Solenoid valve, Pressure switch & pressure Gauge.
- 8.2. Drawing document to be submitted by bidder after award of Contract
- i. Technical Data Sheets of all listed equipment's covered under High Velocity Water Spray system
 - ii. Layout drawing of the complete system
 - iii. P&ID of complete system
 - iv. GA drawing of DVLCP
 - v. PG test procedure & Operation manual
 - vi. Hydraulic calculation for each sprinkler head considering AMAO.

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – B
	Kalyan GIS Fire Protection Package	

SECTION B

Chapter No 7- Quality assurance requirement

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>Singhai 19/05/17</i>
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TABLE OF CONTENTS

	Page No
1.0 PURPOSE	03
2.0 SCOPE	03
3.0 DEFINITION	03 - 05
4.0 QUALITY ASSURANCE PROGRAM	05
5.0 SUPPLIER QUALITY MANAGEMENT SYSTEM	05 - 09
6.0 INSPECTION CATEGORISATION PLAN, WELDING & NDT REQUIREMENTS	09 - 10
7.0 INSPECTION AT SHOP	10 - 12
8.0 QUALITY DOSSIER	12 - 13
9.0 FQC DURING CONSTRUCTION, TESTING AND PRE-COMMISSIONING	13 - 14
10.0 ATTACHMENTS	15

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. <i>(As given by PDM, Tata Power)</i>		
Supplier Document No	Manufacturer Name & Address					Date & Revision		
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
1	2	3	4	5	6	7	M S/C O	
	1.0 MATERIAL:						P R R	9
	2.0 IN-PROCESS INSPECTION:							
	3.0 FINAL INSPECTION:							
	4.0 ISSUANCE OF IRN (BY REVIEWING OF QUALITY DOSSIER)							
<p>N O T E</p> <p>a). Statutory requirements will be complied by the contractor/ Supplier.</p> <p>b). Material samples drawn for check testing will be witnessed by TATA POWER or its representative.</p> <p>c). For stage inspections, copies of relevant documents will be furnished to TATA POWER for review.</p> <p>e). The extent of check for manufacturer shall be 100%.</p> <p>f). Column 6 will be as per TATA POWER approved drawings / data sheets / contract documents wherever applicable.</p> <p>g). All instruments shall have valid calibration certificate with traceability to national level.</p>								
<p>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</p>								

Exhibit - B

	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 POWERThe 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
<p>N O T E</p> <p>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 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.</p>								
<p>Critical Category is HOLD point.</p> <p>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. (Surveillance by Head FQC / Project Head).</p>								
<p>Major Category is Witness point.</p> <p>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.</p>								
<p>Minor Category is Review point.</p> <p>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).</p>								
<p>TATA POWER reserves the right to carryout surveillance at any point of time through FQC.</p>								



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 seperately for identification purpose.

Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date	Issued By.
RO	ISSUE FOR USE				

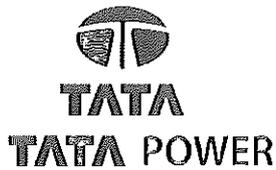
Confidential and Proprietary – The Tata Power Company Limited

Exhibit - C

Tata Power QA&I

Request No:

Date:



Corporate Engineering – QA&I

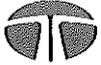
Factory Inspection Request Format

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:	<ol style="list-style-type: none"> Any item which is not appearing in above list, however, identified during detailed engineer, same need to be categorized as above. 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
2	Protect machined surfaces against corrosion.	2	Erection, O&M manual.
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.
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.

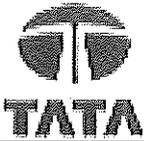
	Field Inspection Requisition		Requisition No.:
	Project :		Date:
	Name of package & Unit No:		
	Agency:		
	Sub Agency:		
INSPECTION/ TEST REQUISITION DETAILS			
1. FQP No. with Rev. & Category of Approval			
2. Test reference of FQP			
3. Category of Test nas per FQP			
4. Applicable Drawing No. with 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	
	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	
	Construction Rep	QA/QC Rep	Construction Rep.	QC Rep.

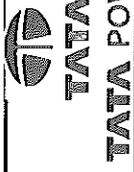
Verification of Correction & Preventive Action:

Tata Power Head- Construction.
Sign. / Date & Time

Tata Power Head- QC
Sign. / Date & Time

Copy to HOD -QAI&T, Mumbai.





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.

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – B
	Kalyan GIS Fire Protection Package	

SECTION B

Chapter No 8- Standard quality plan

TATA POWER		The Tata Power Company Limited Corporate Engineering-Quality Assurance Inspection & Testing		TATA
TPQA/IT-QA/XX-00-MX-SQP-038		STANDARD QUALITY PLAN FOR CI/CS (GGC) VALVES FOR WATER APPLICATION (UP TO 600lbs)		Date of issue:
Sr. No	COMPONENT / OPERATION	CHARACTERISTICS	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0 MATERIAL: (As per approved Drawings/ Data sheets)				
1.1	Body, Bonnet, Seat, Wedge, Disc, Stem	Chemical & Physical properties	MTC Review	
		Visual & Dimensional	Visual & Measurement	
1.2	Gland, Fasteners, Handwheel etc.	Chemical & Physical properties, Dimensional	COC (Certificate Of Conformance)	
1.3	Body, Bonnet, Stem	NDT as applicable	Review of NDT report	For Stem, UT if Dia > = 40mm
2.0 INPROCESS INSPECTION:(As per Manufacturer regular practice)				
3.0 FINAL INSPECTION & TESTS: (Customer HOLD Points)#				
3.1	Body, Seat & Back seat*	Hydro-static test	Visual & Measurement (No leakage)	* Back seat test as per IS:778 & Specification requirement
3.2	Low pressure seat test for check Valves	Hydro-static test at 25% or differential pressure \$	Visual & Measurement (No leakage)	\$ Whichever is lower.
3.3	Performance test of complete assembly	Opening & Closing at least 3 times .	Visual & Measurement (Smooth operation)	
4.0	Document review & Issuance of IRN	Review of Quality dossier (*) & Inspection report	Review	(*) along with index.
<p>NOTES</p> <p># i). FOR MOTOR/ ACTUATOR OPERATED VALVES, TESTS AS INDICATED IN SL NO.3.0 SHALL BE PERFORMED WITH CONTRACT MOTOR/ACTUATOR ALONG WITH CURRENT DRAWN AND TIME TAKEN SHALL ALSO BE MEASURED.</p> <p>ii). AIR SEAT TEST AT 5.9KG SHALL BE CARRIED OUT IF SPECIFICATION CALLS FOR .</p> <p>A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.</p> <p>B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET.</p> <p>C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY.</p> <p>D). FINAL INSPECTION OF THE MAJOR ACTIVITIES ARE WITNESSED BY CLIENT AND IT IS HOLD POINT (AT THE DISCRETION TATA POWER)</p> <p>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.</p> <p>F). INSPECTION OF SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN .SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD).</p> <p>G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.</p>				
Meant for (Internal Circulation / External – Stakeholders Circulation)				
Rev No	First issue .	PKG	PU	SS
R0	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

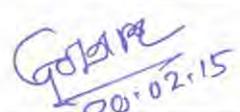
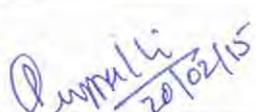
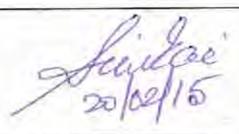
TATA POWERThe Tata Power Company Limited
Corporate Engineering-Quality Assurance Inspection & Testing

TPQAIT-QAXX-00-MX-SQP- 039

**STANDARD QUALITY PLAN FOR
HYDRANT VALVE**

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(Generally in-line with manufacturer standard / technical specification)		
1.1	Body, Disc, Seat, Bonnet, Spindle, Hand Wheel	Chemical & Physical properties.	Review of MTC	
2.0	INPROCESS INSPECTION: (Generally in line with manufacturer standard)			
3.0	Final Inspection : (Customer HOLD Point)			
3.1	Complete Assembly	Dimensions (Body Thick & PCD of Flange)	Measurement	
3.2	Body & Seat	Hydrostatic Test	Visual and Measurement	No leakage
3.3	Performance Test	Flow test (Minimum 900 LPM)	Visual and Measurement	
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
NOTE	A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.			
	B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET.			
NOTE	C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY.			
	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 SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN .SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD).			
	G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.			
	Meant for (Internal Circulation / External – Stakeholders Circulation)			
R0	ISSUE FOR USE	PG	PU	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(Generally in-line with manufacturer standard / technical specification)		
1.1	Housing Body	Chemical & Physical properties.	Review of MTC	
1.2	Piston, Pressure Disc	Chemical & Mechanical properties NDT	Review of MTC	
1.3	Enameled Copper Wires	Chemical & Physical properties.	Review of MTC	
1.4	Coil	1. Winding Resistance. 2. Insulation Resistance. 3. High Voltage test. 4. Coil pick up voltage & drop off Voltage. 5. Coil Temperature rise test. 6. IP degree verification. 7. Terminal connections.	Review of MTC	
2.0	INPROCESS INSPECTION: (Generally in line with manufacturer standard)			
3.0	Final Inspection : (Customer HOLD Point)			
3.1	Valve Assembly	Major Dimensions	Testing and Measurement	
3.2	Body & Seat leakage	Hydrostatic Test (by inbuild Actuator))	Testing and Measurement	No leakage
3.3	Performance (Discharge Test)	Flow rate check	Visual & Measurement	one of each type
3.4	Functional (Actuation Test)	Operational (On - Off) Check minimum 5 times	Testing and Measurement	
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
N O T E	A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR. B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET. C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY. 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 SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN .SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD). G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.			
	Meant for (Internal Circulation / External – Stakeholders Circulation)			
				
R0	ISSUE FOR USE	PG	PU	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

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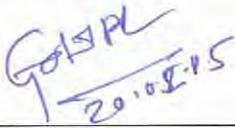
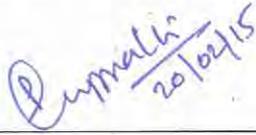
TPQAIT-QAXX-00-MX-SQP-042

**STANDARD QUALITY PLAN FOR
SPRAY NOZZLE**

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(Generally in-line with manufacturer standard / technical specification)		
1.1	Nozzle Body / Housing, Scroll	Chemical & Physical Properties	MTC Review	
2.0	INPROCESS INSPECTION: (Generally in-line with manufacturer standard)			
3.0	FINAL INSPECTION & TESTS: (CUSTOMER HOLD POINTS)			
3.1	Performance Test	Flow Rate & Spray Angle (K factor)	Measurement & visual	
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
N O T E	A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.			
	B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET.			
	C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY.			
	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 SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN .SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD).			
	G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.			
Meant for (Internal Circulation / External – Stakeholders Circulation)				
R0	ISSUE FOR USE	PG	PU	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

TATA POWER	The Tata Power Company Limited Corporate Engineering-Quality Assurance Inspection & Testing	 TATA
TPQAIT-QAXX-00-MX-SQP- 043	STANDARD QUALITY PLAN FOR QUARTZ BULB DETECTOR (UL/ FM/ FOC/ VDS Approved source only)	Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(Generally in-line with manufacturer standard / technical specification)		
1.1	Frame, Bulb Cap, Deflector	Chemical & Physical Properties	COC Review	
2.0	Review of Country of origin and Approval (UL/ FM/ FOC/ VDS) Certificate of referred batch.			
3.0	FINAL INSPECTION & TESTS: (CUSTOMER HOLD POINTS) at Main Vendor/ Traders work place			
3.1	Body Hydro Test	Leak tightness	Measurement & Visual	at random (minimum) 5 %
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
N O T E	<p>A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.</p> <p>B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET.</p> <p>C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY.</p> <p>D). FINAL INSPECTION OF THE MAJOR ACTIVITIES ARE WITNESSED BY CLIENT AND IT IS HOLD POINT (AT THE DISCRETION TATA POWER)</p> <p>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.</p> <p>F). INSPECTION OF SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN .SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD).</p> <p>G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.</p>			
Meant for (Internal Circulation / External – Stakeholders Circulation)				
				
R0	ISSUE FOR USE	PG	PU	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

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TPQAIT-QAXX-00-MX-SQP-044

**STANDARD QUALITY PLAN FOR
MS ERW PIPES (IS : 1239)**

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(Generally in-line with manufacturer standard / technical specification)		
1.1	Raw Material Inspection (Plate / Coil)	Chemical & Physical Properties	MTC Review	
2.0	INPROCESS INSPECTION: (Generally in-line with manufacturer standard)			
3.0	FINAL INSPECTION & TESTS: (CUSTOMER HOLD POINTS)			
3.1	Final Product	Physical Properties as per IS1239	<i>Sample Report Review as per IS</i>	<i>Random witness - Simlai</i>
3.2	Hydrostatic Test	Leakage Check (100 % by Manufacturer)	Measurement & visual	Random witness
3.3	Finish Pipes	Surface Condition, Strightness, Ovality , End Finish, Outer Dia. & Thickness, Length, Stamp	Measurement & visual	
3.4	Coating for Black Pipe	Uniformity of Coating	Measurement & visual	
3.5	Galvanizing (For Galvanized Pipe)	Coat thickness, Uniformity of Zn Coating, Adhesion Test, Peel of Test, mass of Zn, Free bore test.	Measurement & visual	As per IS 4736
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
N O T E	A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.			
	B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET.			
	C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY.			
	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 SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN .SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD).				
G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.				
Meant for (Internal Circulation / External – Stakeholders Circulation)				
		<i>906APL 20.02.15</i>	<i>Dymalki 20/02/15</i>	<i>Simlai 20/02/15</i>
RO	ISSUE FOR USE	PG	PU	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

