

The Tata Power Company Ltd		<i>OPEN TENDER NOTIFICATION</i>
<i>Tender Reference: 4100071381/CC27ADO011</i>		<i>Document Date: 15th September 2026</i>

The Tata Power Company Limited Invites Tender through E-TENDER Two-Part Bidding Process from interested bidders for the following package: -

A. Summary of the tendered package:

Sr. No.	Description	Tender Reference no.	Bid Guarantee Fee / EMD (Rs.)	Tender Fee (Rs.)	Last Date and Time for Bid Submission
For the following package please send mail to Mr. Amey Oak (amey.oak@tatapower.com) with copy to Mr. Selva Ganesh (selva.ganesh@tatapower.com).					
1.	Supply of Truck/Trolley mounted Mobile Battery Energy Storage System (BESS).	4100071381/CC27ADO011	Rs. 2,50,000/-	2,000 /-	7 th October 2026, 1500, Hrs.

B. Tender Fee Payment Details

- Non-Refundable Tender Fee, as indicated in table above, to be submitted in the form of Direct deposit in the following bank account and submit the receipt along with a covering letter clearly indicating the Tender Reference number –

Beneficiary Name – The Tata Power Co. Ltd.

Bank Name – HDFC Bank Ltd.

Branch Name – Fort Branch, Mumbai

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

Branch Code – 60

Bank & Branch Code – 400240015

Account No – 00600110000763

Account type – CC

IFSC Code – HDFC0000060

- Eligible and Interested Bidders to submit duly signed and stamped letter on Bidder's letterhead indicating

Tender Enquiry number

Name of authorized person

Contact number

e-mail id

Details of submission of Tender Participation Fee

E-mail with necessary attachment of 1 and 2 above to be send to amey.oak@tatapower.com with a copy to selva.ganesh@tatapower.com before Last date and time mentioned above

Interested bidders to submit Tender Participation Fee and Authorization Letter before Last date and time as indicated above. Bids of only those bidders will be accepted who have paid the tender fee and

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EMD. Link from Tata Power E-Tender system (Ariba) will be shared for further communication and bid submission.

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

No e-mail or verbal correspondence will be responded. All communication will be done strictly with the bidder who have done the above step to participate in the Tender.

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

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

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

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OPEN TENDER NOTIFICATION

FOR

Supply of Truck/Trolley mounted Mobile Battery Energy Storage System (BESS).

**The Tata Power Company Limited (Tata Power)
Smart Center of Procurement Excellence, 2nd Floor,
Sahar Receiving Station, Near Hotel Leela,
Sahar Airport Road, Andheri East, Mumbai-400059**

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1. Event Information

1.1 Scope of work

Open Tenders are invited in E-TENDER bidding process from interested Bidders for placement of Purchase order defined below:

Reference Number	4100071381/CC27ADO011
Description	Supply of Truck/Trolley mounted Mobile Battery Energy Storage System (BESS).
Type of Tender	Firm Order Will be Placed
Estimated Period	NA
Tender Fee	Rs. Two Thousand Only (Rs. 2000/-)
Earnest Money Deposit (EMD)	Rs. Two Lakh Fifty Thousand Only (Rs. 2,50,000/-)
Price Basis	Firm Price Basis
Executive Handling this Tender*	Name: Mr. Amey Oak E-Mail ID: amey.oak@tatapower.com
Reporting Manager*	Name: Mr. N A Deepan Prasad E-Mail ID: deepan.prasad@tatapower.com
Technical Query *	Name: Mr. Yash Mane E-Mail ID: yash.mane@tatapower.com

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

1.2 Availability of Tender Documents

Tender documents may be downloaded by interested eligible bidders from The Tata Power Company website www.tatapower.com with effect from 16.09.2026. In the event detailed tender documents are downloaded from The Tata Power Company website or are received through online tendering system ARIBA from The Tata Power Company, the Tender Fee shall be compulsorily submitted online through NEFT/ RTGS. Any such bid submitted without this Fee shall be rejected.

