



RFQ No.:

NIT No.: CC26SAS018

**OPEN TENDER NOTIFICATION**

**FOR**

**PROCUREMENT OF PASSIVE SENSORS WITH CENTRAL  
MANAGEMENT SYSTEM**

**FOR  
TATA POWER**

**Tender Enquiry No.: CC26SAS018**

**Due Date for Bid Submission: 07.10.2025 [17:00 Hrs.]**

**The Tata Power Company Limited  
Mumbai, Maharashtra**

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## 1.0 Event Information

### 1.1 Scope of work

Open Tenders are invited in e-tender bidding process from interested Bidders for entering a Contract as defined below:

S. No.	Description	EMD Amount (Rs.)	Tender Fee (Rs.)
1	Procurement of Passive Sensors with Central Management System	10,00,000	2000

### 1.2 Availability of Tender Documents

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

Chief (Corporate Contracts)  
The Tata Power Company Limited  
Smart Center of Procurement Excellence, 2nd Floor, Sahar Receiving Station  
Sahar Airport Road, Andheri East, Mumbai-400059

Tender documents may be downloaded by interested eligible bidders from TPC website [www.tatapower.com](http://www.tatapower.com) with effect from 18.09.2025. In the event detailed tender documents are downloaded from TPC website or are received through email from TPC, the Tender Fee shall be compulsorily submitted either online through NEFT/ RTGS in favor of "The Tata Power Company Limited". Any such bid submitted without this Fee shall be rejected.

Bidders are requested to visit TPC website [www.tatapower.com](http://www.tatapower.com) regularly for any modification/ clarification to the bid documents. For Limited Tenders issued by TPC, the tender document shall be shared through e-mail as the case may be.

### 1.3 Calendar of Events

(a)	Date of availability of tender documents from TPC Website	From 18.09.2025, 10:00 Hrs
(b)	Date & Time of Pre-Bid Meeting (If any)	
(c)	Last Date of receipt of pre-bid queries, if any	25.09.2025 up to 15:00 Hours
(d)	Last Date of Posting Consolidated replies to all the pre-bid queries as received	30.09.2025 up to 17:00 Hours
(e)	Last date and time of receipt of Bids	07.10.2025 up to 17:00 Hrs
(f)	Date & Time of opening of Price of qualified bids	Will be notified to the successful bidders through our website / e-mail.

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

#### **1.4 Mandatory documents required along with the Bid**

- 1.4.1 EMD of requisite value and validity
- 1.4.2 Tender Fee in case the tender is downloaded from website
- 1.4.3 Requisite Documents for compliance to Qualification Criteria mentioned in Clause 1.7.
- 1.4.4 Drawing, Type Test details along with a sample of each item as specified at Annexure I (as applicable)
- 1.4.5 Duly signed and stamped 'Schedule of Deviations' as per Annexure III on bidder's letter head.
- 1.4.6 Duly signed and stamped 'Schedule of Commercial Specifications' as per Annexure IV on bidder's letter head.
- 1.4.7 Duly signed and stamped 'MAF' as per Annexure X
- 1.4.8 Proper authorization letter/ Power of Attorney to sign the tender on the behalf of bidder.
- 1.4.9 Copy of PAN, GST, PF and ESI Registration (In case any of these documents is not available with the bidder, same to be explicitly mentioned in the 'Schedule of Deviations')

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

#### **1.5 Deviation from Tender**

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

#### **1.6 Right of Acceptance/Rejection**

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

- 1.6.1 EMD of requisite value and validity
- 1.6.2 Tender fee of requisite value
- 1.6.3 Price Bid as per the Price Schedule mentioned in Annexure-I
- 1.6.4 Necessary documents against compliance to Qualification Requirements mentioned at Clause 1.7 of this Tender Document.
- 1.6.5 Filled in Schedule of Deviations as per Annexure III
- 1.6.6 Filled in Schedule of Commercial Specifications as per Annexure IV
- 1.6.7 Receipt of Bid within the due date and time

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

**1.7 Qualification Criteria**

Parameter	Tata Power Requirement	Documents To be submitted by Vendor to ascertain meeting of Pre-qualification requirement
<p>Design, Engineering, Manufacturing, Supply, Supervision of Installation, Testing and Commissioning</p>	<p>1 The bidder/OEM shall have carried out design, engineering, manufacturing, supply, installation, testing and commissioning of type tested OT SOC passive sensor in 3 different projects in last 5 Years. Bidder/OEM should have deployed minimum fifty (50) passive sensors (of the offered solution) for monitoring at least in 15 sites globally in last 5 years. The system supplied should have been in satisfactory commercial operation for a minimum period of 3 years as on scheduled date of the bid opening.</p>	<p>1)Bidder/OEM shall furnish details of 3 projects with all technical and Purchaser's details, which are executed in India/globally with the same product offered and in satisfactory commercial operations. Bidder to also submit performance certificate, PO copies (unpriced/masked) /interaction with 3 customers.</p>
<p>Manufacturing Facility</p>	<p>1) Bidder must be OEM of OT SOC passive sensor equipment or authorized OEM premium partner &amp; other Communication/Security systems, having manufacturing facility anywhere across globe except China &amp; should have testing and support facility in India preferably in Mumbai.</p>	<p>1)Details of Manufacturing Facilities. Premium partner to share Manufacturer Authorization Form (MAF) certificate from OEM.</p>
<p>Service Support</p>	<p>a) Bidder shall demonstrate local service support facility &amp; capabilities of engineers to address any issues/breakdowns arising post commissioning to be addressed as per agreed SLA.  Technical support facilities should include qualified man-power (Engineers &amp; Technicians), testing tools and instruments and integration facilities</p>	<p>a) Support Service Centre Details to be shared by bidder. Tata Power shall visit Support centre &amp; will discuss with the support engineers b) Bidder to share team CV details with valid certifications  c)Bidder to submit relevant financial document, organogram, list of test facilities with capabilities available within</p>

	<p>available within Mumbai. No remote support will be provided any OT based system.</p> <p>b) Bidder should have at least two (02) in-house OEM and one (01) IEC62443 certified technical expertise on its payroll</p>	<p>India</p> <p>d) Bidder shall provide escalation matrix for technical support services</p>
Financial	<p>1) Average Annual turnover of the bidder for last three years shall not be less than INR 150 Crores.</p>	<p>1) Bidder to submit Copy of Audited balance sheet and Profit and Loss Statement with UDIN No. certificates</p>

### 1.8 Marketing Integrity

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

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

### 1.9 Supplier Confidentiality

All information contained in this tender is confidential and shall not be disclosed, published or advertised in any manner without written authorization from TPC. This includes all bidding information submitted to TPC. All tender documents remain the property of TPC and all suppliers are required to return these documents to TPC upon request. Suppliers who do not honor these confidentiality provisions will be excluded from participating in future bidding events.

### 2.0 Evaluation Criteria

- The bids will be evaluated technically on the compliance to tender terms and conditions.
- The bids will be evaluated commercially on the overall all-inclusive *L-1 on BOQ basis [Annexure I]*. 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 *[Annexure I]*. Failing to do so, TPC may reject the bids.

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

### **2.1 Price Variation Clause:**

The prices shall remain firm during the entire contract period.

## **3.0 Submission of Bid Documents**

### **3.1 Bid Submission**

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

Bids shall be submitted in 3 (Three) parts:

**FIRST PART: "EMD"** of Rs. 10,00,000/- (Rupees Ten lakhs only) shall be submitted. The EMD shall be valid for 210 days from the due date of bid submission in the form of BG / Bankers Pay Order favoring "The Tata Power Company Limited". The EMD has to be strictly in the format as mentioned in General Condition of Contract, failing which it shall not be accepted, and the bid as submitted shall be liable for rejection. A separate non-refundable tender fee of stipulated amount also needs to be transferred online through NEFT/ RTGS in case the tender document is downloaded from our website.

**TPC/ TPC Bank Details for transferring Tender Fee and EMD is as below:**

**Account Name: The Tata Power Co. Ltd.**

**Bank Name: HDFC Bank, Fort Branch, Mumbai**

**Bank Account No. : 00600110000763**

**IFSC Code: HDFC0000060**

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

- a) Documentary evidence in support of qualifying criteria
- b) Technical literature/GTP/Type test report etc. *(if applicable)*
- c) Qualified manpower available
- d) Testing facilities *(if applicable)*
- e) No Deviation Certificate as per the Annexure III – Schedule of Deviations
- f) Acceptance to Commercial Terms and Conditions viz Delivery schedule/period, payment terms etc. as per the Annexure IV – Schedule of Commercial Specifications.
- g) Necessary documents against compliance to Qualification Requirements mentioned at Clause 1.7 of this Tender Document.
- h) Quality Assurance Plan/Inspection Test Plan for supply items *(if applicable)*

**The technical bid shall be properly indexed and is to be submitted in Soft Copy through Ariba Portal only. Hard Copy of Technical Bids need not be submitted.**

**THIRD PART: "PRICE BID"** shall contain only the price details and strictly in format as mentioned in Annexure I along with explicit break up of basic prices, Taxes & duties, Freight etc. In case any discrepancy is observed between the item description stated in Schedule of Items mentioned in the



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tender and the price bid submitted by the bidder, the item description as mentioned in the tender document (to the extent modified through Corrigendum issued if any) shall prevail.

**FOR BIDS INVITED THROUGH E-PROCUREMENT PORTAL:**

The interested bidders are requested to obtain user name and password for purpose of bid submission through Ariba portal of TPC, Mumbai

**Bids have to be mandatorily submitted only through Ariba portal of TPC. Bids submitted through any other form/ route shall not be admissible**

**The EMD in the form of BG shall be submitted in original hard copy** and then placed in sealed envelope which shall be clearly marked as below:

**EMD**

“CC26SAS018 Procurement of Passive Sensors with Central Management System”

Please mention our Enquiry Number:- CC26SAS006 on the Tender and drop the same at The Tata Power Company Limited, Smart Center of Procurement Excellence, 2nd Floor, Sahar Receiving Station, Sahar Airport Road, Andheri East, Mumbai-400059.

The envelope shall be addressed to:

Chief (Corporate Contracts)  
The Tata Power Company Limited  
Smart Center of Procurement Excellence, 2nd Floor, Sahar Receiving Station  
Sahar Airport Road, Andheri East, Mumbai-400059

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

**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**

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

**Communication Details:**

Group Head Contracts – T&D

Name: Ms Subhanjali Sanyal  
Contact No: 022- 67173927  
E-Mail ID: Subhanjali.sanyal@tatapower.com

Head Contracts – T&D:

Name: Mr. Selva Ganesh S P  
Contact No.: 022- 67173925  
E-Mail ID: selva.ganesh@tatapower.com

**3.3 Bid Prices**

Bidders shall quote for the entire Scope of Supply/ work with a break up of prices for individual items and Taxes & duties. The bidder shall complete the appropriate Price Schedules included herein, stating the Unit Price for each item & total price with taxes, duties & freight up to destination at various sites of TPC. 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 break up shown else-where other than Price Schedule is tentative. The bidder shall ascertain himself regarding material required for completeness of the entire work. Any items not indicated in the price schedule but which are required to complete the job as per the Technical Specifications/ Scope of Work/ SLA mentioned in the tender, shall be deemed to be included in prices quoted.

**3.4 Bid Currencies**

Prices shall be quoted in Indian Rupees Only.

**3.5 Period of Validity of Bids**

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

Notwithstanding clause above, the TPC 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 TPC against the risk of bidder's conduct which would warrant forfeiture.

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

- Banker's Cheque/ Demand Draft/ Pay order drawn in favor of The Tata Power Company Limited, payable at Mumbai.
- Online transfer of requisite amount through NEFT/ RTGS.
- Bank Guarantee valid for 210 days after due date of submission.

**The EMD shall be forfeited in case of:**

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

**Or**

- b) The case of a successful bidder, if the Bidder does not
- i) accept the purchase order, or
  - ii) furnish the required performance security BG

### **3.9 Type Tests (if applicable)**

As per attached Annexures

## **4.0 Bid Opening & Evaluation process**

### **4.1 Process to be confidential**

Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process. Any effort by a Bidder to influence the TPC's 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 TPC Office Mumbai as per the schedule mentioned in Calendar of Events. In case of limited tenders, the bids shall be opened internally by TPC. In case of Open Tenders, the bids shall be opened in the presence of accredited representatives of bidders who may choose to be present at the time of tender opening. Technical bid must not contain any cost information whatsoever.

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

Next, the technical bid of the bidders who have furnished the requisite EMD will be opened, one by one. The salient particulars of the techno commercial bid will be read out at the sole discretion of TPC.

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

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

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

Total Amount and the sum of the total price per item, the sum of the total price per item shall prevail and the Total Amount will be corrected.

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

#### **4.5 Price Bid Opening**

Price bids will be opened at the stipulated date and time. The EMD of the bidder withdrawing or substantially altering his offer at any stage after the technical bid opening will be forfeited at the sole discretion of TPC without any further correspondence in this regard.

#### **4.7 Reverse Auctions**

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

### **5.0 Award Decision**

TPC will award the contract to the successful bidder whose bid has been determined to be the lowest-evaluated responsive bid as per the Evaluation Criterion mentioned at Clause 2.0. The Cost for the said calculation shall be taken as the all-inclusive cost quoted by bidder in Annexure I (Schedule of Items) subject to any corrections required in line with Clause 4.3 above. The decision to place purchase order/LOI solely depends on TPC on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that TPC may deem relevant.

TPC 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 TPC reserves the right to award other suppliers who are found fit.

### **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. Schedule of Items (Annexure I)
2. Post Award Contract Administration (Clause 7.0)
3. Submission of Bid Documents (Clause 3.0)

4. Scope of Work and SLA (Annexure VII)
5. Technical Specifications (Annexure II)
6. Inspection Test Plan (Annexure VIII)
7. Acceptance Form for Participation in Reverse Auction (Annexure VI)
8. General Conditions of Contract (Annexure IX)
9. Manufacturers Authorization Form (Annexure X)

## **7.0 Post Award Contract Administration**

### **7.1 Special Conditions of Contract**

- Rate shall remain FIRM till the validity of Rate Contract.
- TPC appreciates and welcomes the engagement/employment of persons from SC/ ST community or any other deprived section of society by their BAs.
- Any change in statutory taxes, duties and levies during the contract period shall be borne by TPC. However in case of delay in work execution owing to reasons not attributable to TPC, any increase in total liability shall be passed on the Bidder, whereas any benefits arising owing to such statutory variation in taxes and duties shall be passed on TPC.
- All the terms and conditions of TPC GTC shall be applicable.

### **7.2 Drawing Submission & Approval**

As per annexure - II

### **7.3 Contract Period**

Completion of tender scope of works within 22 weeks from the date of PO.

Managed Services for 7 years.

### **7.4 Warranty Period**

7 Years Warranty and support.

### **7.5 Payment Terms**

#### **A) Milestone based Payment for Supply and Services:**

##### **Supply**

1. 60% of supply payment against supply,
2. 40% of supply payment post successful roll out

##### **Services**

3. 100% Payment of Services post successful roll out.

All payments shall be released within 45 days from the date of completion of individual milestone and submission of error free invoice.

**B) Managed Services for 7 years (On-site technical experts support i.e.,L1 & L2 resources for 24 x 7 operations):**

Quarterly payment in Arrears.

All payments shall be released within 45 days from the date of submission of error free invoice.

**7.6 Liquidated Damages**

LD Shall be applicable @1% per week of delay or part thereof maximum up to 10% of the total OLA value.

**7.7 Contract Performance Bank Guarantee (CPBG)**

1. Supply & Services: 10% of the Total value of Order valid for a period not less than 6 months from the expiry of the Contract period. CPBG shall be submitted within 15 days from the date of award of work as per approved format
2. Managed Services : 10% of the Total value of Order valid for a period not less than 6 months from the expiry of the Contract period. CPBG shall be submitted within 15 days from the date of award of work as per approved format

**7.8 SLA / Performance Requirement and penalties**

As per Scope of Work.

**7.9 Safety Retention**

NA

**7.10 Climate Change**

Significant quantities of waste are generated during the execution of project and an integrated approach for effective handling, storage, transportation and disposal of the same shall be adopted. This would ensure the minimization of environmental and social impact in order to combat the climate change.

**7.11 Ethics**

TPC is an ethical organization and as a policy TPC 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.

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

- We shall select our suppliers and service providers fairly and transparently.
- We seek to work with suppliers and service providers who can demonstrate that they share similar values. We expect them to adopt ethical standards comparable to our own.
- Our suppliers and service providers shall represent our company only with duly authorized written permission from our company. They are expected to abide by the Code in their interactions with, and on behalf of us, including respecting the confidentiality of information shared with them.

- We shall ensure that any gifts or hospitality received from, or given to, our suppliers or service providers comply with our company's gifts and hospitality policy.
- We respect our obligations on the use of third party intellectual property and data.

Bidder is advised to refer GTC attached at Annexure VIII for more information.

Any ethical concerns with respect to this tender can be reported to the following e-mail ID: [mrpatel@tatapower.com](mailto:mrpatel@tatapower.com).

## **8.0 Specification and standards**

As per Annexure II.

## **9.0 General Condition of Contract**

Any condition not mentioned above shall be applicable as per GCC for Supply attached along with this tender at Annexure IX.