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Corporate Engineering-Quality Assurance Inspection & Testing



TPQAIT-QAXX-00-MX-SQP-045

**STANDARD QUALITY PLAN FOR
MS SPIRAL WELDED PIPES (IS 3589)**

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(Generally in-line with manufacturer standard / technical specification)		
1.1	Raw Material Inspection (Plate / Coil)	Chemical & Physical Properties	MTC Review	
1.2	Welding Process Qualification	Manufacturer Record	Review	
2.0	INPROCESS INSPECTION: (Generally in-line with manufacturer standard)			
3.0	FINAL INSPECTION & TESTS: (CUSTOMER HOLD POINTS)			
3.1	Final Product	Physical Properties as per IS 3589	<i>Sample testing as per IS Report</i>	<i>Random witness</i>
3.2	Hydro Test	Leakage Check	Measurement & visual	<i>do</i>
3.3	NDT on Weld	RT/ X-Ray (T - section and 100 mm from both ends of the pipes.	NDT Report	Pipe Dia 1600 mm and above
3.4	Finish Pipes	Surface Condition, #Ovality, #Straightness, End Finish, Bevel Angle, Root Face,#Outer Dia. & Thickness, Length, Marking	Measurement & visual	# after spider fixing
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
NOTE	A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.			
	B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET.			
	C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY.			
	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 SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN .SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD).				
G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.				
Meant for (Internal Circulation / External – Stakeholders Circulation)				
		<i>PG</i> 20.02.15	<i>PU</i> 20/2/15	<i>SS</i> 20/2/15
R0	ISSUE FOR USE	PG	PU	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

TATA POWER

The Tata Power Company Limited
Corporate Engineering-Quality Assurance Inspection & Testing



TPQAIT-QAXX-00-MX-SQP-046

**STANDARD QUALITY PLAN FOR
DELUGE VALVE**

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(All Materials shall be as per approved drawings / Data sheet)		
1.1	Body, Cover Casting	Chemical & Physical properties.	Review of MTC	
1.2	Clapper / Clamp / Ring Casting	Chemical & Physical properties.	Review of MTC	
1.3	Diaphragm & Rubber Seat	Polymer & Mechanical Test	Review of MTC	COC for Disc Seal
1.4	Drive Shaft & Stub Shaft	Chemical & Mechanical properties NDT	Review of MTC	100 % UT, if Shaft Dia >=40 mm
2.0	INPROCESS INSPECTION: (Generally in line with manufacturer standard)			
3.0	Final Inspection : (Customer HOLD Point)			
3.1	Body & Seat	Hydro Test	Testing and Measurement	
3.2	Performance Test	Test as per UL - 280 (all lists)	Testing and Measurement	
3.3	Complete Assembly	Major Dimensions	Visual & Measurement	
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
<p>NOTE</p> <p>i). Deluge valve should be preferably from UL/ FM/ FOC approved source. A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR. B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET. C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY. 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 SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN. SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD). G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.</p>				
Meant for (Internal Circulation / External – Stakeholders Circulation)				
R0	ISSUE FOR USE	PG	PU	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

TATA POWER

The Tata Power Company Limited
Corporate Engineering-Quality Assurance Inspection & Testing



TPQAIT-QAXX-00-MX-SQP-047

**STANDARD QUALITY PLAN FOR
FITTINGS (ROLLED & WELDED)/ MITRE BENDS**

Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(Generally in-line with manufacturer standard / technical specification)		
1.1	Plate/ Pipes	Chemical & Physical Properties	MTC Review	Also Hydro test Report for Pipes
2.0	INPROCESS INSPECTION: (Generally in-line with manufacturer standard)			
2.1	Welding	WPS,PQR,WPQ.	Qualification	By test/ Review of Doc
2.2	Weldment	DPT/ MPT - on Back gauge and final weld	NDT	
3.0	FINAL INSPECTION & TESTS: (CUSTOMER HOLD POINTS)			
3.1	Final Weldment	RT	NDT	10% for Butt joints *
3.2	Finish Product	Hydrostatic Test	No leakage	
		Surface Condition, End Finish, Bevel Angle, Outer Dia.,Ovality & Thickness	Measurement & Visual	
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
N O T E	i). FOR PLATE THICKNESS 19 mm AND ABOVE, PRE AND POST HEAT OF WELDMENTS SHALL BE DONE AND REPORT TO BE MAINTAINED FOR REVIEW.			
	ii). * IN CASE OF GOLDEN JOINT HYDRO TEST IS NOT CARRIED OUT, 100% OF BUTT WELD SHALL BE RADIOGRAPHY TESTED. IN CASE OF UT INPLACE OF RT, SPECIFIC APPROVAL OF OWNER IS NEEDED (FOR 90% OF BUTT WELD). AS 10% RT IS MANDATORY.			
	A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR.			
	B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET.			
	C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY.			
	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 SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN .SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD).			
G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.				
Meant for (Internal Circulation / External – Stakeholders Circulation)				
		<i>PG</i> 20.02.15	<i>PU</i> 20/2/15	<i>SS</i> 20/02/15
R0	ISSUE FOR USE	PG	PU	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

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Corporate Engineering-Quality Assurance Inspection & Testing



TPQAIT-QAXX-00-MX-SQP-048

**STANDARD QULITY PLAN FOR
FITTINGS (FORGED/ FORMED) - NON IBR**

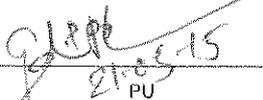
Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(Generally in-line with manufacturer standard / technical specification)		
1.1	Raw Material Inspection	Chemical & Physical Properties	MTC Review	IGC Test for SS 316 (ASTM A 262, Practice -E)
2.0	INPROCESS INSPECTION: (Generally in-line with manufacturer standard), Heat Treatment (as applicable)			
3.0	FINAL INSPECTION & TESTS: (CUSTOMER HOLD POINTS)			
3.1	Final Product	Sampling for check testing including Hardness	Measurement	
		PMI (Positive Material Identification)	Measurement	at Random 10 %
		End Finish & type, ID/ OD & Thickness/ schedule, Product Marking, Colour coding	Measurement & Visual	Specific thread type shall be check at random
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
<p>N O T E</p> <p>i). IN CASE OF GALVANIZED FITTINGS, CHECK FOR GALVANIZED AS PER IS 4736, SELECTING SAMPLES FROM FINISH PRODUCT. A). STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR. B). ALL MATERIAL SHALL BE AS PER APPROVED DRAWINGS / DATA SHEET. C). TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD, SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY. D). FINAL INSPECTION OF THE MAJOR ACTIVITIES ARE WITNESSED BY CLIENT AND IT IS HOLD POINT (AT THE DISCRETION OF 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 SPARES SHALL BE MANUFACTURED & INSPECTED AS PER APPLICABLE CLAUSES OF THIS QUALITY PLAN .SPARES OFFERED FOR INSPECTION SHALL BE PREFERRED ALONG WITH MAIN ITEMS (IF ORDERD). G). AS PER SEPCIFICATION PROPER PAINTING & PACKING SHALL BE ENSURED BY VENDOR BEFORE SHIPMENT TO AVOID ANY TRANSIT DAMAGE.</p>				
Meant for (Internal Circulation / External – Stakeholders Circulation)				
		<i>G. S. J. P. L.</i> 20/02/15	<i>A. S. M. L.</i> 20/02/15	<i>S. S. S.</i> 22/02/15
R0	ISSUE FOR USE	PG	PU	SS
Rev. No	Reason for Revision	Prepared By & Date	Checked By & Date	Approved By & Date

TATA POWER	The Tata Power Company Limited Corporate Engineering-Quality Assurance Inspection & Testing	
TPQA/IT-QA/XX-00-MX-SQP-125	STANDARD QUALITY PLAN FOR FIRE HOSE WITH COUPLING (Rubber Lined & Unlined Flax Canvas type)	Date of Issue:

Sr. No	COMPONENT / OPERATION	CHARACTERISTICS CHECKED	TYPE / METHOD OF CHECK	REMARKS
1	2	3	4	5
1.0	MATERIAL:	(All Materials shall be as per approved drawings / Data sheet)		
1.1	Coupling & Nozzle	Chemical & Physical Properties	Review of MTC	No repair of casting/forging defects
1.2	Hose Pipe	Workmanship	Review of MTC	
2.0	INPROCESS INSPECTION: (Generally in line with manufacturer standard)			
3.0	Final Inspection : (Customer HOLD Point)			
3.1	Hose Pipe (Rubber lined)* as per IS 636	Internal dia and Coil Dia, Length & Mass	Measurement	*MTC Review, Random witness 01 no / Lot
		Hydrotest Proof Test & Burst Test	Visual, Measurement	
		Kink Test	Visual at Hydrostatic Pressure	
		Change in Length & Change in Dia	Measurement	
		Accelerated Ageing Test	Physical Check	
		Adhesion Test	Physical Check	
		Abrasion resistance Test	Physical Check	
3.2	Hose Pipe (Unlined Flax Canvas type)* as per IS 4927	Internal dia, Coil dia, Length, Mass, Change in Length & Change in Dia	Measurement	*MTC Review, Random witness 01 no / Lot
		Hydrotest Proof Test & Burst Test	Visual, Measurement	
		Alkali Solubility of Flax	Measurement	
		Percolation Test	Measurement	
3.3	Coupling	Dimensional	Visual, Dimensional	
3.3	Coupling Assembly	Hydro Test	Visual, Measurement	
4.0	Document review & Issuance of IRN	Review of final dossier (*) & Inspection Report	Review	(*) along with Index
<p>N O T E</p> <p>A) STATUTORY REQUIREMENTS WILL BE COMPLIED BY THE CONTRACTOR. B) ALL MATERIALS SHALL BE AS PER THE APPROVED DRAWINGS / DATA SHEET. C) TATA POWER / ITS REP IDENTIFICATION STAMP ON MATERIALS WILL BE PRESERVED, IF REQD. SAME SHALL BE TRANSFERRED BY TATA POWER / ITS REP ONLY 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 5 G) PROPER PACKING BEFORE SHIPMENT TO BE ENSURED BY VENDOR</p>				

Meant for (Internal Circulation / External - Stakeholders Circulation)

				
RO		PKG/PG	21/05/15 PU	SS
Rev.No	Reason for Revision	Prepared By & Date	Checked By & Date	Checked By & Date

THE TATA POWER COMPANY LIMITED

STANDARD

TECHNICAL SPECIFICATION

FOR

Standard Painting Specification for Fire Protection System

(DOCUMENT NO - ENGG/ P&L/STD-SPEC/ 05)



Tata Power

Project Engineering

Rev. No	Date	Description	Prepared By	Checked By	Approved By
R2	14/5/2024	Revised and issued for use	J Shinde	D Das	N Mishra
R0	13/8/2014	Issued for Info or Use	JSS	RSG	AJ

Contents

- 1. **Scope**..... 3
- 2. **Codes and Standards**..... 3
- 3. **Preparation of Surfaces**..... 3
- 4. **Primer Paint**..... 3
- 5. **Intermediate Paint** 3
- 6. **Finish Paint** 3
- 7. **Suggested Colour Codes for Painting** 3

ENGG/ SPEC/ 017 Rev: RO Date: 4/7/2014	P&L/STD-	Standard Specification	Section--- Page 3 of 3
		Standard Painting Specification for Fire Protection	

1. Scope

- 1.1. This section covers the painting requirements for the equipment, structures, piping (including MS ERW and GI pipe) etc. and any other surface required to be painted in non saline environment.

2. Codes and Standards

- 2.1. Painting of equipment will be carried out as per the Contract documents indicated below and will conform to the relevant IS specification for the material and workmanship.
- 2.2. The following Indian Standards may be referred to for carrying out the painting job :
- IS:5 : Colours for ready mixed paints and enamels

3. Preparation of Surfaces

- 3.1. All surfaces to be painted will be thoroughly cleaned of all grease, oil, loose mill scale, dust, rust and any other foreign matter. Mechanical cleaning shall be performed by shot blasting method and same shall be adopted to clean the surfaces to SA 2 ½ as per BS:4232. Cleaning with solvents will be resorted to only in such areas where other methods specified above have not achieved the desired results. Cleaning with solvents will be adopted only after written approval of the OWNER / ENGINEER. For bought out items of electrical and instrumentation the surfaces will be pre treated through chemical cleaning (7 tank process).

4. Primer Paint

- 4.1. Zinc silicate primer (minimum 75 micron Dry Film Thickness - DFT) will be inorganic (Ethyl) self curing high built (Solid by volume minimum 60%) formulation as per BS: 5493 (Inorganic Zinc rich systems). Primer will be applied to ensure a continuous film without 'holidays'.

5. Intermediate Paint

- 5.1. Intermediate (Under) coat (minimum 75 micron DFT) will be of polyamide cured titanium dioxide / micaceous iron oxide pigmented high performance (solid by volume minimum 60%) epoxy coating as per BS : 5493 (two pack chemical resistant under coats).

6. Finish Paint

- 6.1. Finish coat (minimum 75 micron DFT) will be of polyamide cured colored pigmented high performance (solid by volume minimum 60%) epoxy coating as per BS: 5493 (two pack chemical resistant finishes).
- 6.2. Final finish coat (minimum 25 Micron DFT) will be of polyurethane colour pigmented (solid by volume minimum 40%) as per BS : 5493 (two pack chemical resistant finishes).
- 6.3. All paints including primer will be of reputed brand / manufacturer and as approved by the engineer.