## **10.0 Safety**

Safety related requirements as mentioned in our safety Manual put in the Company's website which can be accessed by:

<http://www.tatapower.com>

All Associates shall strictly abide by the guidelines provided in the safety manual at all relevant stages during the contract period.

**ANNEXURE I**  
**Schedule for Items**

Sr No.	Item Description	Qty	Unit	Unit Rate	Applicable Taxes and Duties	Total All Inclusive Value (Rs)	Mention HSN Code
<b>I</b>	<b>Supply of Hardware &amp; Software for Vulnerability Mangament System</b>	<b>1</b>	<b>Lot</b>				
A1	Passive Sensors for OT Cybersecurity System (Hardware+Software) at Substations (refer annexure-3 for details) as per RFP	55	Set				
A2	Central Vulnerability management system for sensors (Hardware+Software) each at DC & DR (refer annexure-3 for details) as per RFP	1	Set				
<b>II</b>	<b>Services</b>	<b>1</b>	<b>Lumpsum</b>				
A3	a) Design, Engineering, Installation, Testing and Commissioning of the proposed passive sensors at site and Central Vulnerability management system and Integrations with other systems as mentioned in the RFP.	1	Lumpsum				
<b>B</b>	<b>Managed Services</b>						
B1	On-site technical experts support i.e., L1 & L2 resources for 24 x 7 operations for 7 Years	7	Annual				

**NOTE:**

- The bidders are advised to quote prices strictly in the above format and for all the line items as mentioned above. Failing to do so, bids are liable for rejection.
- The bidder must fill each and every column of the above format. ***Mentioning “extra/inclusive” in any of the column may lead for rejection of the price bid.***
- No cutting/ overwriting in the prices is permissible.

CONFIDENTIAL

**ANNEXURE II**  
**Technical Specifications**

CONFIDENTIAL

**ANNEXURE III**

**Schedule of Deviations**

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

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

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

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

**Seal of the Bidder:**

**Signature:**

**Name:**

**ANNEXURE IV**

**Schedule of Commercial Specifications**

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

S. No.	Particulars	Remarks
1.	Prices firm or subject to variation (If variable indicate the price variation clause with the ceiling if applicable)	Firm / Variable
1a.	If variable price variation on clause given	Yes / No
1b.	Ceiling	----- %
1c.	Inclusive of Excise Duty	Yes / No (If Yes, indicate % rate)
1d.	Sales tax applicable at concessional rate	Yes / No (If Yes, indicate % rate)
1e.	Octroi payable extra	Yes / No (If Yes, indicate % rate)
1f.	Inclusive of transit insurance	Yes / No
2.	Delivery	Weeks / months
3.	Guarantee clause acceptable	Yes / No
4.	Terms of payment acceptable	Yes / No
5.	Performance Bank Guarantee acceptable	Yes / No
6.	Liquidated damages clause acceptable	Yes / No
7.	Validity (180 days) (From the date of opening of technical bid)	Yes / No
8.	Inspection during stage of manufacture	Yes / No
9.	Rebate for increased quantity	Yes / No (If Yes, indicate value)
10.	Change in price for reduced quantity	Yes / No (If Yes, indicate value)
11.	Covered under Small Scale and Ancillary Industrial Undertaking Act 1992	Yes / No (If Yes, indicate, SSI Reg'n No.)

**ANNEXURE V**

**Checklist of all the documents to be submitted with the Bid**

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

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

## **ANNEXURE VI**

### **Acceptance Form for Participation In Reverse Auction Event**

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

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

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

1. TPC shall provide the user id and password to the authorized representative of the bidder. *(Authorization Letter in lieu of the same shall be submitted along with the signed and stamped Acceptance Form).*
2. TPC will make every effort to make the bid process transparent. However, the award decision by TPC would be final and binding on the supplier.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of TPC, 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 TPC.
6. In case of intranet medium, TPC shall provide the infrastructure to bidders. Further, TPC 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 TPC.
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 TPC 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 TPC.
12. The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all inclusive prices offered during conclusion of the auction event for arriving at Contract amount.

**Signature & Seal of the Bidder**



RFQ No.:

NIT No.: CC26SAS018

**ANNEXURE VII**

**Scope of Work & Service Level Agreement**

CONFIDENTIAL

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**Document Title: Technical specifications – Vulnerability Management System for OT System**

**Document No: SPEC/COMM/FY26/001**

Revision	Date	Description	Approvals		
			Prepared By	Checked By	Approved By
A	02-08-2025	Issued for Review & Comment	Sukalp Kamdi/ Syam Sundar M S	Vivekanandan S	Rupesh Patil
			<i>sukalpKamdi</i>	<i>vivekanandan</i>	<i>rupeshmpatil</i>

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## A1 INTENT OF SPECIFICATION

The TATA Power company Ltd. has its transmission and distribution substations across Mumbai LA. The electric grid operations of T&D are being performed through Centralized SCADA system from Power system control Center. With the growing modernized infrastructure to support smarter, more automated operations, the exposure to cybersecurity risks also increases in the system. Conventional perimeter-based defences may not be sufficient to detect and respond to advanced threats.

To address these challenges, TATA Power intends to deploy an industrial grade OT specific /OT protocol supported Intrusion detection system (passive sensor-based technology) within substation OT environment across Mumbai T&D network and for real-time OT assets visibility, monitoring, detection, and alerting anomaly or malicious detection with mitigation measures for enhancing the situational awareness and supporting incident response which would be integrated along with the enterprise SOC.

The proposed should align with improving cybersecurity posture, ensuring regulatory compliance and protection critical infrastructure without disrupting the operations.

The solution may have the major systems but not limited to

- 1.1 Design, Engineering, Supply of passive sensors, central management console and accessories as per the defined BOM.
- 1.2 Installation and commissioning of passive sensors, central vulnerability management system and integration with the Enterprise SOC and other system as mentioned in the specifications.
- 1.3 Fine-tuning and testing of sensors & the system as per the TATA Power requirement
- 1.4 Maintenance and management of network and security operations post successful commissioning of passive sensors and central management console for period of 7 years.
- 1.5 Hardening of passive sensors and central management system meeting cybersecurity standards viz. ISO 27001 & IEC62443 r& as per Tata power minimum baseline requirement.

The document covers the specific requirements for complete design, detailed engineering, manufacture, supply, inspection & testing at Bidder's work, packing, transportation, loading and unloading, delivery to site, storage at site, handling at site, panel mounting, network infra setup for connecting proposed equipment to local & remote stations, powering up, testing, commissioning, migration of existing services on Automation network, performance testing, handing over of complete network & final documentation.

All equipment, system and services covered under this specification shall comply with all current applicable statutory regulations and safety codes in the locality where the equipment is proposed to be installed. The equipment and systems shall also conform to the latest version of applicable codes and standards on the date of offer made by the Bidder unless otherwise indicated. Nothing in this specification shall be construed to relieve the Bidder of this responsibility.

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**A2 PROJECT INFORMATION**

- 1.0 Owner
  - The Tata Power Company Limited
  - Mumbai
  - Maharashtra, India
  - Tel. 022 – 67172401
  
- 2.0 Location of the site
  - The Tata Power Transmission and Distribution substations across Mumbai & Hydros
  
- 3.0 Climatic conditions
  - 3.1 Temperatures:
    - (a) Maximum dry bulb temperature 36.70 C
    - (b) Minimum dry bulb temperature 18.30 C
    - (c) Design temperature for electrical equipment / devices 500C
    - (d) Design humidity 95%
  
  - 3.2 Relative humidity
    - (a) Maximum during monsoon 100%
    - (b) Minimum during December to January 22%
  
- 4.0 Rainfall
  - Annual average rainfall is about 2500 to 3100 mm (most of which occurs during the monsoon season from June to September)

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### A3 SCOPE OF WORK

The brief scope consists of site survey, Gap assessment , engineering, factory acceptance test, supply, installation, network designing, panel mounting, network infra setup for connecting proposed sensors, powering up, commissioning, connectivity establishment with existing Layer-2 and Layer-3 switches across transmission and distribution stations in Mumbai LA, management of deployed system as per TATA Power baseline requirements, site acceptance testing. Scope also includes Maintaining & Managing passive sensors and central vulnerability management system , post successful commissioning for 7 years. specifications is mentioned in annexure B. Bidder to note that all the drawing/document submissions and approvals shall be given through wrench (Document Management System) only. Training for Thirty persons along with professional level certification in specialization of passive sensor management and configuration shall be given by the bidder to TATA POWER.

### A4 TERMINAL POINTS

Power supply AC/DC will be arranged by the purchaser up to main ACDB/DCDB. Extension of power supply from TATA Power terminal point will be in bidder scope. All necessary MCB's Power distribution panels required to be considered by the bidder appropriately as per site conditions.

Installation, testing and commissioning of passive sensors and central management system, with hardware and software will be in bidder's scope. All necessary services required for supply, laying and testing will be in bidder's scope. Bidder must consider all items required for deploying and commissioning the offered equipment including integration with the applications and all necessary services.

### A5 EXCLUSIONS

NIL

### A6 CODES AND STANDARDS

Refer Specifications Section-B

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**A7 BIDDER'S QUALIFICATION REQUIREMENTS**

Refer Annexure A- PQR- Separately attached with document.

**A8 PROJECT SCHEDULE / MILESTONES**

The Bidder shall provide a detailed implementation schedule indicating major Bidder and Purchaser activities, major completion milestone events, and interdependencies between events. Required Purchaser activities and associated dates must be clearly shown and include interdependencies to the Bidder's scheduled activities. The schedule shall be in terms of months after Receipt of Order (ARO), not absolute dates.

The Bidder shall perform all scheduling activities with Microsoft Project, such that all schedules as periodically transmitted to Purchaser include both hard copy and electronic versions.

Following is the expected delivery schedule. Bidders may propose separate delivery schedule; however, the total time for project completion shall not exceed 120 days from the date of placement of firm purchase order by Purchaser.

<b>Sr. No.</b>	<b>Milestone</b>	<b>Target</b>
1	PO Placement	Zero Date
2	MDL & Project Detailed Project Execution Schedule submission & approval	Within 1 week from Sr. No. 1
3	Architecture and other Drawings, Bill of Material finalization, Functional and Design Specifications submission & approval	Within 2 weeks from Sr. No. 1
4	Procurement clearance of Hardware and Software	Within 1 week from Sr. No. 3
5	Submittal of acceptance Test Plans and Test Procedures	Within 8 weeks from Sr. No. 4
6	Inspection of equipment (FAT)	Within 1 week from Sr. No. 5
7	Delivery of equipment	Within 2 weeks from Sr. No. 6

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8	Completion of installation & commissioning	Within 6 weeks from Sr. No. 7
9	Handover to Purchaser	After 1 week from Sr. No. 8

**Calendar of events:**

Sr. No.	Events	Target
1	Detailed bid documents / hosting of detailed bid documents in Purchaser's ARIBA website	Zero Date
2	Pre-Bid Meeting with Bidders	Within 2 weeks from Sr. No. 1
3	Receipt of pre-bid queries, if any	Within 1 week from Sr. No. 1
4	Posting of Consolidated replies for the pre-bid queries to all bidders	Within 2 weeks from Sr. No. 3
5	System Demonstration by Bidders / Proof of Concept	Within 3 weeks from Sr. No. 1
6	Receipt of Bids	Within 2 weeks from Sr. No. 5
7	Opening of technical bids	Next working day from Sr. No. 6
8	Post bid queries / clarifications	Within 1 week from Sr. No. 7
9	Revised bids final submission (if any)	Within 1 week from Sr. No. 8
10	Date & Time of opening of Price of qualified bids	Will be notified to the successful bidders through our website / mail.

**A9 SUBMISSIONS BY BIDDERS**

Bidder shall submit the following information along with the Technical Bid but not limited

- Dully filled in schedules, listed in section 'C'
- Quality Assurance Plan (QAP), Manufacturing Quality Plan (MQP)
- General Arrangement Drawings for equipment offered
- Filled up Data Sheets
- Qualifying Requirements supporting documents

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- Type test Reports
- Stamped detailed technical specification
- Detailed Proposed system architecture and BOQ
- Technical design document
- Functional design document
- Integration design document with existing System.
- Authorization Letter from OEM.
- Compliance checklist as per Cybersecurity standards.
- Undertaking documents as per PQR

#### **A10 DETAILED TECHNICAL SPECIFICATIONS\***

Refer Specifications Section-B

#### **A11 LAYOUT REQUIREMENTS**

- Bidder to submit proposed detailed system architecture & integration plan with existing Tata Power communication system across T&D substations in Mumbai LA.

#### **A12 QUALITY REQUIREMENTS**

Refer Technical Specifications Annexure-B

#### **A13 PERFORMANCE REQUIREMENTS**

- Proposed passive sensors-based solution should meet following performance requirements and should be able to provide a highly accurate asset inventory discovery and real-time cyber security monitoring of OT network and devices across Transmission & Distribution sub stations but not limited to
- Bidder also shall refer the GTP & success criteria for more details to meet the overall system performance & its requirement

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## 1.0. Network Traffic Capture Performance

- 1.1. **Packet Capture Rate:** The system should achieve a minimum packet capture rate as per Annexure-2 of Section B on all deployed sensors to ensure complete capture of network traffic without data loss.
- 1.2. **Capture Fidelity:** Sensors must capture complete packet data (headers and payloads) with minimal latency to facilitate comprehensive traffic analysis.
- 1.3. **Packet Buffer Size:** Sensors should have sufficient buffer size to handle bursts in network traffic and prevent data loss during peak network activity.

## 2.0. System Throughput and Latency

- 2.1. **Central Collector Throughput:** The central collector should be able to handle the aggregated traffic data from all deployed sensors without significant performance degradation. Throughput requirements will depend on the overall network size and traffic volume, but a target of throughput as per Annexure-2 in Section B is recommended for future scalability.
- 2.2. **Data Processing Latency:** The system should minimize latency between packet capture and data availability for analysis at the central collector. Aim for a latency of less than 1 second to enable real-time threat detection and incident response.

## 3.0. Scalability and Availability

- 3.1. **Sensor Scalability:** The system architecture should allow for seamless addition of new sensors as the network expands or new substations are integrated.
- 3.2. **Central Collector Scalability:** The central collector software and hardware should be scalable to accommodate increased data volume and maintain performance with additional sensors.

## 4.0. Security Performance

- 4.1. **Data Encryption Strength:** The system must utilize strong encryption algorithms (e.g., AES-256) for data transmission between sensors and the central collector to ensure data confidentiality even in case of network breaches.
- 4.2. **Authentication and Authorization Performance:** User authentication and authorization processes should be efficient and not impede legitimate user access.

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to the system. Consider multi-factor authentication for central management console access for enhanced security while maintaining usability.

**4.3. Logging and Auditing Performance:** The system should be able to generate logs efficiently without impacting overall system performance. System to be compatible for log forwarding to a centralized SIEM system for long-term storage and analysis.

**5.0. Performance Monitoring and Reporting**

**5.1. System Health Monitoring:** The system should provide real-time monitoring of sensor health, network traffic volume, and system resource utilization.

**5.2. Performance Reporting:** Generate reports on system performance metrics, including packet capture rates, latency, and resource utilization, to identify potential bottlenecks and optimize system configuration.

**6.0. Integration Considerations**

**6.1. API Performance:** If the system offers APIs for integration with SIEM or other security tools, ensure adequate performance to handle data exchange without impacting core functionalities.

**7.0. Testing and Validation**

**7.1.** The vendor should provide a comprehensive testing plan to validate the system's performance against these specifications. This may include load testing, security testing, and integration testing with existing network infrastructure.

- Bidder must provide compliance to all the points mentioned above and would be mandatory for acceptance of the technical proposal.

**8.0. Guaranteed Technical Particulars**

Sr.NO	Parameter	Technical Specification
1.	Asset discovery	Automated asset discovery at any given should not be less than 70% of the actual asset under monitoring.w.r.t the below parameters: (i) Make (ii) Model (iii) Firmware installed with version (iv) Hostname (v) IP address/MAC address (vi) Communication protocol

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		<p>(vii) Asset type (viii) Last seen/used</p> <p>Connections between assets shall be displayable graphically with the ability to filter based on:</p> <ul style="list-style-type: none"> <li>• Protocol</li> <li>• Inter-zone communication</li> <li>• Inter-level (skipping Purdue Level)</li> <li>• Unlearned communications</li> <li>• TCP Retransmissions</li> <li>• Transferred Bytes</li> <li>• Firewallled communications</li> </ul> <p>Any addition of new asset in the existing Tata Power network, to be reflected/completely detected in the proposed system within time frame not more than 24hrs.</p> <p>a) <b>Data Gathering Techniques:</b> Passive scan, Safe Active query (Manual), Active Directory etc. Able to perform passive network traffic analysis and discover of all devices IT, OT, IOT, both with and without IP (serial connected devices using Modbus protocol). provide portable collectors to gain visibility of assets connected in unmanaged switch environment where passive monitoring is not feasible.</p> <p>b) <b>Range &amp; Protocol:</b> Able to support varied range of IT, OT and IOT devices and their protocols. Allows to set IP range for active probing. Network connection through SPAN / Port Mirror / ERSPAN through managed switches, TAP with non-intrusive query.</p> <p>c) Able to group and classify assets by their functionality viz Server, RTU, IED, Router etc. Should provide filter on parameter / labels.</p> <p>d) Add new parameter/fields for asset tagging like location, category, etc</p> <p>e) Set baseline for physical assets, their parameters and network.</p> <p>f) Support OT T&amp;D Grid specific OEMs like Hitachi Energy (ABB), GE, Siemens, Schneider, etc</p>
2	Network	<p>a) Communications between assets shall be displayable in tabular form with metrics such as:</p> <ul style="list-style-type: none"> <li>• From Asset</li> <li>• To Asset</li> <li>• From Zone</li> <li>• To Zone</li> <li>• Level 4 Protocol</li> <li>• Level 7 Protocol</li> <li>• First Activity Time</li> <li>• Last Activity Time</li> <li>• Throughput</li> <li>• Transferred Bytes</li> <li>• Transferred Packets</li> <li>• Average Packet Size</li> <li>• Handshake Connections</li> <li>• Handshake Connection Attempts</li> </ul>

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		<ul style="list-style-type: none"> <li>• Is To Public Address</li> <li>• Is From Public Address</li> <li>• Bandwidth utilized</li> <li>• Top-10 communicating assets with source and destination address.</li> </ul> <p>b) Support and read traffic conversations in both IT &amp; OT protocols (IEC 61850, IEC 60870-5-104, TCP\IP, Modbus, MMS, Goose etc)</p> <p>c) Create network baseline for traffic pattern</p> <p>d) Should detect any behavior change in network pattern or traffic</p>
3	Vulnerability, Threat and Risk	<p>a) Solution shall be able to perform vulnerability assessment of assets in layer 1,2,3 as per Purdue model.</p> <p>b) For each CVE, active threat intelligence shall be provided indicating following at a minimum:</p> <ul style="list-style-type: none"> <li>• Exploit Code Maturity,</li> <li>• Vulnerability Age &amp; Product Coverage,</li> <li>• Threat Intensity By Malicious Actors,</li> <li>• Threat Activity Regency, And Sources Of Threat Information.</li> </ul> <p>c) Define a minimum baseline security standard (MBSS) to be followed across the entire network. MBSS provided shall be customizable.</p> <p>d) Solution shall provide a sortable, filterable tabular listing of all vulnerabilities (CVEs) specific to the assets within the monitored network together with their CVSS score. Vulnerabilities of devices and software not forming part of the monitored network shall not be shown. Clicking on a vulnerability shall provide details of each vulnerability including:</p> <ul style="list-style-type: none"> <li>• CVSS Score</li> <li>• Summary description of the CVE</li> <li>• Matching CVEs</li> <li>• Source(s) of CVE Information</li> <li>• Discovery date</li> <li>• Update date</li> </ul> <p>e) <b>Risk Alert:</b> Solution should be able to throw alert on End of Life / Sale, known vulnerabilities, External communication, USB (connected \ Open), Hardware, software ports,</p> <p>f) <b>Threat Alert:</b> Denial Of Service, Failed Login, Host Scan, Know Threat Alerts(Malware/Bot/Ransomware), Port Scan, Suspicious Files Transfer, signature and host based.</p> <p>g) <b>Threat action &amp; Correlation:</b> It should have Ability to disable individual Signatures, Ability to add customer Signatures, Ability to add third party Signatures. Also, it should have AI-Based Anomaly Detection capability and discovery of Unknown Threats. correlation to provide detailed insight and rapid remediation</p>
4	Anomaly detection	<p>a) Anomaly-Based Intrusion Detection shall alert on the following baseline deviations:</p> <ul style="list-style-type: none"> <li>• New global function code</li> <li>• New asset function code</li> <li>• New global MAC vendor</li> </ul>

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		<ul style="list-style-type: none"> <li>• New global variable producer</li> <li>• New communication link between two nodes</li> <li>• New ARP request</li> <li>• New MAC address</li> <li>• New OT device</li> <li>• New network device (switch, router etc.)</li> <li>• New asset protocol</li> <li>• New OT variable</li> <li>• New OT variable value (exceeds learnt max/min)</li> <li>• New variable cycle period</li> <li>• New protocol cycle (cyclical read/write has changed cycle period)</li> <li>• New internet navigation</li> <li>• New scan of non-existing variables</li> </ul> <p>b) <b>Alerts</b> at following:</p> <ul style="list-style-type: none"> <li>• <b>Assets:</b> Inactive / not communicating, Install new / Change / Removal of asset.</li> <li>• <b>Configuration:</b> Change in firmware / Code, Exceed threshold values</li> <li>• <b>Network:</b> Change in network path, Port (Open / close / Scan), ARP Scan, etc, Malicious combination of source / destination / ports / protocols etc (For Example: RDP, SSH and Telnet connections (together or separately) made to engineering stations, originating from outside the local network), IP conflict.</li> <li>• <b>Accessibility:</b> Failed login attempts, un-authorized authentication, malicious reconnaissance or IP theft activity,</li> <li>• Any of Blacklisted (Network Port / Protocols, Host / IP Address)</li> <li>• Activities performed by Non-White listed IP (Network Port / Protocols, Host / IP Address)</li> <li>• Write command of tag / group of pre-defined tags.</li> <li>• changes (Including download / upload) during work hours and non-hours,</li> <li>• malicious combination of sources / destinations / engineering station commands / un-schedule activities (Firmware download, non-working hours etc)</li> <li>• Any traffic or communications with blacklisted networks/ports, hosts or IP addresses.</li> </ul>
<b>5</b>	Network integrity	The Solution shall provide the ability to alert on the following communication metrics: <ul style="list-style-type: none"> <li>• High TCP retransmission rate</li> <li>• Increased throughput</li> <li>• Decreased throughput</li> <li>• Stopped communications</li> <li>• Unexpected communication paths</li> </ul>
<b>6</b>	Integration and Services	The Solution offered must be integrated with the following: <ol style="list-style-type: none"> <li>a) existing enterprise SOC.</li> <li>b) existing U-NMS tool and ITSM tool.</li> </ol>

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		c) Traffic required for communication of sensor with the central management and also with the SOC must pass through the existing deployed Next Generation Firewalls and Data Diode. d) Alerting over Corporate SMTP servers. e) Integrable with the existing OT Active Directory (AD server). f) Capable to use APIs (REST, JSON) for 3 <sup>rd</sup> party integration and access/transfer data
<b>7</b>	Scalability, Reporting and Dashboard	a) Solution shall provide <ul style="list-style-type: none"> <li>• Reports of Above-Mentioned Use case,</li> <li>• Capability to Customize Report,</li> <li>• Scheduling and Mailing Capability,</li> <li>• Expanding License Keeping Future Assets and Upcoming sites.</li> <li>• Logs For Forensic Analysis Up to Min 6 Months.</li> </ul> b) Scalable to add new device, grid / sub-station, network, subnet, without any change in database and storage. c) Scalable to add storage into existing system and move data onto external storage device, for reporting and forensic purposes.
<b>8</b>	Compliance framework	a) MITRE Attack, NIST, IEC 62443, NIST-CRP, CERT-IN, etc. b) Encryption level and server hardening certificate. c) Solution should be deployed on hardened OS and inherent security controls for secure accessibility d) Hotfix / patch / upgrade to Operating system, (provided by OEM) of hosting environment for next 7 years.

**A14 MAINTENANCE REQUIREMENTS**

The Offered system should be maintenance free/minimum maintenance systems. Any maintenance required with periodicity should be clearly mentioned in the BID offer. Bidder is required to maintain critical / emergency spares at factory works required on site to attend breakdown & meet SLA criteria. RMA for the failed device should be delivered within 1 week after the compliant raise.

**A15 TOOLS AND TACKLES FOR ERECTION AND COMMISSIONING**

Bidder should clearly specify and offer any test tools required for day to day maintenance of the Network. This tools should include physical test tools and software test tools such as central management system as applicable to the offered system. Software requirement for packet capturing & bandwidth measurement.

**A16 SPARES**

Bidder to consider minimum 5% spares of the offered equipment as indicated in the BOQ attached also bidder to consider and propose additional spares as required to maintain the system but are not part of the tentative BOM.

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**B1 – DATA SHEETS**

Refer Specifications Section-B- Technical specifications – Vulnerability Management System for OT Systems

**B2- STANDARD SPECIFICATIONS**

Refer Specifications Section-B- Technical specifications – Vulnerability Management System for OT Systems

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**C1 - SCHEDULE OF QUANTITIES AND PRICES**

Refer attached BOQ excel sheet – Attached as Annexure C

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**C2- PROJECT TIME SCHEDULE**

**Bidder should submit the schedule for Supply and Inspection of system along with Bid documents.**

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Note: The bidder shall indicate schedule of milestones and also attach/furnish a detailed bar chart identifying customer inputs.

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**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:

<b>Sr. No.</b>	<b>Clause No.</b>	<b>Details of deviation with justifications</b>
-----	-----	-----

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

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**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:

<b>Sr. No.</b>	<b>Clause No.</b>	<b>Details of deviation With justifications</b>
-----	-----	-----

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

Seal of the Company

Signature

Designation

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**C5- SCHEDULE OF DRAWINGS & DOCUMENT SUBMISSION**

As part of the proposal, the BIDDER shall furnish the schedule of drawing/document submission in wrench (Document Management system)

Sr. No.	Title of Drawing/Document	Target Date of submission	For Information/Review/Approval	Remarks
1.0				
1.1				
1.2				
2.0				
2.1				
2.2				
3.0				
3.1				
3.2				

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**C6- SCHEDULE OF MANDATORY SPARES**

As part of the proposal, the BIDDER shall indicate below the list of mandatory spares for five years of trouble free operation of the equipment/system offered by him.

Sr. No.	Equipment tag no.	Description of spare	Material of construction	Part no	Quantity recommended per unit of equipment	Unit price	Total price	Delivery period from date of LOI	Remarks

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Signature

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**C7 - SCHEDULE OF SPECIAL ERECTION/MAINTENANCE TOOLS & TACKLES- NOT APPLICABLE**

As part of the proposal, the BIDDER shall indicate below, the list of erection/maintenance tools(hardware ,Software, Appliances) & 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

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**C8 - SCHEDULE OF PLACES OF MANUFACTURE, TESTS AND INSPECTION**

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

<b>ITEM OF EQUIPMENT</b>	<b>Manufacturer / SUBCONTRACTOR</b>	<b>PLACE OF TESTING &amp; INSPECTION</b>

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**C9- SCHEDULE OF RECOMMENDED SPARES- NOT APPLICABLE**

As part of the proposal, the BIDDER shall indicate below the list of recommended spares for Fiveyears of trouble free operation of the equipment/system offered by him.

Sr. No	Equipment tag no.	Description of spare	Material of construction	Part no	Quantity recommended per unit of equipment	Unit price	Total price	Delivery period from date of LOI	Remarks

Seal of the Company

Signature

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**D- DRAWINGS AND DOCUMENTS**

**D1 TENDER PURPOSE**

**D2 AFTER AWARD OF CONTRACT**

All the drawings and documents shall be through wrench system only

**E - ANNEXURES**

Technical PQR separately attached.

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**Document Title: Technical specifications – Vulnerability Management system  
for OT system**

**Document No: SPEC/COMM/FY26/001**

Revision	Date	Description	Approvals		
			Prepared By	Checked By	Approved By
A	02/08/2025	Issued for Review and Comments	Sukalp Kamdi/Syam Sundar M S  <i>SukalpKamdi</i>	Vivekanandan Sivasankaran  <i>vivekanandan</i>	Rupesh Patil  <i>rupeshmpatil</i>

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6.0	Design Requirement
7.0	Specifications for Passive Sensors
8.0	Maintenance Requirement / Guaranteed Technical Particulars
9.0	Training Requirement
10.0	Technical parameter of Equipment (including Data Sheet)
11.0	Performance Requirement
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## 1.0 INTRODUCTION

The TATA Power company Ltd. has its transmission and distribution substations across Mumbai LA. The electric grid operations of T&D are performed by Power System Control Center centrally through Automation systems. TATA Power intends to deploy passive sensor based technology across its T&D Mumbai network for real-time OT assets monitoring and anomaly detection which would be integrated along with the SOC.

Below listed T&D substations are proposed to have passive sensors for real-time monitoring with quantity of Layer-2 switches to be spanned for monitoring complete OT assets as per Annexure-2.

Following are the major systems to be considered for this project

- Supply of passive sensors, central management console and accessories as per the defined BOM.
- Installation and commissioning of passive sensors, central management console and integration with the SOC.
- Fine-tuning and testing of sensors as per the TATA Power requirement
- Maintenance and management of network and security operations post successful commissioning of passive sensors and central management console for period of 7 years.
- Hardening of passive sensors and central management console as per ISO 27001 cyber security standards & as per Tata power minimum baseline requirement.

The document covers the specific requirements for complete design, detailed engineering, manufacture, supply, inspection & testing at Bidder's work, packing, transportation, loading and unloading, delivery to site, storage at site, handling at site, panel mounting, network infra setup for connecting proposed equipment to local & remote stations, powering up, testing, commissioning, migration of existing services on Automation network, performance testing, handing over of complete network & final documentation.

All equipment, system and services covered under this specification shall comply with all current applicable statutory regulations and safety codes in the locality where the equipment is proposed to be installed. The equipment and systems shall also conform to the latest version of applicable codes and standards on the date of offer made by the Bidder unless otherwise indicated. Nothing in this specification shall be construed to relieve the Bidder of this responsibility.

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## **2.0 BIDDER'S QUALIFICATION REQUIREMENTS**

### **2.1 Bidder's Qualifying Requirements:**

[Refer Annexure A \(separately attached document\) - Prequalification Requirement.](#)

## **3.0 SYSTEM DESCRIPTION AND SCOPE**

The TATA POWER Co. Ltd. is a century old power utility which is involved in electricity Generation, Transmission & Distribution. Remote monitoring & Control of substations is done centrally by PSCC through SCADA system. Connectivity required for remote monitoring & control of substations is provided through Automation WAN network across Mumbai and hydros region. Currently TPC has MCC (Trombay) & BCC (Dharavi) Data centers deployed for aggregating of all OT traffic to server infra at both primary & backup datacentre & thus providing connectivity to PSCC for remote operations of all stations. Project scope includes survey, planning, supply, inspection, designing, configuration & commissioning of passive sensors and integration with layer 2, layer 3 switches, firewalls and central management through a single console.

- 3.1 Material delivery locations are to be considered by Bidder as per following table: Bidder to note that the locations are tentative which may change during detailed engineering.
- 3.2 The indicative BOM (**Refer Annexure- 2**) is attached with this document for bidder's consideration with respect to make, model and required quantity.
- 3.3 Bidder to provide compliance for every clause of the technical specification.
- 3.4 It is recommended bidder shall visit the site for finalization of BOM for the respective stations. The final BOM along with detailed architecture shall be submitted by the bidder before placement of the order by purchaser.
- 3.5 Bidder scope includes installation, configuration & commissioning of passive sensors and central management console at respective sites. Necessary configuration and fine-tuning of the sensors as per TATA Power baseline requirements. Integration with the SIEM and SOAR solutions of the SOC.
- 3.6 Bidder scope also includes and is responsible for complete integration, testing & demonstration of required functionality at individual sites.
- 3.7 Scope includes recommendations for any configuration changes to be made in installed existing systems across TATA Power Network (such as L2 and L3 switches) for the seamless integration and improvement in obtaining the desired results and functionalities.
- 3.8 Passive infra setup like armoured CAT6 cables laying, preparation and punching. Power supply wiring from the MCB is in the scope of bidder. Supply and services of all required material and accessories to establish connectivity at all transmission and distribution sub stations are to be considered.

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- 3.9 Bidder is expected to carry out complete panel dressing, tagging of patch chords / CAT6 cables from respective L2 / L3 switches patch panels to the passive sensors.
- 3.10 Bidder shall study existing network & should layout clear strategy for implementation and integration of passive sensors with the existing network. Bidder should prepare & submit day wise plan for the complete project.
- 3.11 Bidder shall study the existing Substation automation/OT architecture in terms of type of architecture (RSTP, PRP, HSR, Star/radial), communication protocols & its traffic flow and suggest the spanning accordingly for the better accuracy of the asset discovery as well as anomaly detections.
- 3.12 Further, spanning on the existing Layer-2 Switches at substation level for sensor connectivity should not affect & hamper the performance of the system viz. Protection functions, of the IED, Automation equipment and SCADA system. Bidder to ensure the same.
- 3.13 Bidder shall provide detailed implementation & testing plan for proposed implementation. It shall include detailing of IP addressing, connectivity details, integration and testing plan.
- 3.14 Bidder will be responsible for end-to-end testing of services.
- 3.15 Bidder to submit the detailed architecture drawing for proposed network. The drawings should include high level connectivity diagram of L2 switches, L3 switches, firewalls, servers etc.
- 3.16 Bidder shall consider scope of integration of proposed passive sensors with Radius server for authentication, Central Management console for management, NMS server for real time monitoring of device healthiness, Syslog server (SIEM).
- 3.17 Bidder should provide library of all correlation rules related to supplied sensors and management console which can be adopted in SIEM solution.
- 3.18 Proposed sensors shall be fully compatible with various make OEM Managed Layer 2 and Managed Layer 3 switches but not limited to like Allied Telesis, Juniper, Hirschmann, Moxa, Ruggedcom, Cisco, Garetcom etc., Bidder should submit detailed integration compliance for seamless integration of offered sensors with existing network.
- 3.19 Demonstration / testing of the system at OEM works (FAT), before dispatch of the system at site. This testing will include TATA Power engineer physically witnessing the FAT.
- 3.20 Testing of the system as per approved design outcomes, healthiness checks of all configured channels using appropriate test instruments in presence of TATA power engineers.
- 3.21 Bidder shall submit typical general arrangement drawings for the supplied equipment along with fitting arrangement.
- 3.22 Bidder shall submit detail documentation of project (such as IP addressing, detailed network architecture showing all connectivity's including uplink & applications, individual site connectivity, backup, inventory list of all installed equipment).