7. Suggested Colour Codes for Painting

S.No	Operation	Requirement	Standard	Reference Document / Acceptance Norm	Format of Record
A	B	C	D	E	F
ABOVEGROUND MS ERW BLACK PIPES					
1	PRE-PAINTING WORK - DOCUMENTAION				
1.1	Documents to be kept at site	A file containing the technical specifications for painting, approved general arrangement drawings, technical data sheets, QAP and OEM's application guide shall be kept at the site at all times.	-	As per approved formats / OEM's standard installation / trouble shooting manuals	Protocol
2	PRE-PAINTING WORK - SURFACE PREPARATION				
2.1	Surface preparation at site	Clean surface to remove rust, mill scales or any other foreign mater including salts, dust, oil and greases Cleaning to be carried out with steel wire brushes & scrapping paper to remove any residuals	As per specification	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3	PAINTING				
3.1	Primer Paint	Zinc silicate primer of a minimum DFT of 75 microns as per specifications to be applied on a continuous film without breaks	BS:5493	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3.2	Intermediate Paint	Polyamide cured titanium dioxide / micaceous iron oxide pigmented high performance coating of minimum 75 microns DFT	BS:5493	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3.3	Finish Paint	Polyamide cured coloured pigmented high performance epoxy coating of minimum 75 micron DFT.	BS:5493	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3.4	Final Finish Coat	Polyurethene coloured pigmented high performance epoxy coating of minimum 25 micron DFT.	BS:5493	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3.5	Colour Shade	Structures / Platforms - Dark Admiralty Grey; IS:5 Grade 632	IS:5	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
		Piping for Fire Services (uninsulated / without cladding) - FIRE RED, IS:5 Grade 536	IS:5	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book

S.No	Operation	Requirement	Standard	Reference Document / Acceptance Norm	Format of Record
A	B	C	D	E	F
UNDERGROUND MS ERW BLACK PIPES					
1	DOCUMENTAION				
1.1	Documents to be kept at site	A file containing the technical specifications for painting, approved general arrangement drawings, technical data sheets, QAP and OEM's application guide shall be kept at the site at all times.	-	As per approved formats / OEM's standard installation / trouble shooting manuals	Protocol
2	SURFACE PREPARATION				
2.1	Surface preparation at shop	Clean surface to remove any residual for better finish by sand blast Cleaning to be carried out with sandblaster to achieve Sa2.5 as per BS:4232	BS:7079 Part A1 (BS:4232 has been superseded)	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
2.2	Surface preparation at site- (For Small portion of weld joint of two pipes)	Clean surface to remove rust, mill scales or any other foreign mater including salts, dust, oil and greases Cleaning to be carried out with power tool and scrapping with steel wire brushes to achieve approx. Sa2.5 as per BS:4232 After power tool and hand cleaning the suface shall be cleaned from loose dust and debris	BS:7079 Part A1 (BS:4232 has been superseded)	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3	WRAPPING & COATING				
3.1	Primer Coat	Solvent based rubber modified synthetic chlorinated primer of a minimum DFT of 50 to 100 microns as per specifications to be applied on a continuous film without breaks	As per specification	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3.2	Wrapping Tapes	The tape to be wrapped in accordance with the manufacturer's recommendations and a minimum overlap of 12 mm per single wrap. Two layers of tape of 4 mm thickness shall be wrapped.	IS:10221	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
GI PIPES					
1	DOCUMENTAION				
1.1	Documents to be kept at site	A file containing the technical specifications for painting, approved general arrangement drawings, technical data sheets, QAP and OEM's application guide shall be kept at the site at all times.	-	As per approved formats / OEM's standard installation / trouble shooting manuals	Protocol
2	SPOT GALVANIZATION				
2.1	Spot Galvanization at site - For small portion of weld joint of two pipes (Only for pipe dia above 50mm)	Spot Galvanizing by Zinc rich paint by using brush or spray	As per approved drawings / Specs / OEM's application guide	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book

S.No	Operation	Requirement	Standard	Reference Document / Acceptance Norm	Format of Record
A	B	C	D	E	F
3	PAINTING				
3.1	Primer Paint	Zinc silicate primer of a minimum DFT of 75 microns as per specifications to be applied on a continuous film without breaks	BS:5493	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3.2	Intermediate Paint	Polyamide cured titanium dioxide / micaceous iron oxide pigmented high performance coating of minimum 75 microns DFT	BS:5493	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3.3	Finish Paint	Polyamide cured coloured pigmented high performance epoxy coating of minimum 75 micron DFT.	BS:5493	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3.4	Final Finish Coat	Polyurethane coloured pigmented high performance epoxy coating of minimum 25 micron DFT.	BS:5493	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
3.5	Colour Shade	Structures / Platforms - Dark Admiralty Grey; IS:5 Grade 632	IS:5	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
		Piping for Fire Services (uninsulated / without cladding) - FIRE RED, IS:5 Grade 536	IS:5	As per approved drawings / Specs / OEM's application guide	Protocol / Log Book
MAKE & MODEL NO. FOR PRIMER, INTERMEDIATE & PAINT					
4.1	Aboveground MS ERW Black & GI Pipes	Primer	Approved Make	Red Oxide Zinc Chromate Primer to IS 2074	
		Intermediate & Finish Paints	Approved Make	BP Syn Enamel to IS 2932 Fire Red as per IS 5-536	
4.2	Underground MS ERW Black Pipes	Primer	Approved Make	Pypstick	
4.3	Supports	Primer	Approved Make	Red Oxide Zinc Chromate Primer to IS 2074	
		Intermediate & Finish Paints	Approved Make	BP Syn Enamel to IS 2932 Fire Red as per IS 5-536	

S.No	Operation	Requirement	Standard	Reference Document / Acceptance Norm	Format of Record
A	B	C	D	E	F
		Description	Make	Model No/ Brand	
Aboveground MS ERW Black & GI Pipes	Primer		Approved Make	Red Oxide Zinc Chromate Primer to IS 2074	
	Intermediate & Finish Paints		Approved Make	BP Syn Enamel to IS 2932 Fire Red as per IS 5-536	
Underground MS ERW Black Pipes	Primer		Approved Make	Pypstick	
Supports	Primer		Approved Make	Red Oxide Zinc Chromate Primer to IS 2074	
	Intermediate & Finish Paints		Approved Make	BP Syn Enamel to IS 2932 Fire Red as per IS 5-536	

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – C
	Kalyan GIS Fire Protection Package	

SECTION C

C1 - SCHEDULE OF QUANTITIES AND PRICES

Sr. No	Description	Qty. Set / Nos.	Supply charges	Installation charges
1	Design, Supply, Installation, Testing, commissioning fire protection system as per specification scope on turn key EPC basis	1 lot		

Seal of the Company

Signature

Designation

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – C
	Kalyan GIS Fire Protection Package	

C2- PROJECT TIME SCHEDULE

Milestone *	Target
Prebid meeting	
Bid Submission	
Purchase order / LOI date	
Drawing submission & approval from Tata Power	
Inspection of equipment	
Delivery of equipment	
Completion of installation	
Handover to Tata Power after commissioning	

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.

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – C
	Kalyan GIS Fire Protection Package	

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.	Clause No.	Details of deviation with justifications
-----	-----	-----

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

Seal of the Company

Signature

Designation

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – C
	Kalyan GIS Fire Protection Package	

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.	Clause No.	Details of deviation with justifications
-----	-----	-----

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

Seal of the Company

Signature

Designation

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – C
	Kalyan GIS Fire Protection Package	

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	Technical Data Sheets & QAP of all equipments			
1.1				
1.2				
2.0	Layout & PG test procedure			
2.1				
2.2				
3.0	SLD/ P&ID			
3.1				
3.2				
4.0	GA of Equipment/Skids			
4.1				
4.2				
5.0	O & M Manual			
5.1				
5.2				

Note 1:- Bidder shall submit all technical data sheets, catalogues, write-up of the complete system with bid.

Note 2:- After award of contract vendor is responsible for submit all the drawings, data sheets, QAP, PG test procedures, O&M Manual, calculations, SLD, GA for Tata power approval with proper numbering procedure. Bidder is also responsible for taking Tata Power approval for each document submitted by them.

Note3:- Bidder is responsible for to submit all the document in .pdf & in its native file format.

Note 4:- The titles of drawings / documents listed out in the schedule are indicative. The bidder shall list out all relevant drawings / documents covered under this scope in Master Document List(MDL) which shall be mutually agreed between Owner and Contractor. All Drawing documents should be submitted as MDL and engineering progress shall be monitored according to MDL.

Seal of the Company

Signature

Designation

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – C
	Kalyan GIS Fire Protection Package	

C7 - SCHEDULE OF SPECIAL ERECTION/MAINTENANCE TOOLS & TACKLES

As part of the proposal, the BIDDER shall indicate 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

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – C
	Kalyan GIS Fire Protection Package	

C8 - SCHEDULE OF PLACES OF MANUFACTURE, TESTS AND INSPECTION

For major equipment / systems, the Bidder shall indicate the name of the Manufacturer / SUB CONTRACTOR and place of test and inspection.

ITEM OF EQUIPMENT	Manufacturer / SUBCONTRACTOR	PLACE OF TESTING & INSPECTION

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Signature

Designation

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – C
	Kalyan GIS Fire Protection Package	

C9- SCHEDULE OF MANDATORY SPARES

The Bidder shall indicate the price for the mandatory spares specified in Section-A.

Sr. No.	System name	UOM	Supply cost
1	Mandatory spares as per specification for MVWS system	1 lot	
2	Mandatory spares as per specification for Fire detection system	1 lot	
3	Mandatory spares as per specification for Gas based fire protection system	1 lot	
4	Mandatory spares as per specification for sprinkler system	1 lot	
5	Mandatory spares as per specification for fire hydrant system	1 lot	

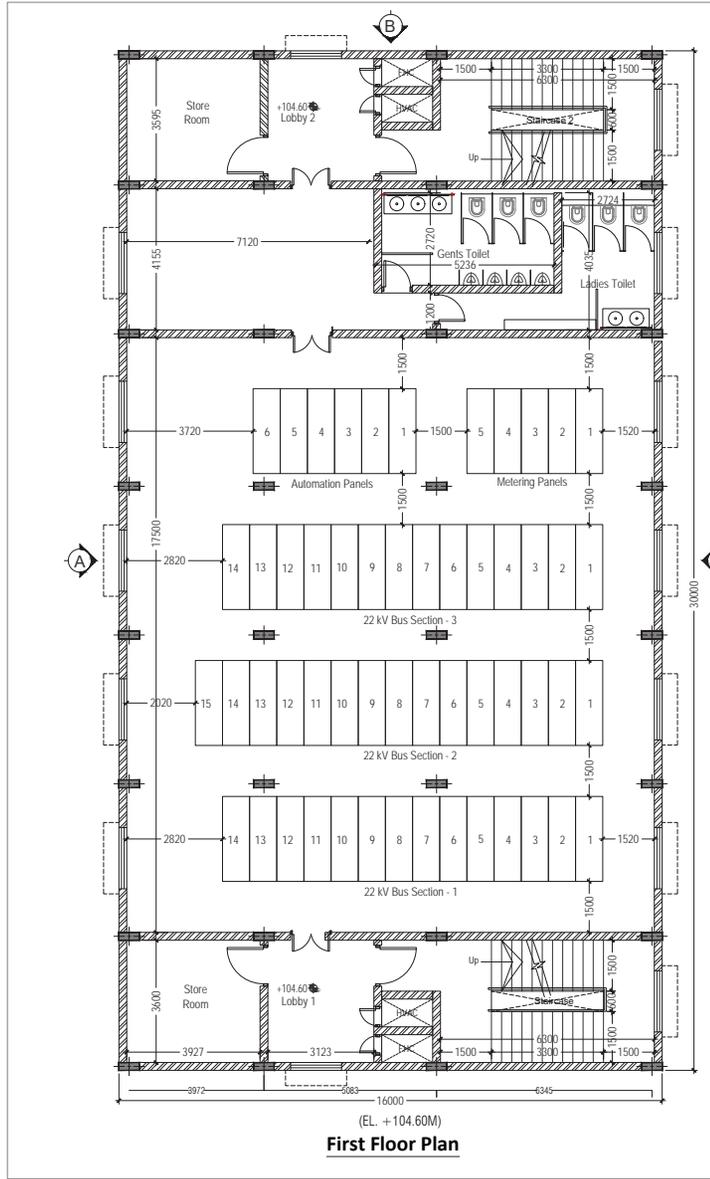
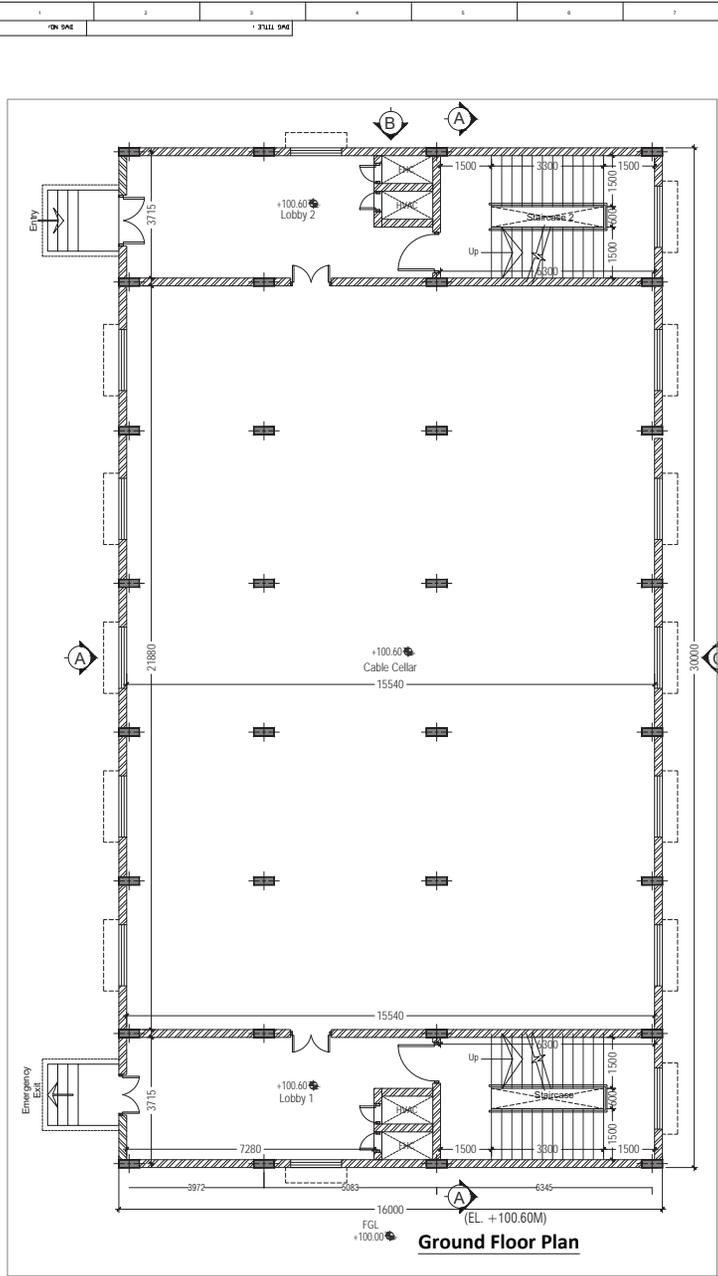
Seal of the Company