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- 3.23 Offered product should be cyber secured and should be well protected from cyber threats identified. Further security updates and patch upgrades to be considered by bidder for minimum period of 7 years at no additional cost.
- 3.24 Bidder shall supply the passive sensors with latest tested version of firmware. Bidder will be solely responsible to resolve any bug observed in firmware during testing or operation phase & should resolve same as per SLA.
- 3.25 Offered product should meet IETF, ITU, Cyber security (CBIP) standards, MTCTE certified & other performance parameters.
- 3.26 Offered product should be tested for vulnerabilities as specified by leading cybersecurity agencies at global level.
- 3.27 OEM shall provide minimum 10 years support & spares for offered product. Bidder shall provide product lifetime cycle details & provide undertaking from OEM for the same.
- 3.28 The offered product should have been in satisfactory commercial operation in a large network of at least 5 Nos. power utilities (primarily T&D substation environment) for a minimum period of 3 years as on scheduled date of the bid opening. Bidder shall provide performance certificate from minimum 3 different customers and arrange de-brief call with the customers selected by Tata Power for verification of performance
- 3.29 The offered product shall comply to all open protocols and compatible with all other OEMs product. Any interoperability issues arising during commissioning and during guarantee period, bidder shall undertake to resolve as per agreed SLA.. Any other critical issues related to performance, Software/Device bugs observed during commissioning / post commissioning shall be attended by bidder as per agreed SLA..
- 3.30 Bidder shall perform POC of offered product to qualify for further bid process. In case Bidder is not performing POC / failure of POC during demonstration will lead in rejection of bid.
- 3.31 Suitable test certificates from accredited agency should be submitted by bidder with product offer.
- 3.32 Bidder shall provide undertaking that offered product will be in support for next 10 years & Bidder will ensure that all spares related to offered product will be available during this period. In case bidder declares end of life or support for offered product, Bidder must provide replacement of equivalent product at no extra cost to Tata Power.
- 3.33 Bidder shall include TAC support as a part of project scope along with onsite engineer for period of 7 years to take care of O&M, BAU activities of deployed network.
- 3.34 Bidder to appoint a dedicated project manager with the in the relevant ICS cyber security domain and solutions (e.g. CISSP, GICSP, GRID, OSCP and product specific certifications) for all members who will be handling ICS asset and related cyber security scope.
- 3.35 Bidder must have at least a team of minimum 5 engineers who are working on OT SOC passive sensor with a minimum experience of 3 years on OT SOC passive sensor.

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- 3.36 Bidder shall share escalation matrix & TAC support details of technical support team. Bidder shall provide undertaking of providing 24\*7 technical support in case of system breakdown / critical cyber incident issues. Also, Bidder shall ensure that all updates, patches, security features are installed regularly on offered product with no additional cost to TATA Power. It will be responsibility of successful bidder to ensure proposed products and system is up to date during warranty period.
- 3.37 Bidder must have support service centre in India to cater after sales services & any issues/breakdowns arising post commissioning to be addressed as per agreed SLA. If bidder is not having service centre in Mumbai, bidder should confirm earliest date by which such facility will be made if contract is successful.
- 3.38 Bidder shall note that all technical support facilities including qualified manpower (Engineers & Technicians), testing tools and instruments and integration facilities should be available within Mumbai. No remote support will be provided.
- 3.39 Bidder shall clearly mention delivery timelines of offered product.
- 3.40 All requirements should be made clear during the site visit and in the offer made by the bidder. Any other requirements coming up during later stages after award of contract will strictly not be accepted and will be to bidder's account.
- 3.41 Submission of all project documents design, as built will have to be submitted by the bidder in appropriate soft and hard copy formats.
- 3.42 All engineers deputed at site along with technicians should be well trained and should abide by all safety protocols laid down by TATA Power. Successful bidder will be responsible for carrying out the necessary documentation required for enabling vendor teams to work in TATA Power premises (it will include submission of docs like PF, ESIC, Medical insurance, fitness certificate, Police verification & other documents prescribed by Tata Power admin team time to time during entire project duration of 7 years.
- 3.43 Transportation of material to individual site along with manpower will be in bidder's scope.
- 3.44 FAT and SAT Checklist and documentation should be submitted in advance by the bidder for approval by Tata Power.
- 3.45 FAT and SAT testing of the system as per approved design outcomes, healthiness checks of deployed configuration using appropriate test instruments in presence of TATA power engineer.
- 3.46 Integration of sensors to central management console and with SIEM and SOAR solutions of the SOC.
- 3.47 Final documentation shall be submitted by bidder for each substation.

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**4.0 CODES AND STANDARDS**

The design, manufacture and performance of the passive sensors shall comply with all the requirements of the latest editions of international codes and standards applicable.

Equipment / Module		Standards
OT Passive Sensor	Environmental condition	Operating temperature range: 0 to 50 degree Celsius Storage temperature range : -10 to 70 degree Celsius  Operating relative humidity range 5 to 90% non-condensing  Storage relative humidity range 5 to 90% non-condensing
	Electrical compliances	EMC: EN55022 class A, FCC class A, VCCI class A, ICES-003 class A  Immunity:EN55024,EN61000-3-levels 2 (Harmonics), and 3 (Flicker) – AC models only
	Safety	Standards: UL60950-1, CAN/CSA-C22.2 No. 60950-1-03, EN60950-1, EN60825-1, AS/NZS 60950.1 Certification: UL, cUL, TUV
	RoHS Compliance	EU RoHS compliant
	Cyber security compliance	IEC 62443
	Power supply	DC Voltage range- 37 to 55vdc  AC Voltage range- 100 to 240vac  Frequency- 47 to 55 Hz

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**5.0 SPECIAL NOTES TO BIDDER**

- 5.1 Bidder is required to depute OEM / certified engineer during entire project setup & till handover. Thereafter Bidder can depute OEM Certified security engineer at site for site visit, commissioning, configuration, testing and handing over the system to the purchaser.
- 5.2 Bidder is required to follow all compliance required for gate pass permission at all TATA POWER transmission stations.
- 5.3 Successful bidder team must follow the safety procedures laid down by TATA POWER and must undergo all necessary trainings specified for carrying out such jobs. All fees for such training will be to bidder's account.
- 5.4 Bidder shall provide detailed description of project management plan & proposed core team for commissioning & maintenance.

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**6.0**      **DESIGN REQUIREMENTS**

Compatibility with the existing purchasers network equipments, firewalls and OT devices.

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## **7.0 SPECIFICATIONS FOR PASSIVE SENSORS**

- 7.1.1 The passive sensor shall be either rack mountable (19 inch) / din-rail mountable with minimum 8 ports for large network stations, 4 ports for medium network stations, 2 ports for small network stations. However, bidder to consider the port sizing and sensors quantity as per the detailed engineering for each site.
- 7.1.2 Passive sensor should have power supplies of either AC (230V AC) or DC (37-55V DC) power supply. DC supply variant is more desirable.
- 7.1.3 Passive sensor shall comply to following temperature performance parameters.  
Operating Temperature- min 0 to 50 degree C.  
Storage Temperature- min 0 to 70 degree C.
- 7.1.4 Sensor shall support optical diagnostics monitoring for all SFP ports. Sensor shall support third party SFP makes with diagnostic feature support.
- 7.1.5 Sensor shall be manageable and support web-based GUI /CLI for management.
- 7.1.6 Passive sensor shall support strong event logging function & facility to integrate with syslog server. Sensor shall support logging of all events of traffic, new connection, anomalous behaviour etc.,
- 7.1.7 Sensor shall have capability of advance debugging & diagnostic.
- 7.1.8 Sensor shall support SNMP v3 for management.
- 7.1.9 Sensor shall support advance monitoring functionality like Netflow & sFlow.
- 7.1.10 Sensor shall support NTP protocol.
- 7.1.11 Sensor shall have USB port & SD card for backup & restore functionality.
- 7.1.12 The sensor must support Ethernet interfaces based on IEEE 802.3, IEEE 802.3u, IEEE 802.3z, IEEE 802.3ab and IEEE 802.3ae.
- 7.1.13 The passive sensor SFP port must support any combination of 100FX, 100BX, 1000SX, 1000LX, 1000ZX.

### **Safety standards**

- 7.1.14 The sensor must comply with Restrictions on Hazardous Substances (RoHS).
- 7.1.15 The sensor must comply with the following Safety Standards: UL60950-1, CAN/CSA-C22.2, No. 60950-1-03, EN60950-1, EN60825-1, AS / NZS 60950.

### **Passive Sensor and Central Manager Capabilities**

- 7.1.16 Utilize passive traffic analysis techniques (e.g., LLDP, CDP) to automatically discover and identify connected devices on the network.
- 7.1.17 Extract device details like IP address, MAC address, vendor, model, operating system (if applicable), and firmware version.

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- 7.1.18 Maintain an accurate and dynamic asset inventory for complete network visibility. Should be capable to detect new devices and alert.
- 7.1.19 Employ fingerprinting and behaviour analysis to classify discovered devices based on their communication patterns and protocols used.
- 7.1.20 Categorize devices as Intelligent Electronic Devices (IEDs), serial to Ethernet converters, Serial Communication Devices (SCDs), SCADA gateways, Remote Terminal Units (RTUs), Bay Control Units/Protection Units (BCU/BCPU), Operator Workstations, Data Concentrators, Field Remote Terminal Units (FRTUs), metering devices, and other network components.
- 7.1.21 Post discovery of the OT asset, the proposed solution shall be capable enough to analyse & suggest on the available mitigation measures against anomaly detections as recommended by the OEM
- 7.1.22 The architecture of the offered system must be such that only the meta-data is communicated by the sensor to the central management console and no other network data from sensor to the management console is envisaged thus ensuring security compliance and avoiding network/traffic congestion.
- 7.1.23 Decrypt and analyze traffic for a wide range of OT communication protocols commonly used in T&D substations, including IEC 61850, DNP3, Modbus (Serial and TCP/IP), IEC-103, IEC 60870-5-101/104, IoT based protocols device role, type of asset etc..) via real time passive monitoring of network traffic (e.g. network packet captures, NetFlow and firewall traffic data).
- 7.1.24 Platform shall identify all types of Operational Technology (OT) assets (e.g. I/O devices, PLC, RTU, IED, SCADA Gateways, protocol converters, Data concentrators, metering devices etc.) via real time passive monitoring of network traffic (e.g. network packet captures, netflow and firewall traffic data).
- 7.1.25 Platform shall identify all types of Internet of Things (IOT) assets (e.g. cameras, sensors, smart devices, building management systems via real time passive monitoring of network traffic.
- 7.1.26 Shall identify IT, IOT and OT operating system / firmware type and version via real time passive monitoring of network traffic (e.g. network packet captures, netflow and firewall traffic data).
- 7.1.27 Shall discover both devices inside the monitored network as well as conversations to devices that are outside of the deployed network.
- 7.1.28 The solution should do passive asset inventory of network assets capturing traffic at a Windows, Linux, based endpoint sensor.
- 7.1.29 The solution should do active asset inventory, polling for asset details by a Windows, Linux, based endpoint sensor.
- 7.1.30 The solution should do endpoint data inventory, including software, hardware, vulnerability, and performance by a Windows, Linux, based endpoint sensor.
- 7.1.31 The solution should correlate network traffic activities with specific endpoint processes and user's activities.

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- 7.1.32 The solution should passively monitor networks for threat detection by a Windows, Linux based endpoint sensor.
- 7.1.33 The solution should detect of the use of endpoint USB devices by a Windows, Linux, based endpoint sensor.
- 7.1.34 The solution should provide monitoring, asset inventory and triangulation in wireless networks including WIFI, Bluetooth, IEEE 802.15.4, LoRa WAN, Zwave, Cellular and Drones communications.
- 7.1.35 The solution should provide complex wireless attack detection including WiFi, Bluetooth, IEEE 802.15.4, LoRa WAN, Zwave, Rogue Antenna attacks (Cellular), Drone presence.
- 7.1.36 The solution must detect persistent malware/threats in the system and traversing across the network.

#### **Network Visualization / Mapping**

- 7.1.37 Automatically generate network topology diagrams based on discovered devices and their connections.
- 7.1.38 Offer visualization options based on different methods like physical layout, logical connectivity, and Purdue Model segmentation.
- 7.1.39 Enable dynamic updates to the network diagram as the network topology changes.
- 7.1.40 System to be capable to display real time traffic flow in the discovered network and should be able to point out any anomaly in the network.
- 7.1.41 Mapping component shall match VLAN ID and automatically assign nodes to respective zones for virtual segmentation.
- 7.1.42 Shall assign VLAN ID to nodes when VLAN Tagging is not preserved in mirroring of the traffic.
- 7.1.43 Shall be real time via passive network monitoring techniques.
- 7.1.44 Mapping component shall provide a topology (functional and / or network based) map of all assets and communications, allowing for the specification of asset groups and network zones.
- 7.1.45 Shall identify communication flows (e.g. source and destination IP addresses and service ports, and protocol) and direction of flows via passive analysis of network traffic data (e.g. network packet captures, netflow and firewall traffic data).
- 7.1.46 Shall support the viewing of minimum 1000 devices in real time without performance degradation.
- 7.1.47 Shall support at least 50 different industrial protocols.
- 7.1.48 Communication mapping to the supported protocols should also imply that all protocols can be monitored concurrently, without need to manually enable/disable protocol(s) for monitoring.
- 7.1.49 Where applicable, shall provide ICS communication link mapping including relevant function codes and process variables information.

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- 7.1.50 Mapping component shall include detection of controller/device configuration changes, modifications, device starts/stops.
- 7.1.51 Shall provide detection of firewalled traffic and high retransmission rates.
- 7.1.52 Mapping component shall provide link statistics including throughput, retransmission rates and total transfer rate.
- 7.1.53 Mapping component shall provide session tracking and statistics.
- 7.1.54 Mapping component shall provide a timeline of events happening in the network, and the capability of comparing different baseline snapshots in time.
- 7.1.55 Mapping component shall include an SDK for creation of parsers for custom or proprietary protocols.
- 7.1.56 Platform shall include capability to ingest packet captures and display those as if the network were being monitored real time.
- 7.1.57 Platform shall provide the option to show how the map looked in the past time frame to compare changes in topology over time.
- 7.1.58 Offered platform must be capable to write correlation rules and support multiple playbooks.

#### **Session Management**

- 7.1.59 Monitor and record established network sessions between devices, identifying the initiating and responding parties, protocols used, and duration of the session.
- 7.1.60 Analyse session data to detect unauthorized access attempts, lateral movement within the network, and potential malware activity.

#### **Process Variables Monitoring**

- 7.1.61 For specific OT protocols like IEC 61850, extract and analyse process variables transmitted between devices.
- 7.1.62 Monitor critical control parameters for anomalies and potential manipulation attempts.

#### **Vulnerability Identification**

- 7.1.63 Vulnerability identification component shall identify vulnerabilities in assets via passive analysis of network traffic data (e.g. network packet captures, NetFlow and firewall traffic data) in combination with threat intelligence.
- 7.1.64 Shall be able to ingest data from external vulnerability management sources.
- 7.1.65 Shall catalogue and categorize newly discovered and existing vulnerabilities based on severity and risk using information such as data classification and business criticality, in addition to technical information such as impact, vulnerability type and attack vectors.
- 7.1.66 Provide actionable vulnerability workbooks dashboard.

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### **Anomaly Detection**

- 7.1.67 Employ machine learning algorithms to identify anomalous behaviour in network traffic patterns, including deviations from baseline communication patterns, unexpected protocol usage, and unusual data flows.
- 7.1.68 Alert security personnel of potential threats and suspicious activities for timely investigation.
- 7.1.69 Anomaly detection component shall provide automatic detection of new hosts, devices or communication links.
- 7.1.70 Shall provide automatic detection of new function codes in known ICS communication links.
- 7.1.71 Shall provide automatic detection of new variables and values in known ICS communication links.
- 7.1.72 Shall provide automatic detection of behavioural changes in IT, OT and IOT devices profile.
- 7.1.73 Shall allow for dynamic or manually set learning periods.
- 7.1.74 Shall allow for analyst feedback to quickly update learning based on known changes.
- 7.1.75 Shall be able to determine anomalies based on a specific profile of the device.
- 7.1.76 Shall be able to have granularity to configure zone-based anomaly detection.
- 7.1.77 Shall be able to be enriched by asset intelligence knowledge to provide accurate detection of anomalies.
- 7.1.78 Platform shall include automated packet captures for review and analysis based on the alerts of anomalous behaviour.

### **Threat Detection**

- 7.1.79 Platform shall include standard packet rules for intrusion detection.
- 7.1.80 Platform shall allow for automated and manual update to packet rules, including import of 3rd party and custom rules.
- 7.1.81 Platform shall include an integrated sandbox and detection via YARA rules.
- 7.1.82 The solution should monitor endpoint events/telemetry for signs of suspicious activity with SIGMA-rules, by a Windows, Linux, based endpoint sensor.
- 7.1.83 Platform shall allow for automated and manual update to YARA rules, including import of 3rd party and custom rules.
- 7.1.84 Platform shall allow for the ability to ingest STIX/TAXI format.
- 7.1.85 Platform shall include signatures for detecting threats against IT, OT and IOT devices.

### **Threat Hunting**

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The Threat hunting (TH) shall be proactive, data driven and identify early detections, data collection & co-relations and quick responses to the operators based on the known and unknown vulnerabilities from the asset inventory as well as OT network visibility. The TH shall have following but not limited

- 7.1.86 The proposed threat hunting can be structured, unstructured and situational driven.
- 7.1.87 The proposed shall uses pre-defined criteria (Structured TH), indicators of attack (IoAs), and **tactics, techniques, and procedures (TTPs)** to proactively search for threats. It shall be an systematic approach, often guided by [MITRE ATTACK](#), other security framework, focusing on known attack patterns and behaviours. The structured hunting helps identify threats that might have evaded traditional security systems by focusing on specific attack methodologies
- 7.1.88 The unstructured threat hunting approach is less structured and more exploratory, relying on analyst intuition, experience, and indicators of compromise (IoCs) to uncover hidden threats. The solution can examine anomalies, unusual network traffic, and other suspicious activities to identify potential threats that might not be obvious.
- 7.1.89 The Unstructured hunting is particularly useful for finding zero-day threats or attacks that deviate from known patterns
- 7.1.90 The situational driven threat hunting focuses on specific high-risk entities, assets, or systems within an organization. It often involves analysing vulnerabilities and risks associated with these entities to identify potential attack vectors. This can drive by the organization's specific risk profile and focuses on protecting OT critical assets.
- 7.1.91 Platform shall allow for query of any metadata captured by the system.
- 7.1.92 Platform shall have a system for creating queries that allows the user to easily create and execute queries through the graphical interface.
- 7.1.93 Query capability shall include autofill functionality and the ability to save common queries.
- 7.1.94 Query component shall allow for creation of widgets that can be used in custom dashboards and reporting.

### **Threat intelligence**

- 7.1.95 The proposed solution shall have/take feed from Threat intelligence sources such ICS-CERT, MITRE ATTACK ICS, Industry ISACs and other/own Threat intelligence which can be specific to OT system. The system may take feeds on near real time basis and further it shall be tested & validated before deploying into system with the proper procedure and process.

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### **Alert Management**

- 7.1.96 Platform shall include capability for creating custom alerts based on any condition or parameter of captured metadata.
- 7.1.97 Platform shall allow for automated correlation or incident grouping.
- 7.1.98 Alerting component shall include drill down capability to individual alerts, graph of involved hosts, host information, and related alerts.
- 7.1.99 Alerting Component shall include acknowledgement functionality, including ability to acknowledge an event as an environmental change, updating the network and asset baselines.
- 7.1.100 Alerting component shall include PCAP files recorded for the entirety of the event that triggered the alert for forensics purposes.
- 7.1.101 Platform shall allow for forwarding of events via syslog, SNMP trap, CEF etc.,
- 7.1.102 Platform shall allow assigning different security profiles for alert visibility per zone.
- 7.1.103 Platform shall have different security profiles defining different levels of visibility for alerts based on their type.
- 7.1.104 Customizable playbooks guide remediation steps for specific threats to help coordinate and accelerate operational response.
- 7.1.105 Support various alerting mechanisms like email notifications, SMS messages, and integration with Security Information and Event Management (SIEM) systems for centralized incident response, API licenses to be considered to integrate with third-party solutions
- 7.1.106 Platform offered shall be integrated with the existing ticketing system (SMAX-OpenText™).
- 7.1.107 Configure alerts based on predefined rules and thresholds for suspicious activity, unauthorized access attempts, and protocol deviations.

### **Integration and Interoperability**

- 7.1.108 Maintain compatibility with existing network infrastructure, including Layer 2 and Layer 3 switches, firewalls, and a diverse range of OT devices from various vendors.
- 7.1.109 Utilize open-standard protocols like sFlow and NetFlow for efficient data exchange between sensors and the central collector.
- 7.1.110 Integrate seamlessly with SIEM systems for centralized security event management and incident response.
- 7.1.111 Platform shall include SAML as an authentication provider to support Single Sign-On to external entities.
- 7.1.112 Platform shall include full API for export and ingest integration with standard 3rd party tools and applications.
- 7.1.113 Platform shall include out of the box integration capability for standard SIEM tools, including Splunk, QRadar and Sentinel

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- 7.1.114 Platform shall include out of the box integration capability for standard Next Generation Firewalls, including Fortinet, Palo Alto, Checkpoint, Cisco, Juniper etc.
- 7.1.115 Platform shall include option to import assets by CSV/PDF file format.
- 7.1.116 Platform shall include out of the box integration capability for ticketing systems like Service Now, SMAX etc.
- 7.1.117 Platform shall have integration capability with existing deployed OpenText™ UNMS in Tata Power with ticketing tool SMAX™.
- 7.1.118 Platform shall include capability to import project files (offline assets), ICD/SCD/SCL files, , IEC 61850 SCL/SCD (.scd), and supported files from OEMs like Hitachi Energy, ABB, GE, Schneider, MiCOM, Siemens, SEL, Toshiba, Ashida .

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### **Dashboard and Reporting**

- 7.1.119 Generate customizable UI dashboards with a holistic overview of metrics, vulnerabilities (i.e. out of compliance, reporting capabilities, and remediation performance), that provide real-time and historical network traffic data, asset inventory details, protocol usage statistics, and potential security alerts.
- 7.1.120 Offer pre-configured reports for common security concerns and compliance audits.
- 7.1.121 Allow for report scheduling and distribution for proactive security monitoring.
- 7.1.122 Platform shall have built-in report out of the box with predefined content that can be generated by the user when required and downloaded as PDF.
- 7.1.123 Platform shall have custom reports based on custom queries that can be downloaded as PDF or can be scheduled for cyclic creation.
- 7.1.124 The solution should allow simple reporting without the need for programming language skills. It must also allow the recurring execution of customizable queries for the generation of alerts.
- 7.1.125 The platform must have reports on the 20 critical security controls like as mentioned in the following link (<https://www.cisecurity.org/controls/cis-controls-list/>).
- 7.1.126 The platform must allow custom searches through the graphical interface, without the need for prior knowledge of SQL or similar language.
- 7.1.127 Reporting component shall generate reports in Excel and/or PDF formats.
- 7.1.128 Platform shall have the ability to take snapshots of the state of the environment and utilize the snapshots to do comparisons.
- 7.1.129 Platform shall allow for Export and Import of common dashboards.
- 7.1.130 Custom queries/components used to build for dashboards should be inter-use with Reporting needs, without the need to rebuild the queries.
- 7.1.131 Provide actionable OT/IOT Security Intelligence dashboard.
- 7.1.132 The platform should be capable to generate any ad-hoc reports as and when required by the regulatory agencies like CERT-In, CEA, MERC, Ministry of Power, NCIIPC in the required formats shared by them on time-to-time basis.

### **Security features**

- 7.1.133 Implement secure boot and firmware update procedures for sensors and the central collector to mitigate firmware-based vulnerabilities.
- 7.1.134 Enforce strong password policies and role-based access control (RBAC) to restrict access to sensitive data and system functionalities.
- 7.1.135 Utilize secure communication protocols like HTTPS and SSH for all data transmission between sensors, the central collector, and external systems.
- 7.1.136 Regularly update the system with the latest security patches to address vulnerabilities identified by the vendor.
- 7.1.137 Sensor must support RADIUS, PIM & TACACS.

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- 7.1.138 Platform shall encrypt all data in motion.
- 7.1.139 Platform shall meet Data Protection and Privacy regulatory requirements as per regulations of Govt. of India, CERT-In, CEA, MERC, Ministry of Power, NCIIPC
- 7.1.140 It is desirable that platform shall meet guidelines suggested by the NIST in document 800-88 rev1 and completely erase the data partition sanitizing the disk space using the U.S. DoD 5220-22M 7-pass scheme.
- 7.1.141 Platform shall provide disaster recovery and data backup mechanisms in case of lost or corrupted data.
- 7.1.142 Platform shall allow remote access to critical systems and confidential data only over secured channels (e.g. HTTPS).
- 7.1.143 Platform Central Management Console component shall provide Multitenancy with RBAC to assure data gathered from the sensors will be collected and kept separately.
- 7.1.144 Platform physical and Virtual Appliances shall have the possibility to restrict access to the management interface, SSH terminal, SNMP service and ICMP protocol.
- 7.1.145 Platform shall use a proprietary shell or operating system with industry standard security and cryptographic mechanisms to provide higher level of security.
- 7.1.146 Platform shall be securely configured and hardened by leveraging industry standards (e.g. removing unnecessary services; changing default credentials; password complexity; disabling any radio interfaces if any) and following corporate security policies.
- 7.1.147 Platform shall be able to send security and functional logs to the SIEM at the SOC.

### **Management features**

- 7.1.148 The Sensor must provide management using 10/100/1000-Mbps management or console ports.
- 7.1.149 Sensor must have In-band Sensor management as well.
- 7.1.150 Sensor must Support RS-232 serial console port.
- 7.1.151 Sensor must have Configuration rollback feature.
- 7.1.152 Sensor must support Secure Shell Version 2 (SSHv2), Telnet.
- 7.1.153 Sensor must support sFlow / NetFlow - industry standard technology for monitoring high speed switching networks. It gives complete visibility into the use of networks enabling performance optimization, accounting/billing for usage, and defence against security threats.
- 7.1.154 The Sensor must support built in Management Framework to provide the network with backup, recovery and firmware upgrade management without the need of any additional hardware modules or software.
- 7.1.155 The system must support the ability to centrally manage sensors over the WAN network for device backup, recovery and centralized firmware upgrades with rolling reboots feature.
- 7.1.156 The Sensor must support Event-based triggers and scripting.

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- 7.1.157 The Sensor must support full environmental monitoring of PSUs, fans, temperature and internal voltages.
- 7.1.158 Platform shall allow remote management only over secured channels (e.g. HTTPS).
- 7.1.159 Platform shall allow stakeholders to manage user access control and shall be integrated with the existing LDAP
- 7.1.160 Platform shall perform secure automated update of vulnerability plugins/data, signatures, and vulnerability platform. Platform shall perform secure patching and software upgrades on regular basis.
- 7.1.161 Platform shall ensure data synchronization and timestamp alignment through a coordinated universal time (UTC).
- 7.1.162 Platform shall initiate communication flow from sensor to management from the sensor up.
- 7.1.163 It is desirable that platform vendor shall provide updates to Operating System and Application in a single firmware update image.
- 7.1.164 Platform shall allow the integration of the authentication base through LDAP and LDAPS standards.
- 7.1.165 It is desirable that Platform vendor shall provide a full stack solution, either in hardware, or as virtual machine, containing all necessary components (operating system and required applications like webserver and database), without the need to install and maintain additional software.
- 7.1.166 Platform shall provide an update mechanism from central manager, without the need to connect and install updates on each sensor.
- 7.1.167 Platform shall provide a central management system that is hierarchically cascadable, and allows central management and visibility for every region with a global central management system on top that in turn provides global visibility.
- 7.1.168 Platform must have the ability to adjust bandwidth settings for the traffic sent to the Central manager to the sensor as well as from remote collector to the central collector.
- 7.1.169 Platform backup and restore shall be available using command line interface or web application (GUI).
- 7.1.170 Platform shall allow for appropriate RBAC (Role Based Access Control) to the systems, including the ability to filter access to different features and physical sensors.
- 7.1.171 Platform shall have feature for integration with Domain Controllers / AD / Radius Servers for authentication.
- 7.1.172 Data/logs retention should be retained/stored/maintained for minimum period of 1 year. Bidder to consider SSD Hard disk drives with RAID 10 configuration and other required hardware accordingly to suit the solution.
- 7.1.173 Bidder to consider quarterly image and data backup of the deployed system, with appropriate recovery policies in place Bidder to maintain image and data backup of the deployed system at SI/OEM location within India.
- 7.1.174 Offered solution with Central Management must be in High Availability Mode/Configuration at DC and DR sites.

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- 7.1.175 Bidder to offer a single platform solution and should not involve any third party or any workaround to achieve the success criteria qualification.
- 7.1.176 Bidder to offer solution with an on-prem instance for monitoring on real time basis 24\*7\*365 to ensure continuous threat hunting pro-active risk mitigation.
- 7.1.177 The solution offered to also be integrated with Tata Power corporate SOC – Sentinel. At present, it is envisaged to integrate the offered solution with the existing NOC setup. Bidder to consider all hardware, software and services for smooth integration.
- 7.1.178 Bidder is free to suggest any alternate on-prem monitoring solution within Tata Power existing OT eco-system ensuring monitoring on real time basis 24\*7\*365 to ensure continuous threat hunting pro-active risk mitigation.

#### **Troubleshooting features**

- 7.1.179 Sensor must support for basic administrative features like Ping, traceroute commands.
- 7.1.180 Sensor should be integrated with Security Information and Event Management (SIEM) server. It should support multiple centralized syslog servers, for monitoring and audit trail.
- 7.1.181 Sensor must support advance debugging functions like packet capture & packet tracer.
- 7.1.182 Sensor shall have mechanism for internal storage of log events for minimum period of 3 months.

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## **8.0 MAINTENANCE REQUIRMENT/GUARNATEED TECHNICAL PARTICULARS**

- 8.1.1 Bidder to offer solution with a comprehensive O&M for the deployed system for the period of 7 years. This may be considered in the view of technical complexity of the project and the lack of technically skilled manpower to utilise the full potential of the installation harnessing the implementation for the right output.
- 8.1.2 Bidder may consider deputation of outsourced technical experts for operating the system for 24 x 7 basis with at least 1 No. Level-1 and 1 No. Level-2 resources. The outsourced technically skilled resources may be gradually replaced by dedicated in-house resources through proper training and familiarisation.
- 8.1.3 Bidder shall warranty that the equipment including software, hardware, firmware and associated documentation are free of defects in material and workmanship, defects or faults in design, in so far as the equipment fails to meet the requirements of this technical specification, bidder to adhere to the warranty clauses mentioned in this RFP from the date of final acceptance by the Tata Power after completion of 30 days trouble free operation.
- 8.1.4 With respect to defects in equipment part, Bidder's liability is to make arrangement by replacing the faulty equipment. It is the responsibility of the Bidder to replace the faulty equipment immediately within 1 week or as per signed SLA whichever is earlier. Bidder must have a dedicated service facility in Mumbai to address such emergency breakdowns and ensure system back to normalcy within the SLA time lines.
- 8.1.5 During the warranty period, the bidder shall notify the availability of the latest factory tested firmware. The same shall be implemented / upgraded on the installed systems after approval of the purchaser. This activity shall be carried out free of cost at site as and when the patches are released for further period of 7 years from date of successful User Acceptance Test. Sample testing to be performed by the bidder for the operation of devices and associated equipment shall be carried out after the upgradation of any software, after obtaining the necessary permissions / system outages.
- 8.1.6 After replacement of the faulty equipment, the Tata Power shall return parts that are defective to the Bidder. The Bidder shall cover the cost associated with the shipping of defective or failed items during warranty period. The new equipment, parts shall be delivered to the Tata Power facility CIF (Cost, Insurance, and Freight) free of charge.
- 8.1.7 With respect to software, the Tata Power shall notify the problem to the Bidder, including a detailed description of the deficiency and associated condition. Bidder shall guide Tata Power for corrective action. If the same is not resolved, the Bidder shall depute his system expert to attend the same within 24 hours from the time of reporting the problem. Bidder shall be fully responsible to resolve software deficiency reported by the Tata Power within 24 hours.
- 8.1.8 With respect to Hardware, the Tata Power shall notify the problem to the Bidder, including a detailed description of the deficiency and associated condition. Bidder shall guide the Tata Power for corrective action. If the same is not resolved, the Bidder shall

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depute his system expert to attend the same within 24 hours from the time of reporting the problem. Bidder to note that the purchaser will make best efforts to provide healthy modules from their spare inventory. However, bidder shall repair / replenish the same within seven working days.