Signature

Designation

GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – D
	Kalyan GIS Fire Protection Package	

Section D
Annexure 1
Drawings of Kalyan GIS Building



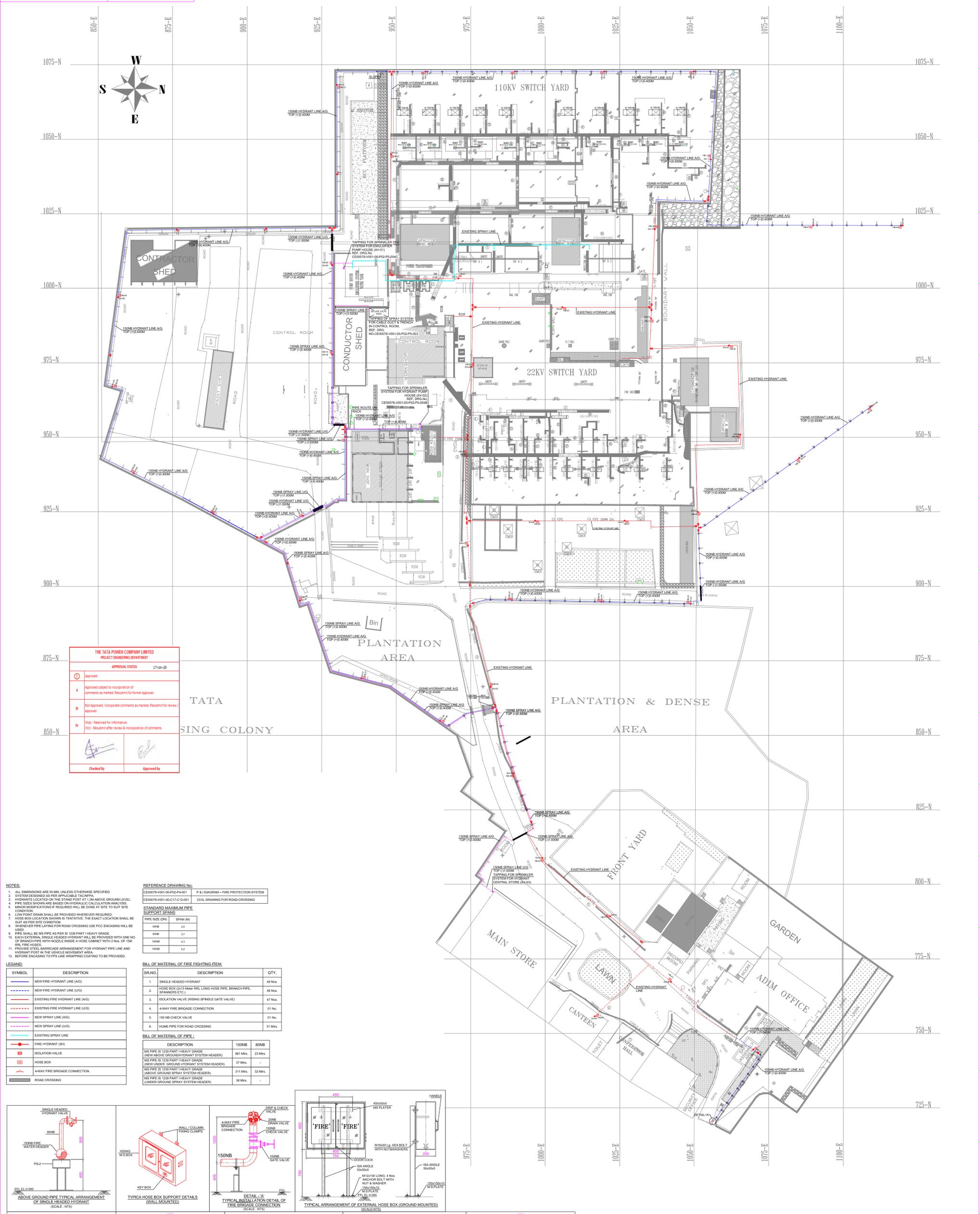
Project: PROPOSED 22 KV R/S AT KALYAN			
TITLE: GROUND FLOOR PLAN & FIRST FLOOR PLAN			
		THE TATA POWER COMPANY LIMITED	
SCALE: NTR	APPROVED:	DATE: (REV. 0) ISSUE: 05/09/2024	
DRAWN: NMC		DATE: (CURRENT REV.) 26/09/2024	
CHECKED: MK		REVIEWED: SC	
REVIEWED: SC	DWG. NO.: PR0000-KAL-01-A1-000	REV: 00	

C:\Users\rajesh\OneDrive\Desktop\22KV R/S AT KALYAN\22KV R/S AT KALYAN\Ground Floor Plan & First Floor Plan.dwg (A6 to A4)



GE00516-P-SP-001 Rev: RO Date: 16/10/24	Generation Division	Section – D
	Kalyan GIS Fire Protection Package	

Section D
Annexure 1
Drawings of Fire Hydrant system



THE TATA POWER COMPANY LIMITED PROJECT ENGINEERING DEPARTMENT	
APPROVAL STATUS	DATE
Approved	17-Jan-20
Approved subject to incorporation of comments as marked. Resubmit for formal approval.	
Not Approved. Incorporate comments as marked. Resubmit for review / approval.	
(W) - Retained for information	
(W) - Resubmit after review & incorporation of comments.	
Checked by	Approved by

- NOTES:**
- ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
 - SYSTEM DESIGNED AS PER APPLICABLE IS STANDARDS.
 - HYDRANTS LOCATED ON THE STAND POST AT 2M ABOVE GROUND LEVEL.
 - PIPE SIZES SHOWN ARE BASED ON HYDRAULIC CALCULATION ANALYSIS.
 - MINOR MODIFICATIONS IF REQUIRED WILL BE DONE AT SITE TO SUIT SITE CONDITION.
 - LOW POINT DRAIN SHALL BE PROVIDED WHEREVER REQUIRED.
 - HOSE BOX LOCATION SHOWN IS TENTATIVE. THE EXACT LOCATION SHALL BE SUIT AS PER SITE CONDITION.
 - WHEREVER PIPE LAYING FOR ROAD CROSSING USE PCC ENCASING WILL BE USED.
 - PIPE SHALL BE MS PIPE AS PER IS 1239 PART HEAVY GRADE.
 - EACH EXTERNAL SINGLE HEADED HYDRANT WILL BE PROVIDED WITH ONE NO. OF BRANCH PIPE WITH NOZZLE INSIDE A HOSE CABINET WITH 2 Nos. OF 10M RRL FIRE HOSES.
 - PROVIDE STEEL BARBICADE ARRANGEMENT FOR HYDRANT PIPE LINE AND HYDRANT POST IN THE VEHICLE MOVEMENT AREA.
 - BEFORE ENCASING TO PPS LINE WRAPPING COATING TO BE PROVIDED.

LEGEND:

SYMBOL	DESCRIPTION
(Blue line)	NEW FIRE HYDRANT LINE (A/G)
(Red line)	NEW FIRE HYDRANT LINE (U/G)
(Green line)	EXISTING FIRE HYDRANT LINE (A/G)
(Green line)	EXISTING FIRE HYDRANT LINE (U/G)
(Purple line)	NEW SPRAY LINE (A/G)
(Purple line)	NEW SPRAY LINE (U/G)
(Blue line)	EXISTING SPRAY LINE
(Red circle)	FIRE HYDRANT (SH)
(Red square)	ISOLATION VALVE
(Red circle)	HOSE BOX
(Red triangle)	4-WAY FIRE BRIGADE CONNECTION
(Black line)	ROAD CROSSING

REFERENCE DRAWING NO.:

CE00078-V001-00-P02-P04-001	P & I DIAGRAM - FIRE PROTECTION SYSTEM
CE00078-V001-00-C17-C12-001	CIVIL DRAWING FOR ROAD CROSSING

STANDARD MAXIMUM PIPE SUPPORT SPANS

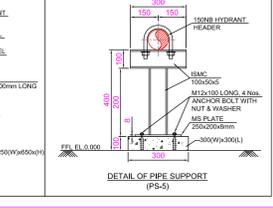
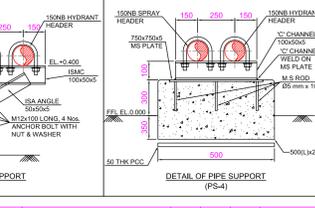
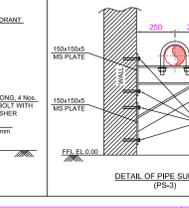
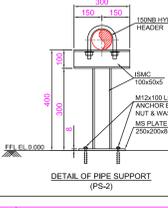
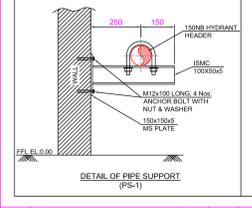
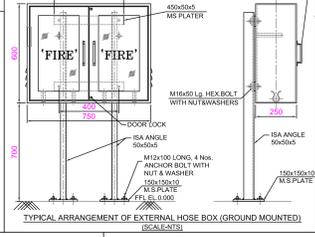
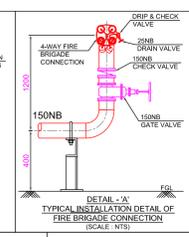
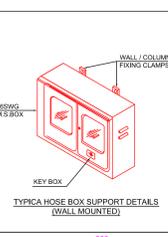
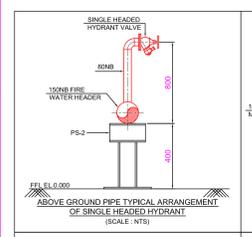
PIPE SIZE (DN)	SPAN (M)
50NB	3.0
75NB	3.7
100NB	4.3
150NB	5.2

BILL OF MATERIAL OF FIRE FIGHTING ITEM:

SR.NO.	DESCRIPTION	QTY.
1.	SINGLE HEADED HYDRANT	48 Nos.
2.	HOSE BOX (2x15 Mmm RRL LONG HOSE PIPE, BRANCH PIPE, SPANNERS ETC.)	48 Nos.
3.	ISOLATION VALVE (RISING SPINDLE GATE VALVE)	47 Nos.
4.	4-WAY FIRE BRIGADE CONNECTION	01 No.
5.	150 NB CHECK VALVE	01 No.
6.	HUME PIPE FOR ROAD CROSSING	31 Mts.