- 8.1.9 Bidder shall maintain emergency / critical spares at bidder's factory works that should be made available at TPC site within 24Hrs of demand.
- 8.1.10 With respect to third-party hardware and consumable parts supplied, the Bidder shall consider the warranties from the sub-Vendor as per the RFP and should nowhere be less than the warranty of the main equipment supplied.
- 8.1.11 Upgrades & Modifications: Bidder shall continuously keep Tata Power informed and implement the software upgrades on the supplied Hardware. Any software upgrades which require hardware modifications shall be informed, for necessary actions by the purchaser. Methodology followed for such update communication by bidder to be clearly mentioned by the bidder.
- 8.1.12 Bidder shall continuously update the purchaser for any platform change of the product life cycle for necessary action at purchaser's end.
- 8.1.13 The system referred to above includes Bidder's own as well as third party components.
- 8.1.14 Bidder shall port the supplied software onto upgraded hardware (as per Bidder's standard offerings) without additional Software License Fees.
- 8.1.15 Bidder shall depute engineer during warranty period on site for regular maintenance and monitoring of network. Engineer will be responsible for configuration of new features; Patch update troubleshooting of integration issues & any other support related to network & documentation. Bidder is responsible for closure of all audit observations related to deployed system.
- 8.1.16 Bidder is also responsible for generating and producing any report which would be required for compliance with NCIIPC/CERT-In and other compliance authorities.
- 8.1.17 Bidder shall assign Level 3 expert engineer at site in case of any complex issues & same engineer shall be responsible for handling TAC calls, high level troubleshooting / advance configuration & designing. Bidder will ensure deputation of required resources during entire period of 7 years for restoration of network back to normal in case of emergency such as:
- A. Integration issue.
  - B. Cyber Attack.
  - C. Critical issues such as bug/technical issue/disaster.
  - D. Node down.
  - E. Complete network down.
  - F. Downtime of central management
- 8.1.18 Bidder shall comply with required timelines set by Tata Power for service support, performance, quality, project timelines and availability of services throughout during commissioning & post commissioning. Bidder shall provide resolution for any escalated issue/bug within maximum 24Hrs of reporting the problem.

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- 8.1.19 Bidder shall be equipped with all testing tools & equipment for troubleshooting of any issues. It shall also be ensured that expert engineer should be available 24\*7 on site support during emergency condition as defined in SLA.
- 8.1.20 Bidder to ensure ticketing tool/TAC support is provided with direct Customer login to report any fault/incidents. TAC support using Third Party/Distributor login is not acceptable.
- 8.1.21 Bidder to ensure premium support meeting all SLA parameters.
- 8.1.22 Guaranteed Technical Particulars as below:

**SLA & Penalties**

SLA defines the terms of the successful bidder’s responsibility in ensuring the performance of the deployed system based on the agreed performance indicators.

Sr. No	Some additional SLA related aspects to be covered for showcasing actual performance capabilities	Expected response
1	Time lapse from Vulnerability detection to reporting to concerned teams	1hr from system detection
2	Check for closure post confirmation of O&M team closing reported event	2 hrs from O&M team reporting closure.
3	Identification and reporting of rouge device connected to network	<15 minutes
4	Compliance with identification capabilities confirmed as to no committed vulnerabilities go undetected.	Zero repeat instances of already identified vulnerabilities/threats
5	Uptime of deployed system.	>99.99%
6	Mean time to detect(MTTD) average time to discover security threat or incident.	<15 minutes
7	Mean Time to Investigate(MTTI) average time to investigate and alert post acknowledgement.	<15 minutes
8	Percentage integrated assets not communicating.	0
9	False positive alerts during POC.	0
10	Ratio of alerts generated to use case deployed	>80%

**Response time from bidder for maintenance/support:**

Sr. No.	Parameter	Response time of bidder
1	Performance related issues	(i) Min. 2 hrs response time post opening of TAC case/incident ticket. (ii) Case to be auto escalated to the expert level in case of high priority/severity reported.

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		(iii) Resolution of TAC cases must be done within 48hrs and cases to be closed only post successful restoration of the system.
2	Configuration related support	Successful bidder will have to resolve any request related to any new configuration/provisioning of service with in 48Hrs. Bidder is required to depute certified engineer in such case. Remote support will not be allowed.
3	Security breach	Bidder will be completely responsible for any security breach arising due to supplied equipment. Bidder to provide security patches for the same.
4	Software Bug	Successful bidder will have to resolve any issue related to software with in 48Hrs of reporting.
5	Hardware Bug	Successful bidder will have to resolve any issue related to Hardware with in 48Hrs of reporting.
6	Implementation & Commissioning delay	Bidder should not delay implementation & commissioning of project in any condition. In case project activity is getting delayed for more than 48Hrs against planned, bidder would be charged as per penalty clause

**Following penalty will be applicable as per below clause**

Sr.no	Service affecting Hrs	% Reduction of performance retention amount
1	Performance issues > 48Hrs	10%
2	Configuration related support > 48Hrs	1%
3	Software Bug & Hardware Bug > 48Hrs	5%
4	Implementation & commissioning delay > 48Hrs	1%
5	Aggregate Hrs of 1, 2 & 3 > 1000Hrs with in a quarter	5%

In addition to the above SLA, bidder must comply with the detailed success criteria document in ANNEXURE-3

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## **9.0 TRAINING REQUIREMENT**

- 9.1.1 Bidder should consider training man-days for 20 engineers of TATA Power up to basic level certification in 3 batches at bidder works and min 5 engineers upto expert level on the offered product
- 9.1.2 Bidder shall provide training to the Purchaser's personnel on the operation and maintenance of the system supplied including Non-OEM equipment / 3rd Party equipment. The training shall cover development, integration, installation and commissioning of both software & hardware components of the system.
- 9.1.3 The Bidder shall provide classroom as well as hands-on training on the system. All required training materials such as system catalogues, test instruments, demo equipment, and simulation jigs, etc. shall be provided by the Bidder. The training shall equip the Purchaser's engineers for installation, commissioning, operation and post-warranty maintenance of hardware, software (Operating System, Administration and Applications), protocols and all third-party systems.
- 9.1.4 Bidder shall arrange training at OEM facilities with all required test instruments and training lab setup.

## **10.0 TECHNICAL PARAMETERS OF EQUIPMENT INCLUDING DATA SHEET**

### **10.1.1 Software and Database development & system integration**

Software and Database Development and System Integration shall be the responsibility of the Bidder. It shall be the responsibility of the Bidder to indicate and obtain necessary information from the Tata Power and sub vendors.

### **10.1.2 Factory Acceptance Test (FAT)**

The Vendor shall submit a test plan for factory acceptance test (FAT) and commissioning tests of the supplied material and solution for approval. Vendor to submit the pre-FAT testing reports and document before the start of FAT at Vendor's works. The manufacturing phase of the solution / material shall be concluded by the Factory Acceptance Test (FAT). The purpose is to ensure that the Vendor has interpreted the specified requirements correctly and that the FAT includes checking to the degree required by the user. The general philosophy shall be to deliver a system to site only after it has been thoroughly tested and its specified performance has been verified, as far as site conditions can be simulated in a test lab. The extensive testing shall be carried out during FAT. The purpose of Factory Acceptance Testing is to ensure trouble free installation at site. No major configuration setting of system is envisaged at site.

### **10.1.3 Hardware Integration Tests**

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The hardware integration test shall be performed on the specified systems to be used for Factory tests when the hardware has been installed in the factory. The operation of each item shall be verified as an integral part of system. Applicable hardware diagnostics shall be used to verify that each hardware component is completely operational and assembled into a configuration capable of supporting software integration and factory testing of the system.

## **11.0 PERFORMANCE REQUIREMENTS/ GUARANTEED TECHNICAL PARTICULARS**

Proposed passive sensors-based solution should meet following performance requirements and should be able to provide a highly accurate asset inventory discovery and real-time cyber security monitoring of OT network and devices across Transmission & Distribution sub stations.

### **11.1.1 Network Traffic Capture Performance**

- a) **Packet Capture Rate:** The system should achieve a packet capture rate as per the minimum tentative throughput details in Annexure-2 on all deployed sensors to ensure complete capture of network traffic without data loss.
- b) **Capture Fidelity:** Sensors must capture complete packet data (headers and payloads) with minimal latency to facilitate comprehensive traffic analysis.
- c) **Packet Buffer Size:** Sensors should have sufficient buffer size to handle bursts in network traffic and prevent data loss during peak network activity.

### **11.1.2 System Throughput and Latency**

- d) **Central Collector Throughput:** The central collector should be able to handle the aggregated traffic data from all deployed sensors without significant performance degradation. Throughput requirements will depend on the overall network size and traffic volume, but a target as per the minimum tentative throughput details in Annexure-2 is recommended.
- e) **Data Processing Latency:** The system should minimize latency between packet capture and data availability for analysis at the central collector. Latency of less than 1 second to enable real-time threat detection and incident response is recommended.

### **11.1.3 Scalability and Availability**

- f) **Sensor Scalability:** The system architecture should allow for seamless addition of new sensors as the network expands or new substations are integrated.
- g) **Central Collector Scalability:** The central collector software and hardware should be scalable to accommodate increased data volume and maintain performance with additional sensors.

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#### 11.1.4 Security Performance

- h) **Data Encryption Strength:** The system must utilize strong encryption algorithms (e.g., AES-256) for data transmission between sensors and the central collector to ensure data confidentiality even in case of network breaches.
- i) **Authentication and Authorization Performance:** User authentication and authorization processes should be efficient and not impede legitimate user access to the system. Consider multi-factor authentication for central management console access for enhanced security while maintaining usability.
- j) **Logging and Auditing Performance:** The system should be able to generate logs efficiently without impacting overall system performance. System to be compatible for log forwarding to a centralized SIEM system for long-term storage and analysis.

#### 11.1.5 Performance Monitoring and Reporting

- k) **System Health Monitoring:** The system should provide real-time monitoring of sensor health, network traffic volume, and system resource utilization.
- l) **Performance Reporting:** Generate reports on system performance metrics, including packet capture rates, latency, and resource utilization, to identify potential bottlenecks and optimize system configuration.

#### 11.1.6 Integration Considerations

- m) **Open Standard Compliance:** The system should leverage open-standard protocols (e.g., sFlow, NetFlow) to ensure seamless integration with existing network infrastructure and minimize deployment complexity.
- n) **API Performance:** If the system offers APIs for integration with SIEM or other security tools, ensure adequate performance to handle data exchange without impacting core functionalities.

#### 11.1.7 Testing and Validation

- o) The vendor should provide a comprehensive testing plan to validate the system's performance against these specifications. This may include load testing, security testing, and integration testing with existing network infrastructure.

11.1.8 Bidder must provide compliance to all the points mentioned above and would be mandatory for acceptance of the technical proposal.

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11.1.9 Guaranteed Technical Particulars as below:

Sr.NO	Parameter	Technical Specification	Deviation from bidder
1.	Asset discovery	<p>Automated asset discovery at any given should not be less than 70% of the actual asset under monitoring.w.r.t the below parameters:</p> <ul style="list-style-type: none"> <li>(i) Make</li> <li>(ii) Model</li> <li>(iii) Firmware installed with version</li> <li>(iv) Hostname</li> <li>(v) IP address/MAC address</li> <li>(vi) Communication protocol</li> <li>(vii) Asset type</li> <li>(viii) Last seen/used</li> </ul> <p>Connections between assets shall be displayable graphically with the ability to filter based on:</p> <ul style="list-style-type: none"> <li>• Protocol</li> <li>• Inter-zone communication</li> <li>• Inter-level (skipping Purdue Level)</li> <li>• Unlearned communications</li> <li>• TCP Retransmissions</li> <li>• Transferred Bytes</li> <li>• Firewallled communications</li> </ul> <p>Any addition of new asset in the existing Tata Power network, to be reflected/completely detected in the proposed system within time frame not more than 24hrs.</p> <p>a) <b>Data Gathering Techniques:</b> Passive scan, Safe Active query (Manual), Active Directory etc. Able to perform passive network traffic analysis and discover of all devices IT, OT, IOT, both with and without IP (serial connected devices using Modbus protocol). provide portable collectors to gain visibility of assets connected in unmanaged switch environment where passive monitoring is not feasible.</p> <p>b) <b>Range &amp; Protocol:</b> Able to support varied range of IT, OT and IOT devices and their protocols. Allows to set IP range for active probing. Network connection through SPAN / Port Mirror / ERSPAN through managed switches, TAP with non-intrusive query.</p> <p>c) Able to group and classify assets by their functionality viz Server, RTU, IED, Router etc. Should provide filter on parameter / labels.</p> <p>d) Add new parameter/fields for asset tagging like location, category, etc</p> <p>e) Set baseline for physical assets, their parameters and network.</p> <p>f) Support OT T&amp;D Grid specific OEMs like Hitachi Energy (ABB), GE, Siemens, Schneider, etc</p>	
2	Network	<p>a) Communications between assets shall be displayable in tabular form with metrics such as:</p> <ul style="list-style-type: none"> <li>• From Asset</li> </ul>	

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		<ul style="list-style-type: none"> <li>• To Asset</li> <li>• From Zone</li> <li>• To Zone</li> <li>• Level 4 Protocol</li> <li>• Level 7 Protocol</li> <li>• First Activity Time</li> <li>• Last Activity Time</li> <li>• Throughput</li> <li>• Transferred Bytes</li> <li>• Transferred Packets</li> <li>• Average Packet Size</li> <li>• Handshake Connections</li> <li>• Handshake Connection Attempts</li> <li>• Is To Public Address</li> <li>• Is From Public Address</li> <li>• Bandwidth utilized</li> <li>• Top-10 communicating assets with source and destination address.</li> </ul> <p>b) Support and read traffic conversations in both IT &amp; OT protocols (IEC 61850, IEC 60870-5-104, TCP/IP, Modbus, MMS, Goose etc)</p> <p>c) Create network baseline for traffic pattern</p> <p>d) Should detect any behavior change in network pattern or traffic</p>	
<b>3</b>	Vulnerability, Threat and Risk	<p>a) Solution shall be able to perform vulnerability assessment of assets in layer 1,2,3 as per Purdue model.</p> <p>b) For each CVE, active threat intelligence shall be provided indicating following at a minimum:</p> <ul style="list-style-type: none"> <li>• Exploit Code Maturity,</li> <li>• Vulnerability Age &amp; Product Coverage,</li> <li>• Threat Intensity By Malicious Actors,</li> <li>• Threat Activity Regency, And Sources Of Threat Information.</li> </ul> <p>c) Define a minimum baseline security standard (MBSS) to be followed across the entire network. MBSS provided shall be customizable.</p> <p>d) Solution shall provide a sortable, filterable tabular listing of all vulnerabilities (CVEs) specific to the assets within the monitored network together with their CVSS score. Vulnerabilities of devices and software not forming part of the monitored network shall not be shown. Clicking on a vulnerability shall provide details of each vulnerability including:</p> <ul style="list-style-type: none"> <li>• CVSS Score</li> <li>• Summary description of the CVE</li> <li>• Matching CVEs</li> <li>• Source(s) of CVE Information</li> <li>• Discovery date</li> <li>• Update date</li> </ul>	

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		<p>e) <b>Risk Alert:</b> Solution should be able to throw alert on End of Life / Sale, known vulnerabilities, External communication, USB (connected \ Open), Hardware, software ports,</p> <p>f) <b>Threat Alert:</b> Denial Of Service, Failed Login, Host Scan, Know Threat Alerts(Malware/Bot/Ransomware), Port Scan, Suspicious Files Transfer, signature and host based.</p> <p>g) <b>Threat action &amp; Correlation:</b> It should have Ability to disable individual Signatures, Ability to add customer Signatures, Ability to add third party Signatures. Also, it should have AI-Based Anomaly Detection capability and discovery of Unknown Threats. correlation to provide detailed insight and rapid remediation</p>	
<b>4</b>	Anomaly detection	<p>a) Anomaly-Based Intrusion Detection shall alert on the following baseline deviations:</p> <ul style="list-style-type: none"> <li>• New global function code</li> <li>• New asset function code</li> <li>• New global MAC vendor</li> <li>• New global variable producer</li> <li>• New communication link between two nodes</li> <li>• New ARP request</li> <li>• New MAC address</li> <li>• New OT device</li> <li>• New network device (switch, router etc.)</li> <li>• New asset protocol</li> <li>• New OT variable</li> <li>• New OT variable value (exceeds learnt max/min)</li> <li>• New variable cycle period</li> <li>• New protocol cycle (cyclical read/write has changed cycle period)</li> <li>• New internet navigation</li> <li>• New scan of non-existing variables</li> </ul> <p>b) <b>Alerts</b> at following:</p> <ul style="list-style-type: none"> <li>• <b>Assets:</b> Inactive / not communicating, Install new / Change / Removal of asset.</li> <li>• <b>Configuration:</b> Change in firmware / Code, Exceed threshold values</li> <li>• <b>Network:</b> Change in network path, Port (Open / close / Scan), ARP Scan, etc, Malicious combination of source / destination / ports / protocols etc (For Example: RDP, SSH and Telnet connections (together or separately) made to engineering stations, originating from outside the local network), IP conflict.</li> <li>• <b>Accessibility:</b> Failed login attempts, un-authorized authentication, malicious reconnaissance or IP theft activity,</li> <li>• Any of Blacklisted (Network Port / Protocols, Host / IP Address)</li> <li>• Activities performed by Non-White listed IP (Network Port / Protocols, Host / IP Address)</li> </ul>	