BILL OF MATERIAL OF PIPE:

DESCRIPTION	150NB	80NB
MS PIPE IS 1239 PART HEAVY GRADE (NEW ABOVE GROUND SPRAY SYSTEM HEADER)	961 Mts.	23 Mts.
MS PIPE IS 1239 PART HEAVY GRADE (NEW UNDER GROUND HYDRANT SYSTEM HEADER)	37 Mts.	-
MS PIPE IS 1239 PART HEAVY GRADE (ABOVE GROUND SPRAY SYSTEM HEADER)	311 Mts.	32 Mts.
MS PIPE IS 1239 PART HEAVY GRADE (UNDER GROUND SPRAY SYSTEM HEADER)	36 Mts.	-



REVISIONS:

DRN	CHEM	CIVIL	ELEC	I&C	MECH	APPD	DATE	ISSUE

REVISIONS:

DRN	CHEM	CIVIL	ELEC	I&C	MECH	APPD	DATE	ISSUE

VENDOR'S DWG NO.: CF-884-TPL-DRG-07 (SHEET 1 OF 3)
FILE NAME: FIRE HYDRANT & SPRAY SYSTEM LAYOUT

DESIGNED: TAHR
CHECKED: JG
APPROVED:

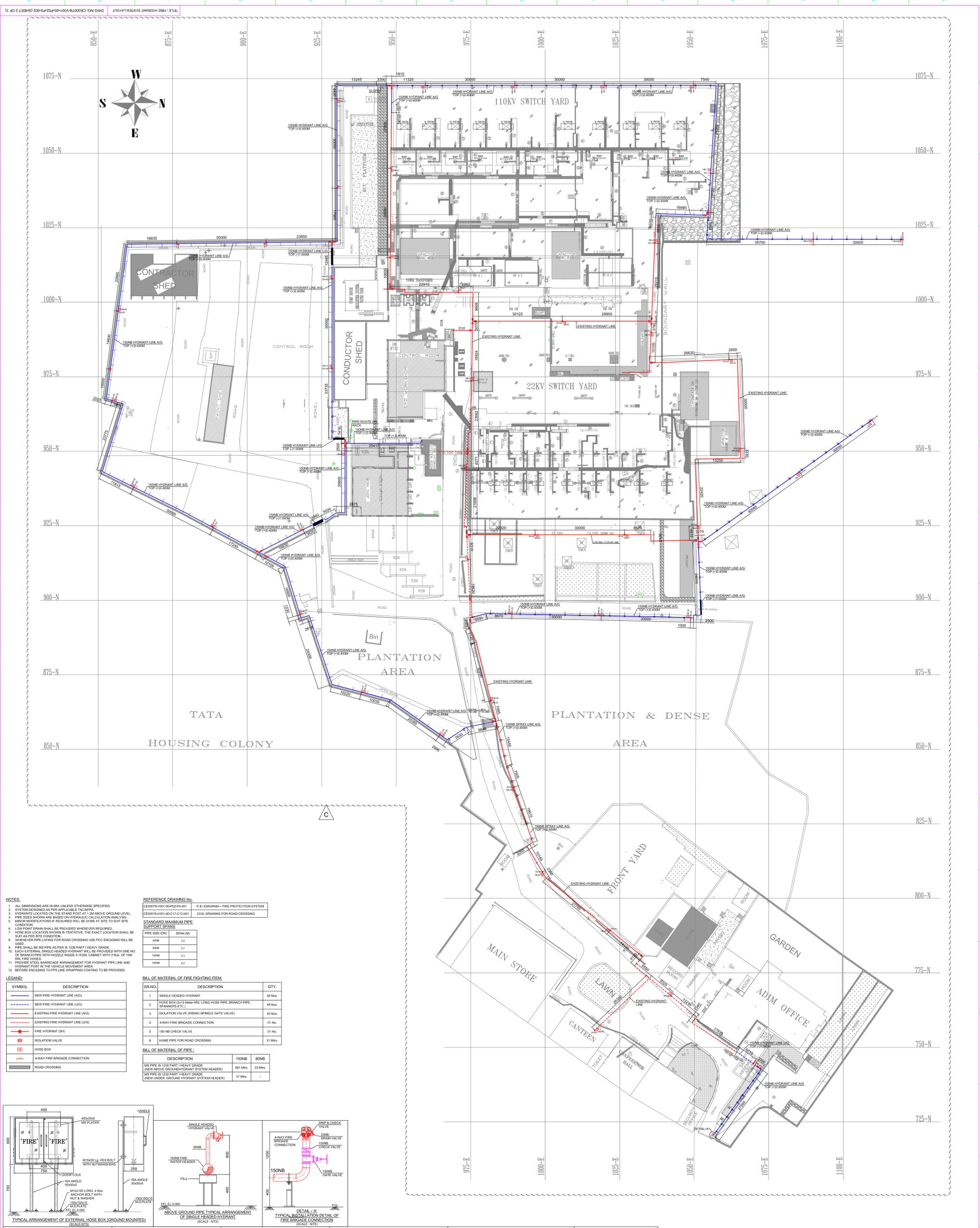
PROJECT: FIRE PROTECTION SYSTEM FOR KALYAN R/S

CLIENT: THE TATA POWER COMPANY LIMITED

FIRE PROTECTION ENGINEERS: CEASE FIRE EXTINGUISHERS & SYSTEMS INDIA PVT. LTD
 "THE CENTRAL", OFFICE NO. 702, 7TH FLOOR, SHELL COLONY ROAD, CHEMUR (E.), MUMBAI-400071. Tel. No.: (022) 2522544/55/56
 Email: admin@ceasefiresafety.com WEB: www.ceasefiresafety.com

DWG TITLE: FIRE HYDRANT & SPRAY SYSTEM LAYOUT

SCALE: 1:400
DATE: 15-01-2020
DWG NO.: CE00078-V001-00-P02-P05-002
SH.: 1 OF 3
REV.: C



- NOTES:**
1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
 2. SYSTEM DESIGNED AS PER APPLICABLE IFC/IS/ISIRI.
 3. HYDRANTS LOCATED ON THE STAND POST AT 2M ABOVE GROUND LEVEL.
 4. PIPE SIZES SHOWN ARE BASED ON HYDRAULIC CALCULATION ANALYSIS.
 5. MINOR MODIFICATIONS IF REQUIRED WILL BE DONE AT SITE TO SUIT SITE CONDITIONS.
 6. LOW POINT DRAIN SHALL BE PROVIDED WHEREVER REQUIRED.
 7. HOSE BOX LOCATION SHOWN IS TENTATIVE. THE EXACT LOCATION SHALL BE SUIT AS PER SITE CONDITION.
 8. WHEREVER PIPE LAYING FOR ROAD CROSSING USE PCC ENCASEMENT WILL BE USED.
 9. PIPE SHALL BE MS PIPE AS PER IS 1239 PART HEAVY GRADE.
 10. EACH EXTERNAL SINGLE HEADED HYDRANT WILL BE PROVIDED WITH ONE NO. OF BRANCH PIPE WITH NOZZLE INSIDE A HOSE CABINET WITH 2 Nos. OF 10M RRL FIRE HOSE.
 11. PROVIDE STEEL BARRIAGE ARRANGEMENT FOR HYDRANT PIPE LINE AND HYDRANT POST IN THE VEHICLE MOVEMENT AREA.
 12. BEFORE ENCASEMENT TO PPS LINE WRAPPING COATING TO BE PROVIDED.

LEGEND:

SYMBOL	DESCRIPTION
	NEW FIRE HYDRANT LINE (AG)
	NEW FIRE HYDRANT LINE (UG)
	EXISTING FIRE HYDRANT LINE (AG)
	EXISTING FIRE HYDRANT LINE (UG)
	FIRE HYDRANT (SH)
	ISOLATION VALVE
	HOSE BOX
	4-WAY FIRE BRIGADE CONNECTION
	ROAD CROSSING

REFERENCE DRAWING NO.:

CE00078-V001-00-P02-P04-001	P & I DIAGRAM - FIRE PROTECTION SYSTEM
CE00078-V001-00-C17-C12-001	CIVIL DRAWING FOR ROAD CROSSING

STANDARD MAXIMUM PIPE SUPPORT SPANS:

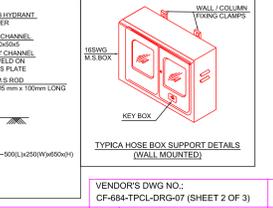
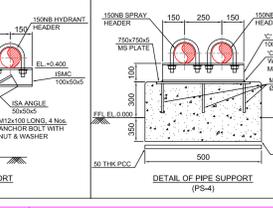
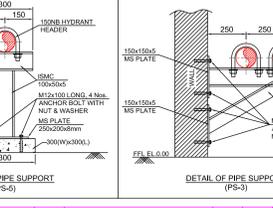
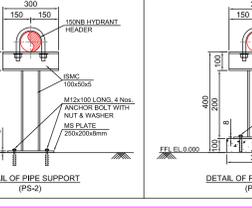
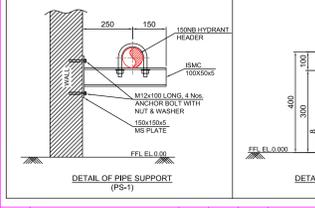
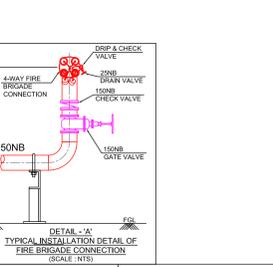
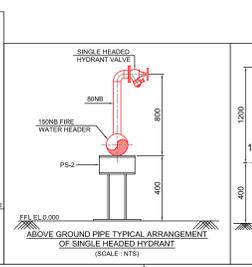
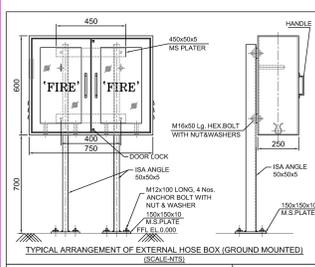
PIPE SIZE (DN)	SPAN (M)
50NB	3.0
75NB	3.7
100NB	4.3
150NB	5.2

BILL OF MATERIAL OF FIRE FIGHTING ITEM:

SR.NO.	DESCRIPTION	QTY.
1.	SINGLE HEADED HYDRANT	48 Nos.
2.	HOSE BOX (2x15 Mmm RRL LONG HOSE PIPE, BRANCH PIPE, SPANNERS ETC.)	48 Nos.
3.	ISOLATION VALVE (RISING SPINDLE GATE VALVE)	45 Nos.
4.	4-WAY FIRE BRIGADE CONNECTION	01 No.
5.	150 NB CHECK VALVE	07 Nos.
6.	HUME PIPE FOR ROAD CROSSING	31 Mts.

BILL OF MATERIAL OF PIPE:

DESCRIPTION	150NB	80NB
MS PIPE IS 1239 PART HEAVY GRADE (NEW UNDER GROUND HYDRANT SYSTEM HEADER)	961 Mts.	23 Mts.
MS PIPE IS 1239 PART HEAVY GRADE (NEW UNDER GROUND HYDRANT SYSTEM HEADER)	37 Mts.	-



REVISIONS:

DRN	CHEM	CIVIL	ELEC	I&C	MECH	APPD	DATE	ISSUE

REVISIONS:

DRN	CHEM	CIVIL	ELEC	I&C	MECH	APPD	DATE	ISSUE

REVISIONS:

DRN	CHEM	CIVIL	ELEC	I&C	MECH	APPD	DATE	ISSUE

REVISIONS:

DRN	CHEM	CIVIL	ELEC	I&C	MECH	APPD	DATE	ISSUE

PROJECT: FIRE PROTECTION SYSTEM FOR KALYAN R/S

CLIENT: THE TATA POWER COMPANY LIMITED

FIRE PROTECTION ENGINEERS: CEASE FIRE EXTINGUISHERS & SYSTEMS INDIA PVT. LTD

THE CENTRAL, OFFICE NO. 702, 7TH FLOOR, SHELL COLONY ROAD, CHEMUR (E), MUMBAI-400071. Tel. No.: (022) 2522544/5/6/8 Email: adm@ceasefiresafety.com WEB: www.ceasefiresafety.com

DESIGNED: TAHR

DRAWN: JGR

CHECKED: JG

APPROVED: -

DWG TITLE: FIRE HYDRANT SYSTEM LAYOUT

SCALE: 1:400

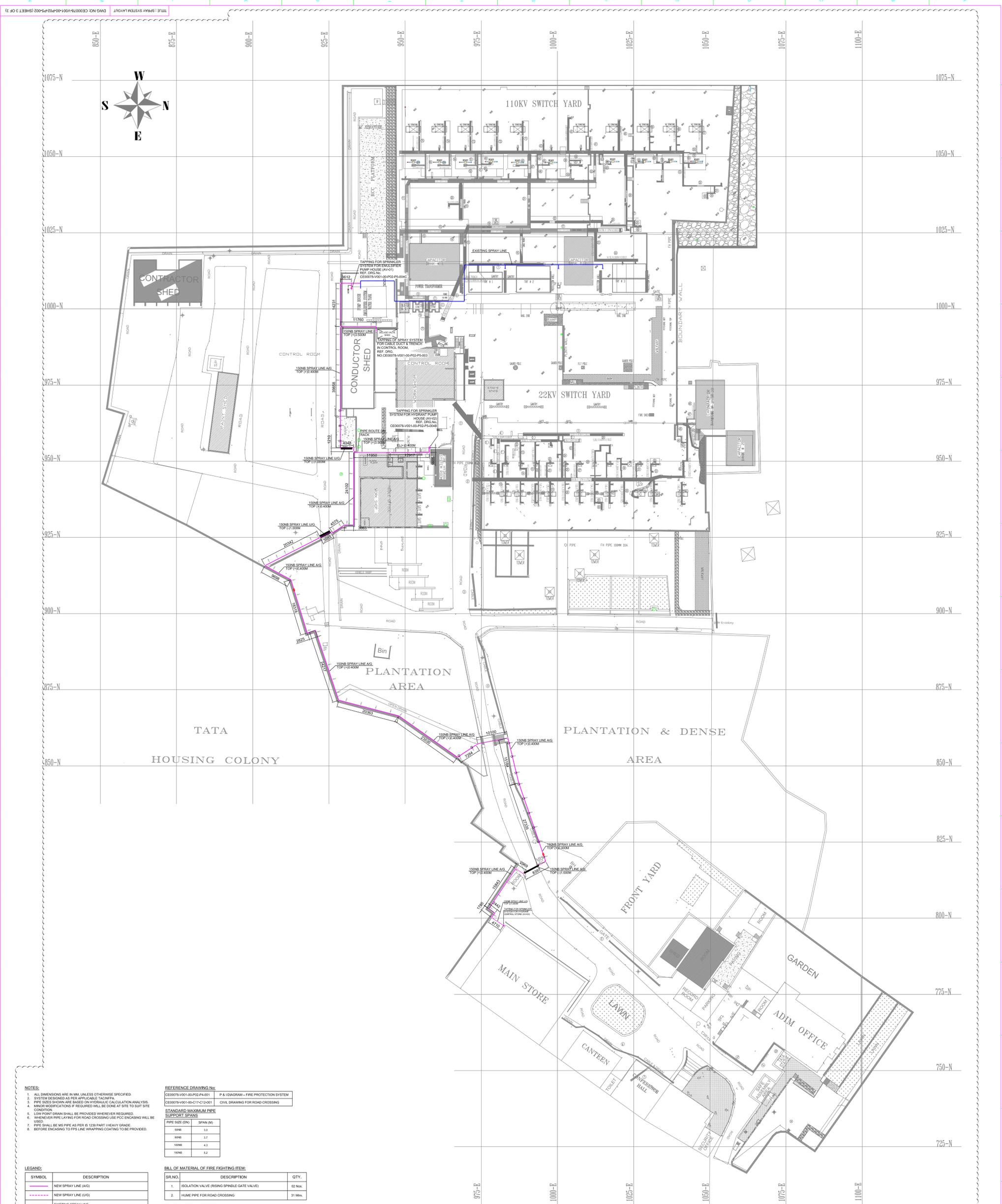
DATE: 15-01-2020

DWG NO.: CE00078-V001-00-P02-P05-002

SH: 2 OF 3

REV.: C

SIZE: A0



- NOTES:**
- ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
 - SYSTEM DESIGNED AS PER APPLICABLE TAC/NFA.
 - PIPE SIZES SHOWN ARE BASED ON HYDRAULIC CALCULATION ANALYSIS.
 - MINOR MODIFICATIONS IF REQUIRED WILL BE DONE AT SITE TO SUIT SITE CONDITION.
 - LOW POINT DRAIN SHALL BE PROVIDED WHEREVER REQUIRED.
 - WHENEVER PIPE LAYING FOR ROAD CROSSING USE PCC ENCASING WILL BE USED.
 - PIPE SHALL BE MS PIPE AS PER IS 1238 PART I HEAVY GRADE.
 - BEFORE ENCASING TO PPS LINE WRAPPING COATING TO BE PROVIDED.