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		<ul style="list-style-type: none"> <li>• Write command of tag / group of pre-defined tags.</li> <li>• changes (Including download / upload) during work hours and non-hours,</li> <li>• malicious combination of sources / destinations / engineering station commands / un-schedule activities (Firmware download, non-working hours etc)</li> <li>• Any traffic or communications with blacklisted networks/ports, hosts or IP addresses.</li> </ul>	
<b>5</b>	Network integrity	The Solution shall provide the ability to alert on the following communication metrics: <ul style="list-style-type: none"> <li>• High TCP retransmission rate</li> <li>• Increased throughput</li> <li>• Decreased throughput</li> <li>• Stopped communications</li> <li>• Unexpected communication paths</li> </ul>	
<b>6</b>	Integration and Services	The Solution offered must be integrated with the following: <ol style="list-style-type: none"> <li>a) existing enterprise SOC.</li> <li>b) existing U-NMS tool and ITSM tool.</li> <li>c) Traffic required for communication of sensor with the central management and also with the SOC must pass through the existing deployed Next Generation Firewalls and Data Diode.</li> <li>d) Alerting over Corporate SMTP servers.</li> <li>e) Integrable with the existing OT Active Directory (AD server).</li> <li>f) Capable to use APIs (REST, JSON) for 3<sup>rd</sup> party integration and access/transfer data</li> </ol>	
<b>7</b>	Scalability, Reporting and Dashboard	<ol style="list-style-type: none"> <li>a) Solution shall provide                         <ul style="list-style-type: none"> <li>• Reports of Above-Mentioned Use case,</li> <li>• Capability to Customize Report,</li> <li>• Scheduling and Mailing Capability,</li> <li>• Expanding License Keeping Future Assets and Upcoming sites.</li> <li>• Logs For Forensic Analysis Up to Min 6 Months.</li> </ul> </li> <li>b) Scalable to add new device, grid / sub-station, network, subnet, without any change in database and storage.</li> <li>c) Scalable to add storage into existing system and move data onto external storage device, for reporting and forensic purposes.</li> </ol>	
<b>8</b>	Compliance framework	<ol style="list-style-type: none"> <li>a) MITRE Attack, NIST, IEC 62443, NCIIPC, NIST-CRP, CERT-IN, etc.</li> <li>b) Encryption level and server hardening certificate.</li> <li>c) Solution should be deployed on hardened OS and inherent security controls for secure accessibility</li> <li>d) Hotfix / patch / upgrade to Operating system, (provided by OEM) of hosting environment for next 7 years.</li> </ol>	

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## 12.0 Warranty

- 12.1.1 Bidder shall warrant that the equipment including software, hardware, firmware and associated documentation are free of defects in material and workmanship and from defects or faults in design, in so far as the equipment fails to meet the requirements of this technical specification, for a period of 84 months from the date of final acceptance by the purchaser after completion of 30 days trouble free operation after SAT.
- 12.1.2 With respect to defects in equipment part, Bidder's liability is to make good by replacing the faulty equipment. It is the responsibility of the Bidder to replace the faulty equipment within as per agreed SLA / NBD whichever is earlier.
- 12.1.3 During the warranty period, the bidder shall upgrade the firmware / software of the modules with the latest available. This activity shall be carried out free of cost at site as and when the patches are released. Sample testing for the operation of devices and associated equipment shall be carried out after the Upgradation of any software.
- 12.1.4 After replacement of the faulty equipment, the purchaser shall return parts that are defective to the Bidder. The Bidder shall cover the cost associated with the shipping of defective or failed items during warranty period. The new equipment, parts shall be delivered to the purchaser's facility CIF (Cost, Insurance, and Freight) free of charge.
- 12.1.5 With respect to software, the purchaser shall notify the problem to the Bidder, including a detailed description of the deficiency and associated condition. Bidder shall guide the purchaser for corrective action. If the same is not resolved, the Bidder shall depute his personnel to attend the same within 24 hours or as per SLA timelines whichever is earlier from the time of reporting the problem. The system Bidder shall be fully responsible to resolve hardware and software deficiency reported by the purchaser.
- 12.1.6 With respect to third-party software and consumable parts supplied, the Bidder shall make reasonable effort to obtain the best warranties possible from the sub-Vendor thereof and assign to the purchaser any such warranties to the extent that such warranties may be assigned to the purchaser.
- 12.1.7 Bidder may consider longer warranties than included in these specifications.
- 12.1.8 Bidder shall extend all warranties / guarantees to the purchaser, provided by sub-vendors, of duration longer than that in this specification.

## 12.2 Upgrades & Modifications

- 12.2.1 Bidder shall continuously keep the Purchaser informed of all Software and Hardware upgrades as & when these are released.
- 12.2.2 Bidder shall supply upgrades of all installed software (both own and third party) for a period of seven years from the date of system acceptance without any commercial implication.
- 12.2.3 Bidder shall rectify all design defects and software bugs at no extra cost for a period of 7 years from the date of system acceptance
- 12.2.4 Bidder shall provide lifetime support (10 years) for the system, even if no upgrades are implemented.

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- 12.2.5 The system referred to above includes Bidder's own as well as third party components.
- 12.2.6 Bidder shall port the supplied software onto upgraded hardware (as per Bidder's standard offerings) without additional Software License Fees.

12.3 **Currency of the Equipment:**

- 12.3.1 Bidder must offer equipment's which are latest and released not more than 5 years before the date of execution of the contract. The offered equipment should be such that it should not be declared as End of life within period of 15 years from the date of the order execution.
- 12.3.2 Bidder should submit OEM signed and stamped letter mentioning the following:
- a) Currency of the offered equipment.
  - b) Commitment for support for 7 years warranty + 3 years post warranty.
  - c) System non compromise (Cyber security) compliance since its launch.
- 12.3.3 In case of bidder discontinuing offered system within the warranty period and installed equipment's going faulty and no replacement available. Equipment installed will have to be replaced by the latest version complying with same specifications at no extra cost to TATA Power.

**13.0 DATA SUBMISSION BY BIDDER**

Bidder shall submit the following information along with the Technical Bid

**Along with Bid:-**

- 13.1.1 Bidder to submit technical data sheet of the critical equipment, architecture drawing along with the technical offer.
- 13.1.2 Bidder to only provide compliance for other data sheets covered in the specification. However bidder to note that, all data sheets and detailed GTP are required to be submitted during detailed engineering for the approval and finalization by Tata Power.
- 13.1.3 Quality Assurance Plan (QAP), Manufacturing Quality Plan (MQP), Field Quality Plan (FQP)
- 13.1.4 General Arrangement Drawings for equipment offered.
- 13.1.5 Catalogues of the equipment's offered.
- 13.1.6 Detailed Bill of Material with make, model and quantity.
- 13.1.7 Product life cycle document for all supplied equipment.
- 13.1.8 List of major relevant experiences of the Principal, Collaborator and the Product respectively.
- 13.1.9 Technical support facilities including qualified man-power, testing tools and instruments and integration facilities available within India preferably Mumbai should have major support centre.
- 13.1.10 Confirmation on lifetime, spares, manufacturing, onsite & offsite technical support of the supplied equipment for the period of 10 years.

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- 13.1.11 The Bidder shall give an undertaking to provide full range of local services (including hardware and software maintenance, modifications and upgrade support) for the life of the delivered Communication system.
- 13.1.12 All deviations from the specifications shall be set out by the Bidder, clause by clause, with due justifications along with the offer, failing which the offer shall be deemed to conform to Tata Power specifications in all respects
- 13.1.13 Bidder to submit all relevant test certificates of the offered equipment for technical evaluation
- 13.1.14 Bidder to submit Cyber security related test certificates (from accredited Labs) of the offered equipment for technical evaluation.
- 13.1.15 Bidder to submit stamped detailed technical specifications.
- 13.2 **After Award of Contract**
- The following documents shall be submitted for Tata Power approval during detailed engineering:
- 13.2.1 Bidder to submit all datasheets, detailed GTP of the proposed BOM items during detailed engineering for the approval and finalization by Tata Power.
- 13.2.2 System Architecture Drawing. This drawing should show in detail of the following:
- i. Network connections at Substation
  - ii. Connectivity with Central Management Server
  - iii. Type of interconnecting cable
- 13.2.3 Functional Design Specification document
- 13.2.4 Step by Step test procedures for Factory Acceptance Test (FAT) and Site Acceptance Test (SAT)
- 13.2.5 Interconnection cable Schedule (ICS) for Communication system (e.g. ICS for all field equipment, system).
- 13.2.6 Hardware, Software and Application manuals for all the equipment supplied including that of third parties.
- 13.2.7 All Software Licenses (both own & third party), key for hardware locks.
- 13.2.8 Guaranteed technical parameters & guaranteed availability and reliability.
- 13.2.9 Calculation for power supply dimensioning.
- 13.2.10 Bill of Material listing equipment designation, make, type ratings, etc. of all the equipment's supplied.
- 13.2.11 Logic Diagram (Hardware & Software).
- 13.2.12 Operator's Manual.
- 13.2.13 Complete documentation of implemented architecture and integration between various elements.
- 13.2.14 Diagnostic and performance evaluation software and hardware tools.

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- 13.2.15 Details of software (Operating systems, application software, engineering tools, communication systems management software, license details, I/O distribution protocol-wise etc.)
- 13.2.16 Final as built drawings of all implemented / commissioned communication systems as final documents in AutoCAD & PDF format.
- 13.2.17 Other documents as may be required / applicable during detailed engineering.
- 13.2.18 All drawings and data shall be annotated in English.

Bidder shall furnish six (6) hardcopies and 3 soft copies on reliable media of all drawings, manuals (Administration, Operation & Maintenance, Troubleshooting and Installation), Technical catalogues, Test Certificates and Acceptance Test Reports.

Two copies of the internal test report, FAT and SAT documents with test protocol formats shall be submitted for approval at least 4 weeks before Factory Acceptance Test. Two copies of SAT protocol shall be submitted for approval at least two weeks before Site Acceptance Test.

Bidder shall also furnish Original plus one copy of all System Software (OS, Application and tools) along with delivery. Bidder shall submit two copies of all the configuration, application, display, database backup of all equipment on reliable secondary media.

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**14.0 ANNEXURES****Annexure - 1****List of Preferred Vendor for Communication equipment**

Sl. No.	Item Description	Preferred Make / Model
1.	Passive Sensor	Nozomi, Claroty, Dragos, Shieldworkz,  <b>Remarks:</b> Bidder is free to propose any other OEM. However, it would be bidder's responsibility to ensure that the proposed OEM must have completed a successful POC in Tata Power environment.
2	Server	HP/DELL
3	GPS Clock with remote display unit	Sertel / Masibus / SANDS/ Oscilloquartz
4	Firewall	Cisco/ Checkpoint/ Palo Alto/ Fortinet
5	Layer 3 Ethernet Switch	Cisco/ Juniper
6	Layer 2 Ethernet Switch	Cisco/Juniper/Hirschmann/Ruggedcom
7	Configuration Laptop	HP/DELL/Lenovo
8	LIU (Fiber Optic)	Raychem / AFS / 3M/Preston
9	I/O Boxes	Systemax / Tyco / CommScope
10	Armored UTP CAT6 Cable	Systemax / Tyco / Commscope
11	Armored Fiber Optic Cable	Finolex / KEC / Apar/ Aksh
12	Unarmored UTP Cable	Systemax / Tyco / CommScope
13	Patch Panel (RJ45)	Systemax / Tyco / CommScope
14	Fiber Optic Patch Chords	Raychem / Preston / Tyco
15	CAT6 UTP Patch Chords	Systemax / Tyco / CommScope
16	Fiber Optic Transceiver	CTC union /CISCO/ Allied Telesis / MOXA
17	Gateway / SAS Panel	Rittal
18	Network Panel	Valrack/President/WQ India
19	DC-DC Converter	Cossel / Phoenix / Paramount / PULS
20	Diode-Oring Unit	Paramount / Phoenix
21	VOIP based Telephone Exchange	Alcatel/ Avaya/Matrix
22	SDH multiplexer	HITACHI ENERGY/GE/ Tejas
23	Fiber optic termination box	Raychem/AFS/Commscope

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24	Fiber optic joint boxes	Raychem/Commscope
25	Power Line Carrier Communication (PLCC)	HITACHI ENERGY/GE
26	Public address System	Ahuja/BOSCH

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**Annexure-2****Indicative BoM****(A) No. of switches to be spanned per site**

Sr.No	Transmission and Distribution sub stations	No. of span ports per site	No. of assets (approximate)	Throughput (max.)
1	Data Center (DC site)	17	1000	1Gbps
2	Data Center (DR site)	17	1000	1Gbps
3	Substation#1	9	<=250	25Mbps
4	Substation#2	11	<=250	25Mbps
5	Substation#3	9	<=250	25Mbps
6	Substation#4	11	<=250	25Mbps
7	Substation#5	7	<=250	25Mbps
8	Substation#6	9	<=250	25Mbps
9	Substation#7	11	<=250	25Mbps
10	Substation#8	7	<=250	25Mbps
11	Substation#9	11	<=250	25Mbps
12	Substation#10	9	<=250	25Mbps
13	Substation#11	7	<=250	25Mbps
14	Substation#12	13	<=250	25Mbps
15	Substation#13	9	<=250	25Mbps
16	Substation#14	13	<=250	25Mbps
17	Substation#15	7	<=250	25Mbps
18	Substation#16	7	<=250	25Mbps
19	Substation#17	9	<=250	25Mbps
20	Substation#18	5	<=250	25Mbps
21	Substation#19	7	<=250	25Mbps
22	Substation#20	9	<=250	25Mbps
23	Substation#21	13	<=250	25Mbps
24	Substation#22	5	<=250	25Mbps
25	Substation#23	5	<=250	25Mbps
26	Substation#24	11	<=250	25Mbps
27	Substation#25	11	<=250	25Mbps
28	Substation#26	7	<=250	25Mbps
29	Substation#27	5	<=250	25Mbps
30	Substation#28	9	<=250	25Mbps
31	Substation#29	9	<=250	25Mbps

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32	Substation#30	7	<=250	25Mbps
33	Substation#31	7	<=250	25Mbps
34	Substation#32	7	<=250	25Mbps
35	Substation#33	9	<=250	25Mbps
36	Substation#34	7	<=250	25Mbps
37	Substation#35	5	<=250	25Mbps
38	Substation#36	5	<=250	25Mbps
39	Substation#37	9	<=250	25Mbps
40	Substation#38	7	<=250	25Mbps
41	Substation#39	5	<=250	25Mbps
42	Substation#40	5	<=250	25Mbps
43	Substation#41	7	<=250	25Mbps
44	Substation#42	5	<=250	25Mbps
45	Substation#43	11	<=250	25Mbps
46	Substation#44	9	<=250	25Mbps
47	Substation#45	5	<=250	25Mbps
48	Substation#46	5	<=250	25Mbps
49	Substation#47	5	<=250	25Mbps
50	Substation#48	5	<=250	25Mbps
51	Substation#49	5	<=250	25Mbps
52	Substation#50	5	<=250	25Mbps
	Total	424		

\*stands for: Actual physically installed in service OT/networking device.

e.g

- (i) one Layer-3 switch having multiple IP interfaces would be considered as a single asset
- (ii) one RTU/PC installed at site with multiple NICs would be considered as a single asset.

The above BoQ is tentative. Bidder to visit site, understand the architecture and propose BoM appropriately at site and for Central Management.