REFERENCE DRAWING No:

CE00076-V01-05-P02-F4-001 P & DIAGRAM - FIRE PROTECTION SYSTEM
 CE00076-V01-05-C17-C12-001 CIVIL DRAWING FOR ROAD CROSSING

STANDARD MAXIMUM PIPE SUPPORT SPANS

PIPE SIZE (DN)	SPAN (M)
90NB	3.0
80NB	3.7
100NB	4.3
150NB	5.2

BILL OF MATERIAL OF FIRE-FIGHTING ITEM:

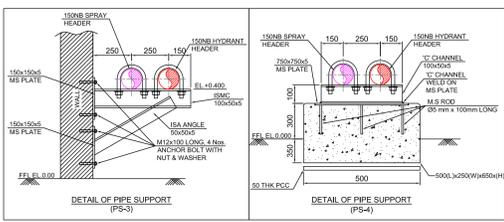
SR.NO.	DESCRIPTION	QTY.
1	ISOLATION VALVE (RISING SPINDLE GATE VALVE)	02 Nos.
2	HUME PIPE FOR ROAD CROSSING	31 Mtrs.

BILL OF MATERIAL OF PIPE:

DESCRIPTION	150NB	80NB
MS PIPE IS 1238 PART I HEAVY GRADE (ABOVE GROUND SPRAY SYSTEM HEADER)	311 Mtrs.	32 Mtrs.
MS PIPE IS 1238 PART I HEAVY GRADE (UNDER GROUND SPRAY SYSTEM HEADER)	58 Mtrs.	-

LEGEND:

SYMBOL	DESCRIPTION
	NEW SPRAY LINE (AG)
	NEW SPRAY LINE (UG)
	EXISTING SPRAY LINE
	ISOLATION VALVE
	ROAD CROSSING



<p>VENDOR'S DWG NO.: CF-884-TPCL-DRG-07 (SHEET 3 OF 3)</p>				<p>FILE NAME: SPRAY SYSTEM LAYOUT</p>			
<p>DESIGNED: TAHR</p>				<p>DWG TITLE: SPRAY SYSTEM LAYOUT</p>			
<p>CHECKED: JG</p>				<p>SCALE: 1:400</p>			
<p>APPROVED: -</p>				<p>DATE: 15-01-2020</p>			
<p>DRN: CHEM CIVIL ELEC I&C MECH</p>				<p>DWG NO.: CE00076-V01-00-P02-P5-002</p>			
<p>REVISIONS</p>				<p>SH: 3 OF 3</p>			
<p>REVISIONS</p>				<p>REV: C</p>			

PROJECT: FIRE PROTECTION SYSTEM FOR KALYAN R/S

CLIENT: THE TATA POWER COMPANY LIMITED

FIRE PROTECTION ENGINEERS: CEASE FIRE EXTINGUISHERS & SYSTEMS INDIA PVT. LTD

THE CENTRAL, OFFICE NO. 702, 7TH FLOOR, SHELL COLONY ROAD, CHEMUR (E), MUMBAI-400071. Tel. No.: (022) 2522544/55/66 Email : admin@ceasefiresafety.com WEB : www.ceasefiresafety.com

DESIGNED: TAHR

DRAWN: GIRISH

CHECKED: JG

APPROVED: -

SCALE: 1:400

DATE: 15-01-2020

DWG NO.: CE00076-V01-00-P02-P5-002

SH: 3 OF 3

REV: C

SIZE: A0

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.

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

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

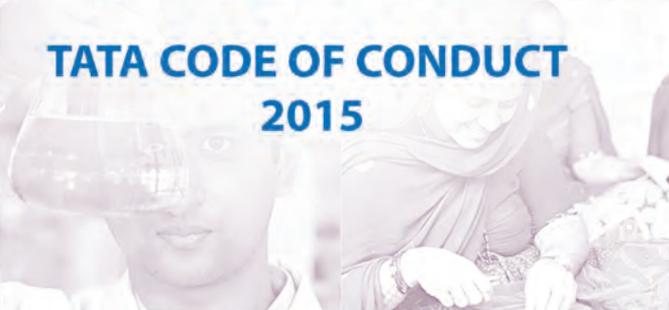
The management will commit all the necessary resources required to meet the goals of Corporate Sustainability.



(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)

CONTENTS

Foreword	3
A Our values	4
B Scope and purpose of this Code	5
C Our core principles	7
D Our employees	9
E Our customers	18
F Our communities and the environment	21
G Our value-chain partners	23
H Our financial stakeholders	25
I Governments	27
J Our group companies	29
Raising concerns	30
Accountability	31
Acknowledgement sheet	33

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



**SUPPLIER MANUAL ANSWERING
TO
E-BIDDING & E-AUCTION**

CELEBRATING 100 YEARS OF INVISIBLE GOODNESS

TATA POWER

	Version 1.1
Company Confidential	DEC - 2016

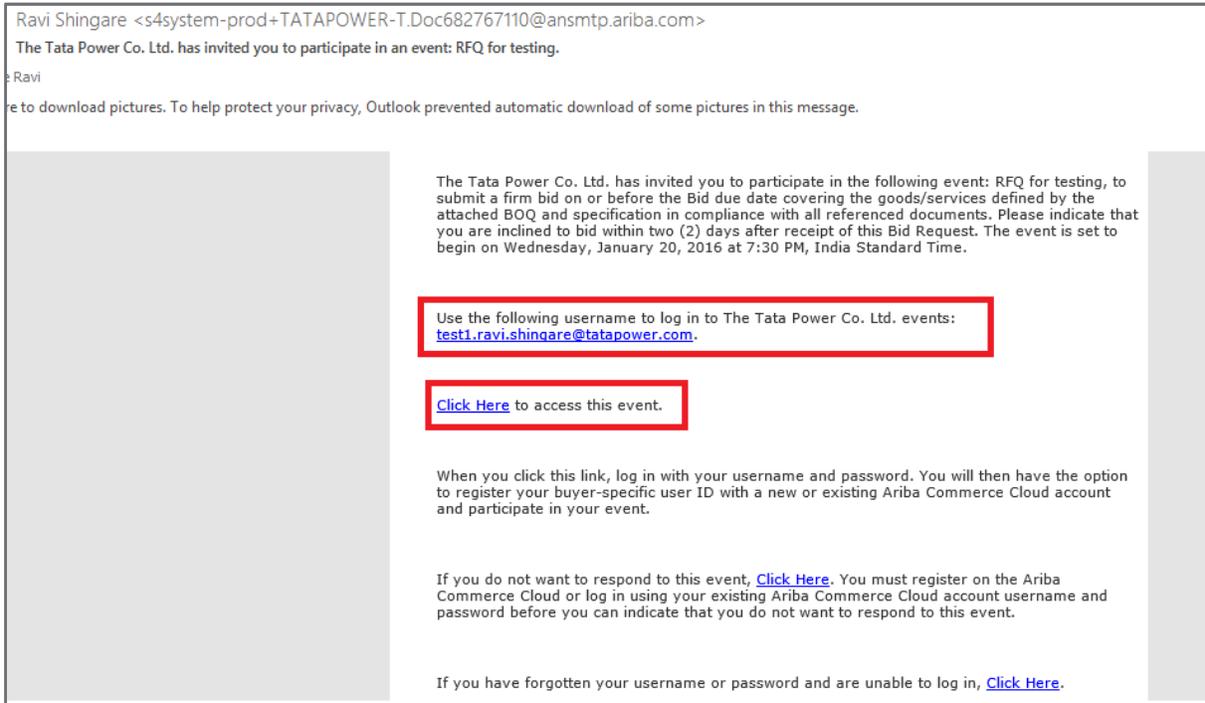
INDEX

1 ACCESSING ARIBA SOURCING	3
2 VENDOR SCREEN.....	4
3 SUBMITTING YOUR ANSWERS / PROPOSAL.....	4
<i>3.1.1 Review and Approve “Prerequisites”</i>	<i>6</i>
<i>3.1.2 Select Items or Lots</i>	<i>6</i>
<i>3.1.3 Entering Your Prebid</i>	<i>7</i>
<i>3.1.4 Entering Your Prebid for e-auction.....</i>	<i>8</i>
<i>3.1.5 Participate to the e-auction</i>	<i>9</i>
3.1.5.1 How to submit a price.....	9
3.1.5.2 What to do If you have a problem during the e-auction?	10
4 COMMUNICATING WITH UPM NEGOTIATOR.....	10
5 SUPPLIER FREQUENTLY ASKED QUESTION	11

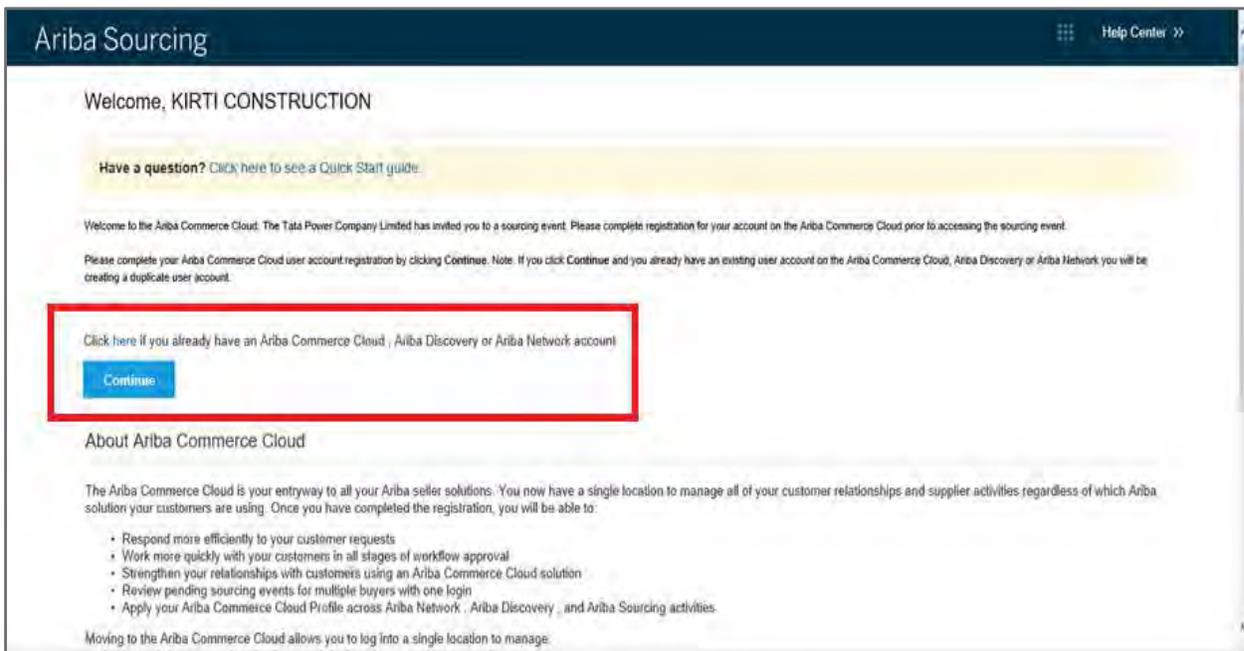
1- Accessing Ariba Sourcing

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.

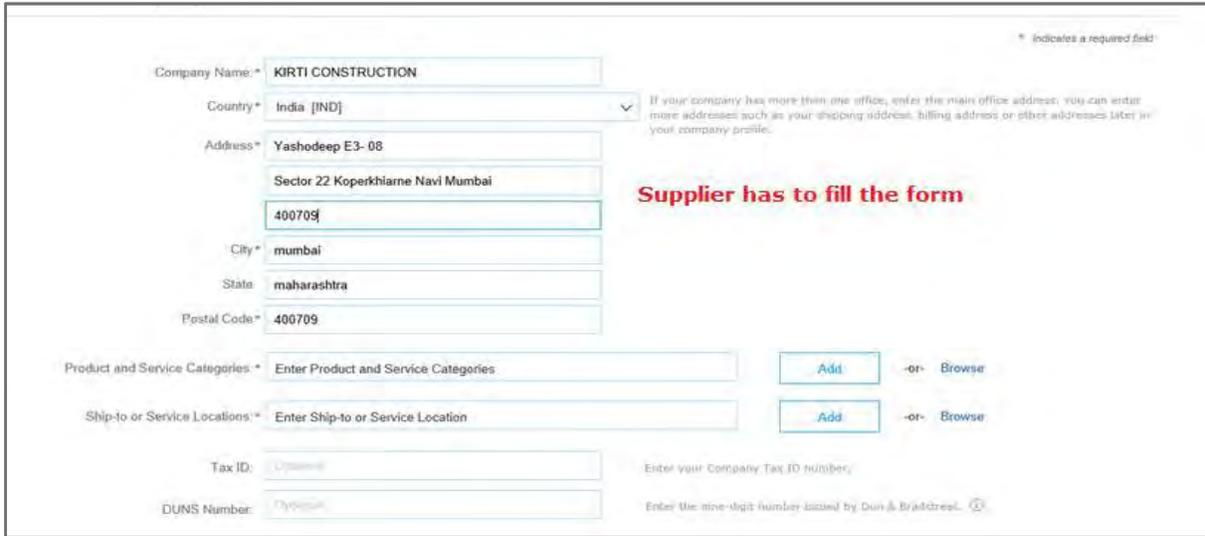
Step 2: Click "Click Here" to access the Ariba Web Site.



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 registration form is titled "Supplier has to fill the form" in red. It contains the following fields and options:

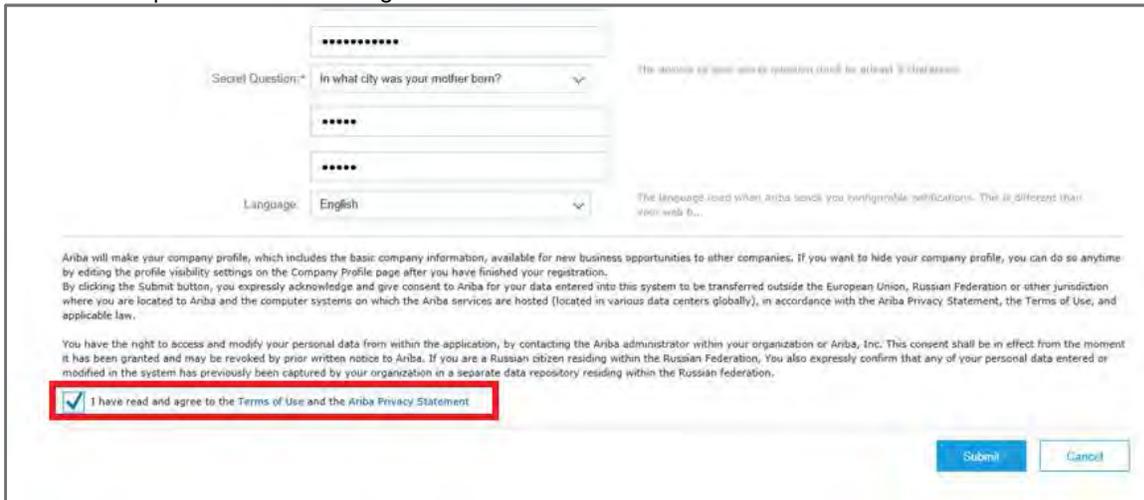
- Company Name: KIRTI CONSTRUCTION
- Country: India [IND]
- Address: Yashodeep E3-08, Sector 22 Koperkhaima Navi Mumbai, 400709
- City: mumbai
- State: maharashtra
- Postal Code: 400709
- Product and Service Categories: Enter Product and Service Categories (Add -or- Browse)
- Ship-to or Service Locations: Enter Ship-to or Service Location (Add -or- Browse)
- Tax ID: (Optional) Enter your Company Tax ID number.
- DUNS Number: (Optional) Enter the nine-digit number issued by Dun & Bradstreet.



The "Expired Password" form includes the following elements:

- Header: ARIBA SPEND MANAGEMENT, Welcome USER_TEST2 - UPM-Kvmmea Corporation
- Message: Your password has expired. Follow these instructions to complete this step: Create a new password and confirm. Select a secret question and answer it so...
- Instructions: Passwords are case-sensitive, must be between 8 and 16 characters long, include Latin characters and punctuation, and have at least one numeral. The current secret answer is different from the one recorded.
- Fields: New Password, New Password (confirm), Secret Question (Who is your favorite sports team?), Secret Answer (Lives).
- Disclaimer: You expressly agree and understand that your data entered into this system may be transferred outside of the European Union or other jurisdiction where you are located, as further described in the Ariba Data Policy Data Policy.
- Buttons: OK

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 "Terms of Use" form includes the following elements:

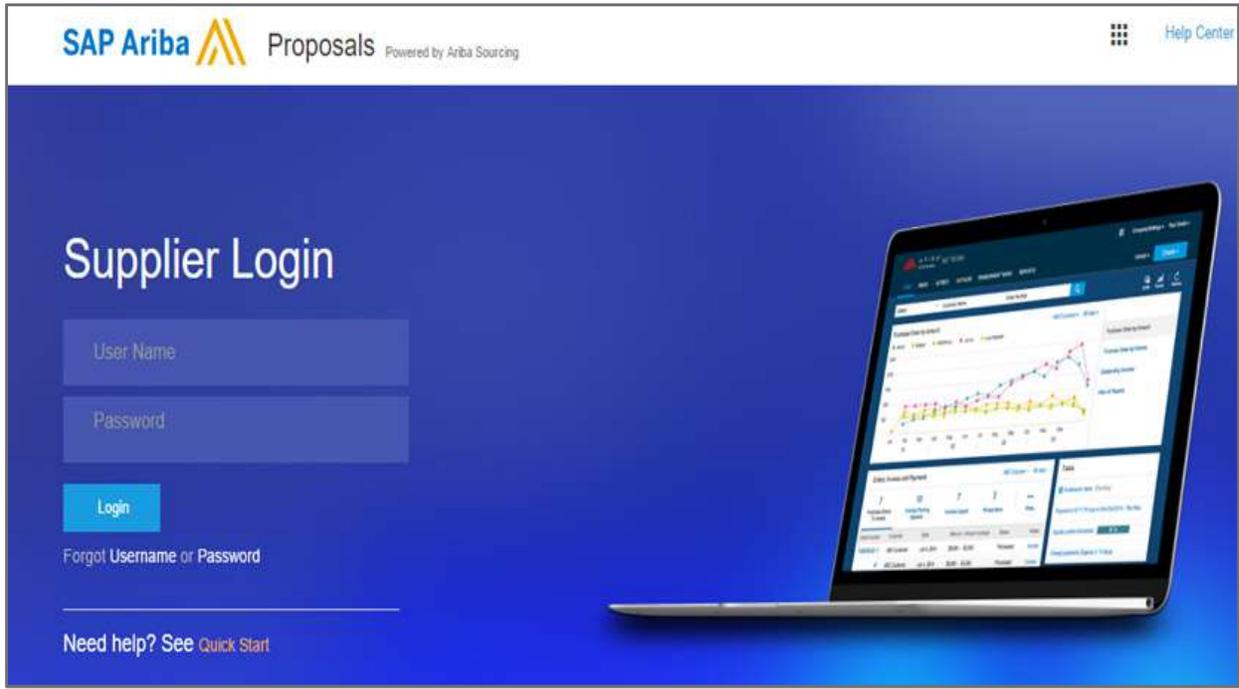
- Secret Question: In what city was your mother born?
- Language: English
- Disclaimer: Ariba will make your company profile, which includes the basic company information, available for new business opportunities to other companies. If you want to hide your company profile, you can do so anytime by editing the profile visibility settings on the Company Profile page after you have finished your registration.
- Consent: I have read and agree to the Terms of Use and the Ariba Privacy Statement (checked).
- Buttons: Submit, Cancel

2 Vendor Screen

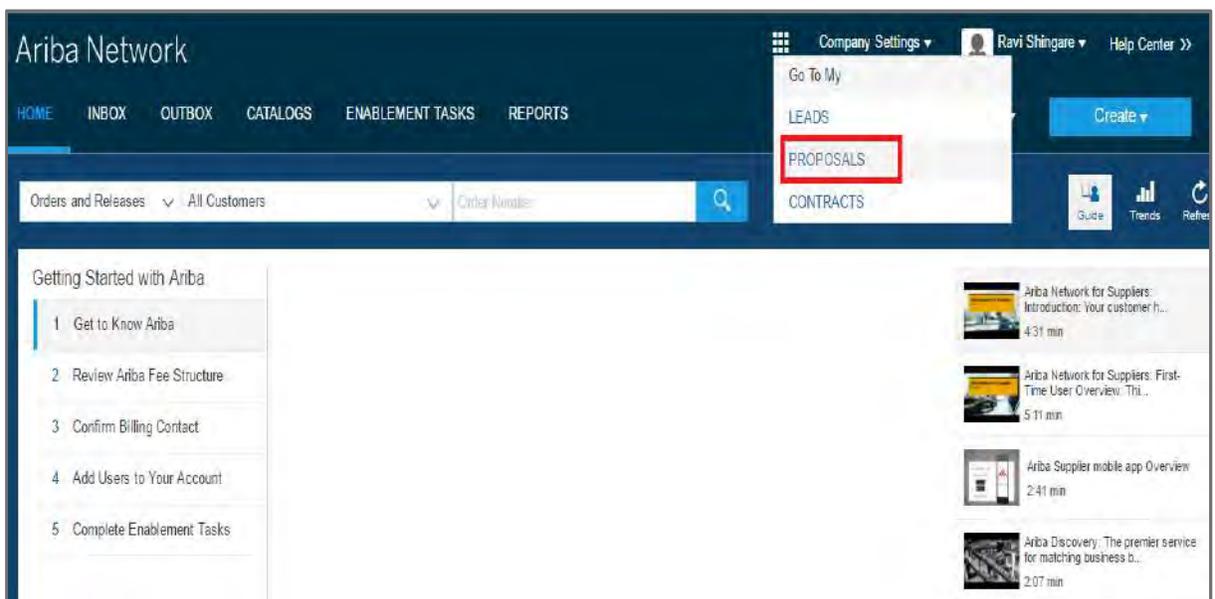
2.1.1 If vendor goes through mail invitation then directly Screen 3.1.1 will appear, but if you have used Ariba before and have already accessed an event for the buyer-specific account with your current log in ID, click the **Login** button to continue. Log in with your Ariba username and password in 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



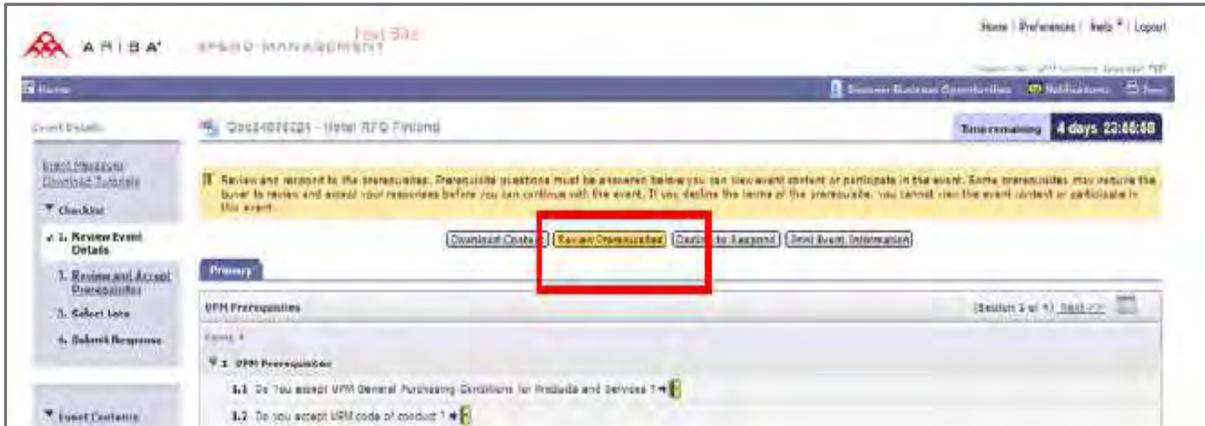
Step 3 - Go to ARIBA APPS  and click on Proposals.