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**Services**

Sr. No.	Item	Item Description	Qty
1	<b>Passive Sensor and Central Management</b>	<p><b>Installation &amp; Commissioning of passive sensors across proposed transmission and distribution sub stations &amp; integration services</b></p> <p>A. Installation, commissioning, performance testing and handing over of complete supplied systems.                      B. End to end connectivity testing of deployed systems.                      C. Integration with existing corporate SOC                      D. FAT and SAT to the purchaser's satisfaction and demonstration of system Response.                      E. Fine-tuning of all alerts, functionalities of deployed systems as per customer satisfaction and best practices.                      F. Preparation of ICS, Submission of As-built drawings.                      G. O&amp;M of deployed network.</p>	1 Lot (as per detailed engineering BOQ)
2	<b>Comprehensive O&amp;M for deployed system</b>	<p>This may be considered in view of the technical complexity of the project and lack of technically skilled manpower to utilise the full potential of the system installation harnessing the implementation for right output.</p> <p>Duration : 7 years from date of SAT</p>	1 Lot (as per detailed engineering BOQ)

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3	<b>Deputation of outsourced technical experts for operating the system 24 x 7 (1 Level 1 and 1 Level 2 resources round the clock)</b>	The outsourced technically skilled resources may be gradually replaced by dedicated in-house resources through proper training and familiarisation.  Duration: 7 years from date of SAT	1 lot
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**Annexure-3 Detailed Success Criteria**

Sr. No.	Success Criteria	Clarification
A. Asset Discovery & Inventory		
A.1	The tool shall display discovered assets graphically via an interactive graph showing end devices with associated communication links.	
A.2	Graphical display shall support display of assets within user-defined zones.	
	Asset inventory shall display IP, MAC address, type (Computer, PLC etc.), make, model, serial number, and firmware, where this information is available via the monitored communications.	
A.4	It shall be possible to add customized attributes to assets, and modify these individually or in bulk.	
A.5	Connections between assets shall be displayable graphically with the ability to filter based on: Protocol Inter-zone communication Inter-level (skipping Purdue Level) Unlearned communications TCP Retransmissions Transferred Bytes Firewallled communications	
A.6	Communications between assets shall be displayable in tabular form with metrics such as: From Asset To Asset From Zone To Zone Level 4 Protocol Level 7 Protocol First Activity Time Last Activity Time Throughput	

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	Transferred Bytes Transferred Packets Average Packet Size Handshake Connections Handshake Connection Attempts Is To Public Address Is From Public Address	
A.7	Information on sessions shall include: Session Active / Closed From Asset To Asset From Zone To Zone From Port To Port VLAN Layer 4 Transport Protocol Layer 7 Protocol First Activity Time Last Activity Time Throughput Transferred Bytes Transferred Packets Average Packet Size Handshake Connections Is To Public Address Is From Public Address	
A.8	It shall be possible to export Assets, Nodes, Communication Links and Session information in Excel or CSV format. Graphical views shall be exportable in pdf format.	
<b>B. Vulnerability Management</b>		
B.1	The Solution shall support an always-on delivery of OT related vulnerabilities to the highest point in the deployed Solution architecture with automatic updating of downstream Solution elements.	
B.2	Solution shall provide a sortable, filterable tabular listing of all vulnerabilities (CVEs) specific to the assets within the monitored network together with their CVSS score. Vulnerabilities of devices and	

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	software not forming part of the monitored network shall not be shown.	
	Clicking on a vulnerability shall provide details of each vulnerability including:	
	CVSS Score	
	Summary description of the CVE	
	Matching CVEs	
	Source(s) of CVE Information	
	Discovery date	
	Update date	
B.3	Solution shall provide a sortable, filterable tabular listing of discovered assets with known vulnerabilities. Clicking on a specific device shall show vulnerabilities specific to that device.	
B.4	Is shall be possible to click on an asset within the tabular or graphical asset views to access vulnerabilities affecting the selected asset.	
B.5	It shall be possible to export vulnerability information in Excel or CSV format.	
<b>C. Process View</b>		
C.1	The Solution shall have the capability to selectively monitor process variables passively, and display these in tabular and graphical views. Metrics shall include:	
	Label	
	Last value	
	Minimum Value	
	Maximum Value	
	Protocol	
	No. of Changes	
C.2	Process variables shall be baselined such that deviations from baseline in terms of minimum value, maximum value or periodicity shall be alerted.	
C.3	It shall be possible to export process view information in excel and CSV format.	
<b>D. Security Monitoring Built-In Checks</b>		
D.1	The Solution shall support built in checks to detect and alert on the following:	
	Cleartext password	
	Weak/default password	

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	OT device Configuration change	
	OT device change (CPE change)	
	OT device state change (e.g., reset request)	
	OT device firmware change	
	OT device program change	
	OT device program upload	
	OT device program download	
	OT device stop request	
	OT device start request	
	DNS query to malicious domain	
	MITM attack	
	Increase in outbound connections	
	Suspicious time observed	
	Weak encryption	
	Brute force attacks (multiple failed logins)	
	Function code scans	
	Illegal Parameter scan	
	Function code scan	
	Malicious file transferred	
	DDOS attack	
	Port Scans	
	The Solution shall support built in checks to detect and alert on the following:	
D.2	Suspicious DHCP operation	
	Duplicated IP	
	Invalid IP (e.g., loopback address)	
	Malicious protocol detected	
	Malformed / anomalous packets	
	Unsupported function code request	
	Attempt to access unknown process variable	
	Attempt to access unknown device	
	ICMP Protocol flood (e.g., ping)	
	TCP Flood (SYN, SYN-FIN)	
	UDP Flood	
D.3	It shall be possible to export all alerts types (Built-in Checks, Signature- based, Anomaly-based, customised and network comms integrity) in Excel or CSV format.	

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E. Security Monitoring Signature-Based Checks		
E.1	Packet Rules using SNORT format shall be executed against every packet transferred across the monitored network. Alerts shall be generated if match detected.	
E.2	YARA rules shall be executed against every file transferred across the monitored network. Alerts shall be generated if match detected.	
E.3	STIX Indicators shall be used to identify malicious IPs and URLs. Alerts shall be generated if match detected.	
E.4	Packet Rules, Yara Rules and STIX Indicators shall be updated via an always-on internet connection in response to emerging threats.	
E.5	The Solution shall allow customized Packet Rules, Yara Rules and STIX Indicators to be created.	
F. Security Monitoring Anomaly-Based Intrusion Detection		
F.1	The Solution shall provide anomaly-based intrusion detection that allows for normal OT system operation to be baselined during a 'Learning Mode' such that deviations to this baseline are alerted once the Solution is places into 'Detect Mode'	
F.2	Anomaly-Based Intrusion Detection shall alert on the following baseline deviations:	
	New global function code	
	New asset function code	
	New global MAC vendor	
	New global variable producer	
	New communication link between two nodes	
	New ARP request	
	New MAC address	
	New OT device	
	New network device (switch, router etc.)	
	New asset protocol	

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	New OT variable	
	New OT variable value (exceeds learnt max/min)	
	New variable cycle period	
	New protocol cycle (cyclical read/write has changed cycle period)	
	New internet navigation	
	New scan of non-existing variables	
<b>G. Network Comms Integrity</b>		
G.1	The Solution shall provide the ability to alert on the following communication metrics:	
	High TCP retransmission rate	
	Increased throughput	
	Decreased throughput	
	Stopped communications	
	Unexpected communication paths	
<b>H. Database Queries and Customised Alerts</b>		
H.1	The Solution shall provide a built-in query language with operators and functions to extract and analyse data gathered from the monitored network, and present the results in tabular and/or graphical form.	
H.2	It shall be possible to include the tabular and graphical results of queries within Reports and Dashboards.	
H.3	It shall be possible to generate customised alerts based on the built-in query language.	
<b>I. Dashboards and Reports</b>		
I.1	The Solution shall support multiple customised dashboards per user group with summary information tailored to meet the needs of that user group.	
I.2	It shall be possible to import and export dashboards.	
I.3	The Solution shall support multiple customised reports.	
I.4	It shall be possible to run reports on demand, to schedule reports and to have reports emailed to specific users.	
I.5	It shall be possible to import and export report schemas.	
I.6	Widgets with common summary information (e.g., recent alerts, outstanding vulnerabilities etc.) shall be available for use in dashboards and reports.	
<b>J. System Snapshots</b>		

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J.1	Snapshots of the monitored network shall be taken at pre-defined intervals to allow review of what the Solution was reporting at the time the snapshot was taken.	
	Snapshots shall provide graph, asset, communications links and alert details with the same level of detail as live views.	
J.2	It shall be possible to pick any two snapshots or a snapshot and current live data to display changes, adds and deletions.	
K. Architecture		
K.1	The Solution shall use a distributed architecture with asset discovery, vulnerability management and security monitoring executed via sensors deployed at the OT facilities.	
K.2	The Solution shall provide centralised monitoring and management of sensors via a SaaS cloud platform.	
K.3	Sensor aggregators shall provide single pane of glass view across multiple sensors and be capable of also connecting to the central SaaS cloud platform.	
K.4	Traffic collectors shall extend sensor monitoring port range.	
K.5	Overlapping IP address ranges shall be supported using VLAN IDs or traffic collectors to differentiate reused IP addresses.	

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**15.0 Architecture**

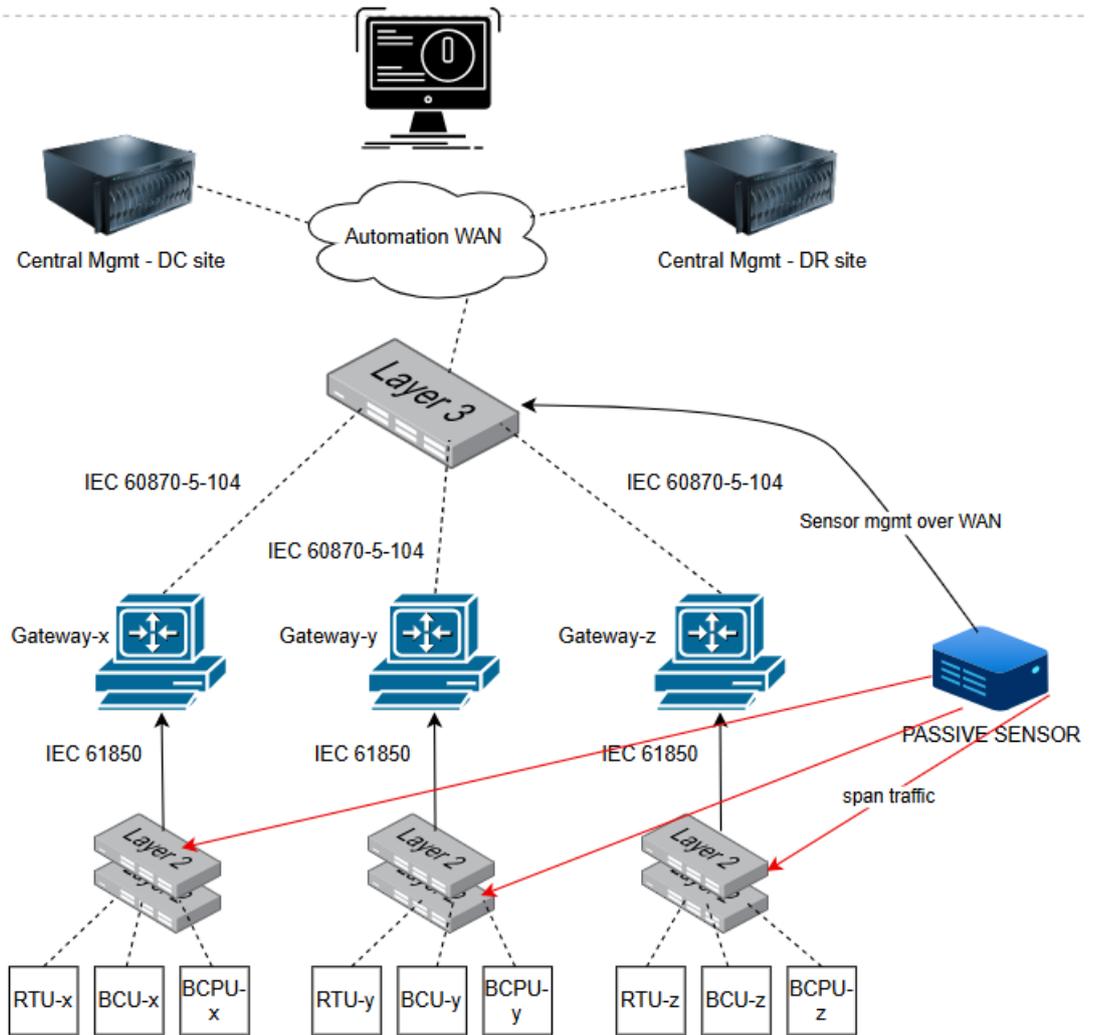


Fig 1: Substation architecture with connectivity of sensor to central management server

**ANNEXURE VIII**  
**Inspection Test Plan**

**Refer Technical Specification**

CONFIDENTIAL



RFQ No.:

NIT No.: CC26SAS018

**Annexure IX**  
**General Conditions of Contract**

CONFIDENTIAL

The Tata Power Company Limited is hereunder referred to as the "Owner" or "Company". The person, firm or company offering the services, the subject of this order is referred to as "Contractor". The subject of this order is hereinafter referred to as the "Work".

"Sub-Contractor" means any person named in the Contract as a Sub-contractor, sub-vendor, manufacturer or supplier for a part of the Works or any person to whom a part of the Works has been subcontracted and the legal successors in title to such Person, but not any assignee of such Person.

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

1. Work Order (with 'Commercial Notes' and Annexures to the Work Order referred thereon)
2. Scope of Work.
3. General Terms & Conditions - Service

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, provided however, in the event of any inconsistency or discrepancy between the aforementioned documents, the order of precedence in interpretation of the documents shall be as set out above. For the avoidance of doubt, it is clarified that the terms set forth in the Work Order (with 'Commercial Notes' and Annexures to the Work Order referred thereon) shall take precedence over the terms set out in the Scope of Work, which shall in turn take precedence of the terms set out in the General Terms & Conditions – Service.

#### **1. Contractor's obligation:**

- 1.1 Contractor warrants that it is a competent, qualified and experienced contractor, equipped, organised and financed to perform and complete the services in the operating area in an efficient and professional manner and capable of meeting all the requirements of the Contract.
- 1.2 The Contractor has the overall responsibility of executing the contract, conducting Planning, Job Scheduling, Maintenance Planning, Maintenance Job Scheduling, executing the Work and maintenance jobs as per the Scope of work & schedule.
- 1.3 Except to the extent that it may be legally or physically impossible or create a hazard to safety, the Contractor shall comply with the Owner's representative(s) instructions and directions on all matters relating to the Work.
- 1.4 Contractor shall at all times have full responsibility for control of the Equipment and for the direction and supervision of operations being carried out under the Contract.
- 1.5 In the performance of the Work, Contractor shall be and act as an independent Contractor fully responsible and accountable for the proper execution of its responsibilities, obligations and

liabilities under this Contract and for its own acts and the acts of its Sub-Contractors and the Personnel. Owner's supervision, examination or inspection of the (performance of the) Work or omission to carry out the same shall not be construed in any manner whatsoever as relieving Contractor from its responsibilities, obligations or liabilities under this Contract.

- 1.6 Contractor shall submit list of tools & tackles with details of make, year of manufacturing, valid certification to the Project Manager/ User for their approval.

Project Manager may during the execution of project inspect & verify that the tools & tackles are as per the qualification requirements approved by him and will have right to seek replacements in case of any discrepancies. The Contractor shall always comply with such directives.

- 1.7 Contractor shall engage Tata Power Skill Development Institute (TPSDI) certified labour force at the site for execution of the job. Requirement & fees for TPSDI certification shall be as per Company Policy.
- 1.8 Contractor shall take full responsibility for the protection and security of Owner's materials and equipment while such materials and equipment are temporarily stored in Contractor's facility or otherwise in Contractor's custody.
- 1.9 All notices, instructions, information, and other communications given by the Contractor to Owner under the Contract shall be given to the Order Manager/ Owner's representative, except as otherwise provided for in this Contract.
- 1.10 The Contractor shall make its own arrangements for movement of personnel and equipment, within and outside the sites / units / offices at the various locations covered by the Contract.
- 1.11 The Contractor shall acquire in its name all permits, approvals, and/or licenses from all local, state, or national government and other statutory authorities and/or public service undertakings that are necessary for the performance of the Contract.
- 1.12 Neither the Contractor nor its personnel shall during the term of this Contract, engage in any business or professional activities in India/abroad which would conflict with the activities assigned to them under this Contract.

#### **2. Service Warranties:**

Contractor warrants that all services performed for or on behalf of Owner will be performed in a competent,

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](mailto: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](mailto: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
<b>Organization</b>			
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		
<b>Governance</b>			
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?		
<b>Environment/ Planet</b>			
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?		
<b>Green Technology/ Innovation</b>			
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.)?		
<b>Social/ People</b>			
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		
<b>Certifications: Does your company have following certifications (valid till date-please mention validity)</b>			
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: 15<sup>th</sup> 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.

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

**Whistle Blower Policy:** <https://www.tatapower.com/pdf/aboutus/whistle-blower-policy-and-vigil-mechanism.pdf>

**Anti-Bribery & Anti-Corruption Policy:** <https://www.tatapower.com/pdf/aboutus/abac-policy.pdf>

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](mailto:cecounsellor@tatapower.com). The same can also be raised through our 3<sup>rd</sup> party ethics helpline facility:

<b>Toll-free Number</b>	1800 267 4065
<b>Email</b>	<a href="mailto:tatapower@tip-offs.in">tatapower@tip-offs.in</a>
<b>Website &amp; Chatbot</b>	<a href="http://www.tatapower.tip-offs.in">www.tatapower.tip-offs.in</a>
<b>Postal address</b>	Attn to: Mr. Puneet Arora, Deloitte Touch Tohmtsu India LLP, 6 floor, AIPL Business, Sector 62, Gurugram, Haryana 122102

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](mailto: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](mailto: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
<b>Organization</b>			
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		
<b>Governance</b>			
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?		
<b>Environment/ Planet</b>			
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?		
<b>Green Technology/ Innovation</b>			
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.)?		
<b>Social/ People</b>			
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		
<b>Certifications: Does your company have following certifications (valid till date-please mention validity)</b>			
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: 15<sup>th</sup> 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.

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

**Whistle Blower Policy:** <https://www.tatapower.com/pdf/aboutus/whistle-blower-policy-and-vigil-mechanism.pdf>

**Anti-Bribery & Anti-Corruption Policy:** <https://www.tatapower.com/pdf/aboutus/abac-policy.pdf>

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](mailto:cecounsellor@tatapower.com). The same can also be raised through our 3<sup>rd</sup> party ethics helpline facility:

<b>Toll-free Number</b>	1800 267 4065
<b>Email</b>	<a href="mailto:tatapower@tip-offs.in">tatapower@tip-offs.in</a>
<b>Website &amp; Chatbot</b>	<a href="http://www.tatapower.tip-offs.in">www.tatapower.tip-offs.in</a>
<b>Postal address</b>	Attn to: Mr. Puneet Arora, Deloitte Touch Tohmtsu India LLP, 6 floor, AIPL Business, Sector 62, Gurugram, Haryana 122102



RFQ No.:

NIT No.: CC26SAS018

**ANNEXURE X**  
**Manufacturers Authorization Form**

Date: .....

Tender Enquiry No.: .....

To,

HoD (Procurement & Contracts)  
Tata Power Company Limited,  
2nd Floor, Sahar Receiving Station,  
Sahar Airport Road,  
Andheri East,  
Mumbai-400059

Sir,

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

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

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

Yours Sincerely,

For .....

Authorized Signatory