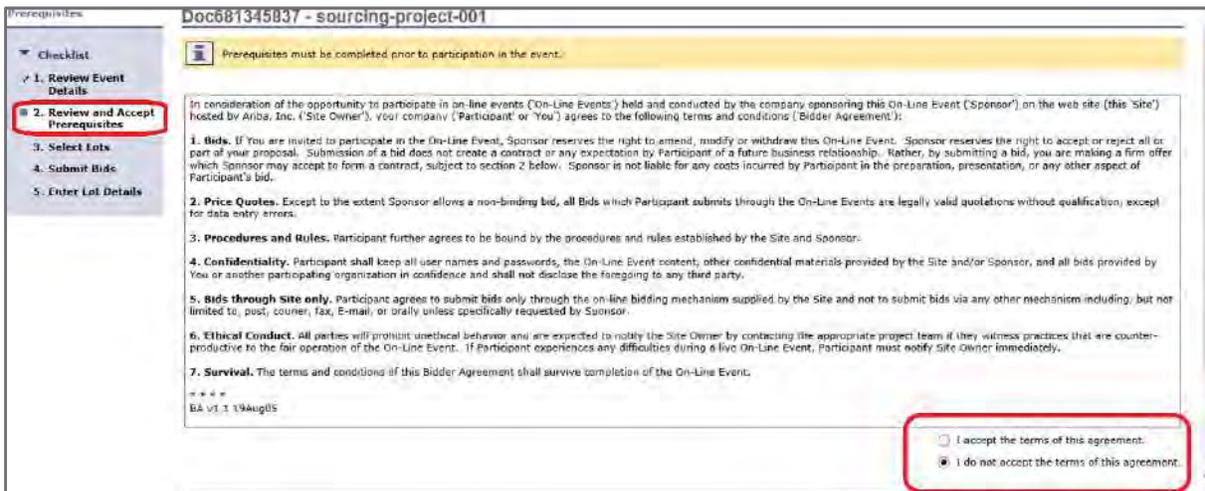
3 Submitting Your Answers / Proposal

3.1.1 Review and Approve "Prerequisites"

Step 1: Review and download all documents & then Click on "Review Prerequisites"



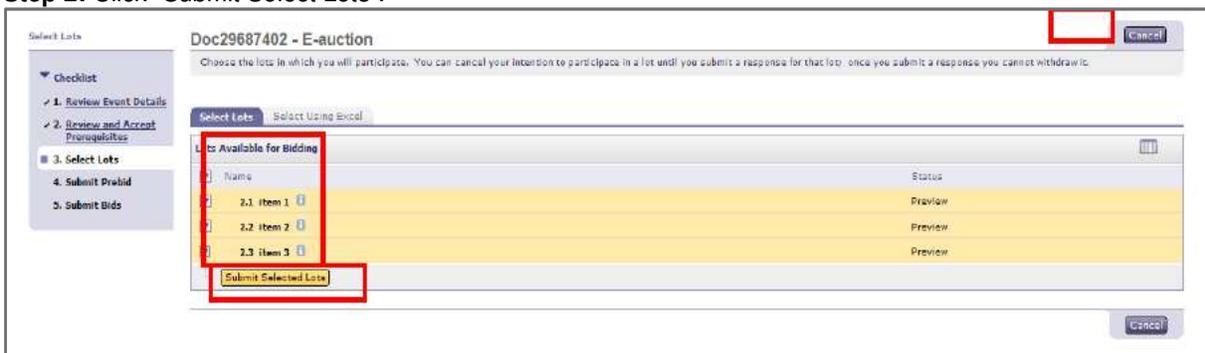
Step 2: Review and accept "Bidder Agreement".



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.

The screenshot shows the Ariba Sourcing interface. At the top, the header includes 'Ariba Sourcing', 'Test Mode', 'Company Settings', and the user 'Ravi Shiri'. A red box highlights the company name 'THE TATA POWER COMPANY LIMITED-TEST'. Below this, there's a 'Requested Profile' section with a 38% completion bar and a note: 'Your customer has requested that you complete 21 additional profile fields. Enter Now >'. A red box points to a message: 'Vendor has to complete the vendor registration FORM'. The 'Events' table shows a red box around 'Status: Open (1)' and another around the end time '12/16/2015 6:35 PM'. The 'Tasks' table is also visible below.

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.

This screenshot shows the 'Event Contents' sidebar on the left with steps: 2. Review and Accept Prerequisites, 3. Select Lots, 4. Submit Response. The main content area shows a tree view of items. A red box highlights item '2 Techno Commercial bid' and its sub-item '2.1 Please attach the Techno-Commercial Bid' with an 'Attach a file' button.

This screenshot shows the 'Price Bid' section. A red box highlights a red instruction: '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.' Below this is a table of items:

Item ID	Description	More...	Amount	Unit	Quantity
3.2	Bearingfor motor 1.90991	More... +	15,000.00	INR	30 each
3.3	AMC 20,000 IS-U/CCS CONTRACTS	More... +	35,000.00	INR	35 month
3.4	ANALYSIS TAILRACE WTR SAMPLE	More... +	35,000.00	INR	45 each

Step 4 - After successfully putting Techno commercial offer and price part then click on "Submit Entire Response"

This screenshot shows the bottom of the response form. A red box highlights the 'Submit Entire Response' button. Other buttons visible are 'Update Totals', 'Save', and 'Compose Message'. A note above the buttons says '(*) indicates a required field'.

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 a sourcing project. 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 an attached file 'COMP-1.xlsx'). At the bottom, the 'Submit Entire Response' button is highlighted in red.

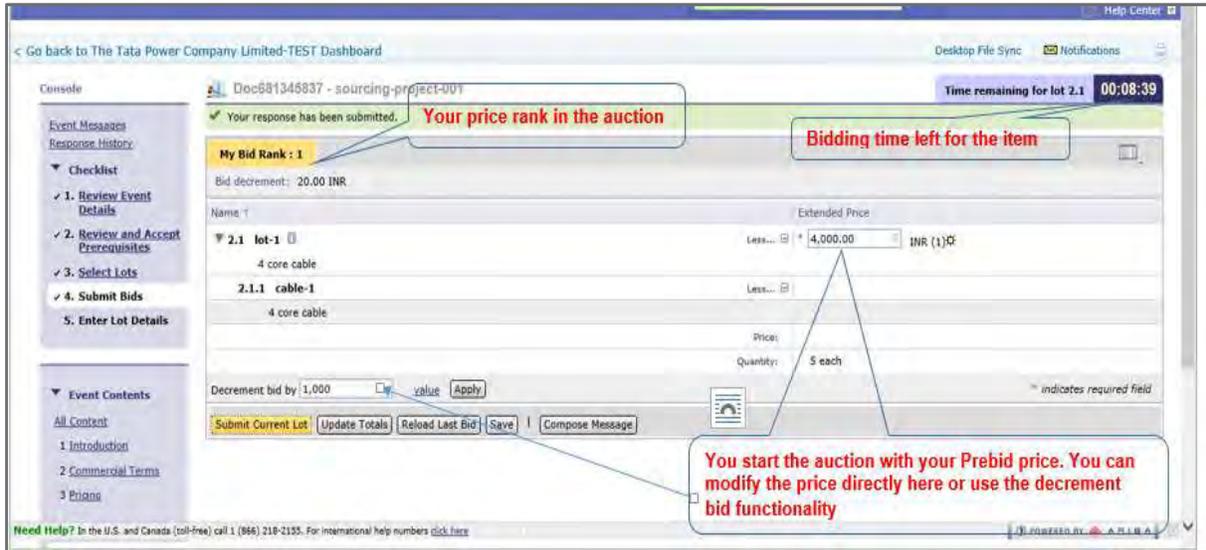
When the Prebid time is still open you can still modify your Prebid:

Click on "revise Prebid" and repeat in step 1 and step 2.

The screenshot shows the same e-auction interface 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 to show the submitted bid: '2.1 lot-1' for '4 core cable' at a price of 5,000.00 INR. A 'Revise Prebid' button is highlighted in red below the table. The 'Submit Entire Response' button is no longer visible.

3.1.5 Participate to the e-auction

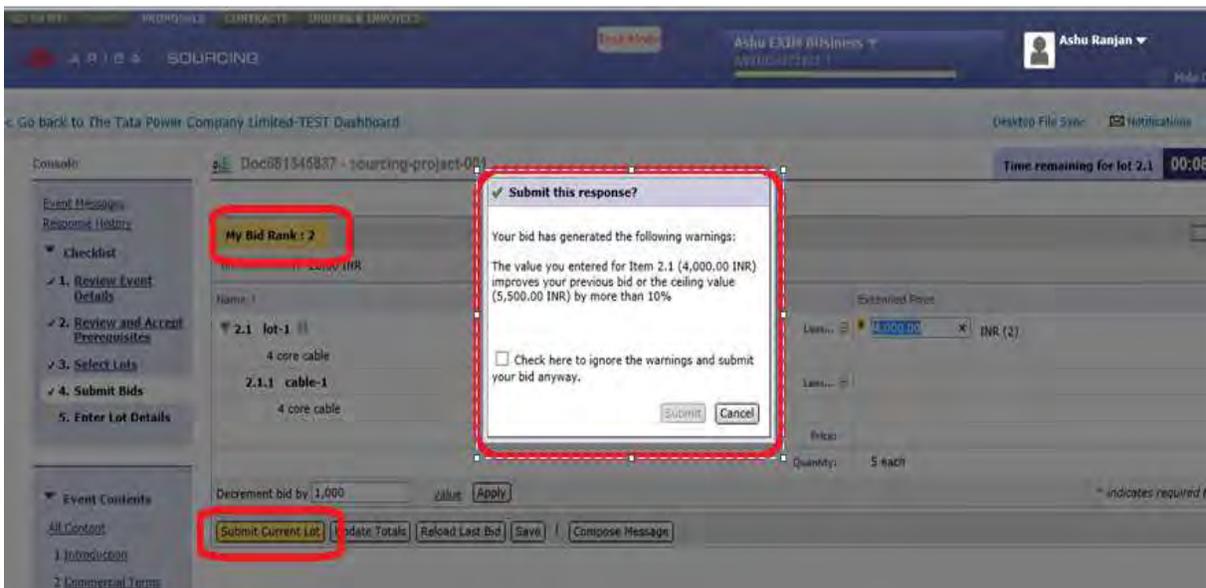
If you have placed a bid in the Prebid time you will be able to participate to the e-action. E-auctions are rather sort in time (usually less than 20 min per item). Once the time is closed you won't be able to bid anymore.



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?

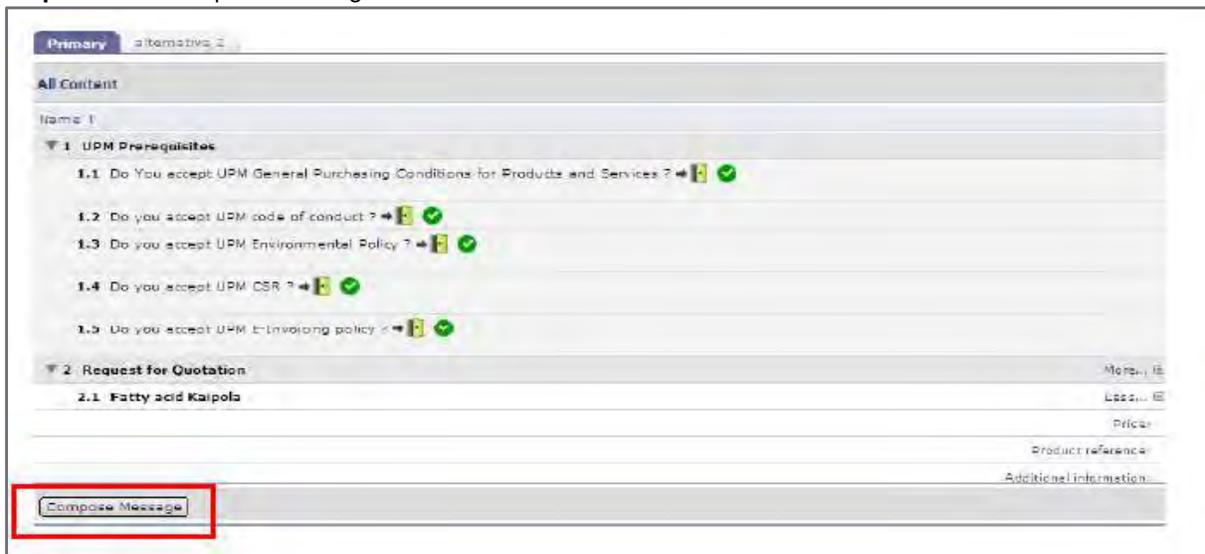
If you have any problem related the system: - **Call first Tata Power e- Bidding / Auction Cell**

➤ **e- Bidding /Auction Cell details:-**

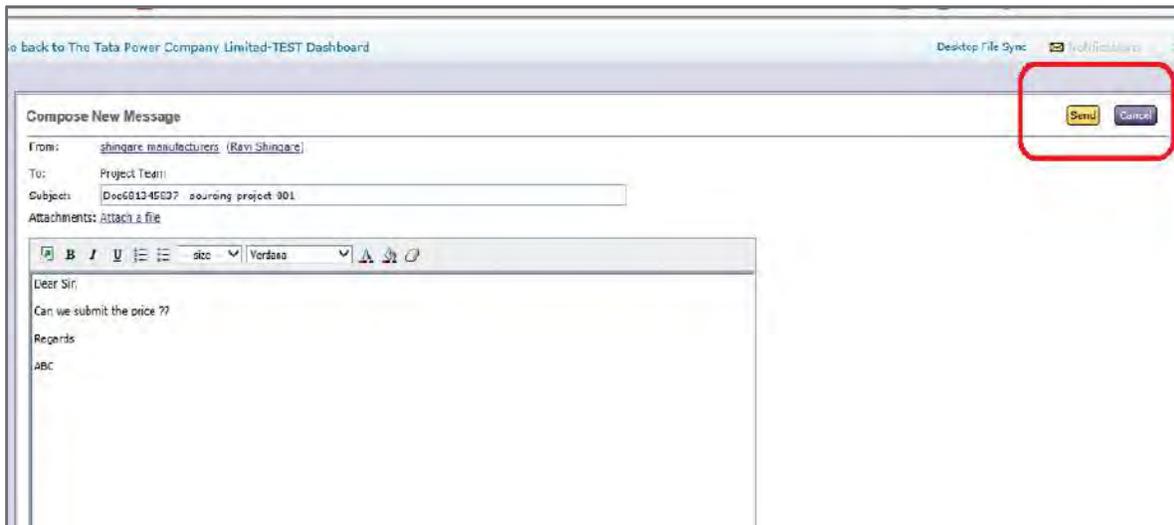
<u>Core team</u>		
<u>Contact Person</u>	<u>E-Mail Id</u>	<u>Contact Details</u>
Ravi Shingare	ravi.shingare@tatapower.com	9029004168
Himanshu Ranjan	himanshur@tatapower.com	9820339961
<u>Escalation Matrix</u>		
Paresh Bhatt	pareshbhatt@tatapower.com	
C T Prakash	ctprakash@tatapower.com	9223545185

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.