Bidders are requested to visit TPC website www.tatapower.com regularly for any modification/ clarification to the bid documents.

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1.3 Calendar of Events

(a)	Date of availability of tender documents on TPC Website	From 16.09.2026 to 07.10.2026, 15:00 Hrs.
(b)	Date & Time of Pre-Bid Meeting (If any)	Not Applicable.
(c)	Last Date of receipt of pre-bid queries, if any	21.09.2026 up to 15:00 Hours
(d)	Last Date of Posting Consolidated replies to all the pre-bid queries as received	28.09.2026 up to 17:00 Hours
(e)	Last date and time of receipt of Bids	07.10.2026 up to 15:00 Hrs
(f)	Date & Time of opening of Price of qualified bids	Will be notified to the successful bidders through our website / e-mail.

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

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

1.4 Mandatory documents required along with the Bid.

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

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

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

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 Query / Clarification / Deviation (QCD) Format. Deviations must be mandatorily submitted in editable Excel sheet.

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

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1.6 Right of Acceptance/Rejection

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

1.5.2 Mandatory Documents as listed in 1.3 above.

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

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

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

1.7 Qualification Criteria

Parameter	Tata Power Requirement	Docs to be submitted by Bidder
Infrastructure	- Bidder must be an OEM/system integrator of the specified Battery Energy Storage System (BESS) with minimum 500 KWh one operational BESS in India. - Bidder should have experience and infrastructure to carry out Routine and Breakdown maintenance during warranty and Comprehensive AMC duration.	Self-undertaking to be submitted in this regard. TATA Power reserves the right to inspect the said manufacturing facility as a proof of compliance to this parameter.
Supply and Experience	- The bidder should have installed BESS, with similar technology, in last 5 years, for cumulative capacity of 5 MWH with 1 installation of 1 MWH or higher. - Out of the above, BESS installation of, at least 250 kWh must have been in successful operation for at least 4 months prior to the date of bid submission. - Indian Subsidiaries of global companies having operations in India are also eligible to bid if the qualification requirements stated above are met independently or in combination with the parent company. Declaration from parent company needs to be submitted. - Bidder to submit Manufacturer Authorisation form (MAF) for all the major bought-out items from the respective OEM. (Power conditioning System, Battery, BMS and EMS)	Supply List / Performance Certificates from the utilities / clients MAF in given to be shared on letter head of equipment OEM
Testing Facility	The bidder must have a rated power container level testing facility under sample basis for Factory Acceptance Testing (FAT) in India or Global. The facility should be capable of	Details of testing facility such as type of tests that can be performed in the facility, location, shall be

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	conducting comprehensive performance testing, including safety and functional tests, to ensure compliance. Additionally, the testing facility should have provisions for simulating operation and generating detailed test reports.	shared. NABL / International Accreditation details of the facility to be shared.
Commercial Capability	Bidder shall have an average annual turnover not less than Rs. 1.5 Cr. for last three financial years.	Copy of audited Balance Sheet and P&L Account to be submitted in this regard. UDIN No. shall be mandatorily mentioned on the audited documents.

1.8 Pre-Bid Queries

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

1.9 Marketing Integrity

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

- Failure to honor prices submitted to the marketplace.
- Breach of terms as published in TENDER.
- Submit irrelevant documents or frequently cases of missing documents as part of compliance to Qualifying, Technical or Commercial Requirements causing unnecessary delay in Tender Evaluation.

1.10 Supplier Confidentiality

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

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2 Evaluation Criteria

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

NOTE: In case of a new bidder not registered with Tata Power, factory inspection and evaluation shall be carried out to ascertain bidder's manufacturing capability and quality procedures. However, Tata Power reserves the right to carry out factory inspection and evaluation for any bidder prior to technical qualification. In case a bidder is found as Disqualified in the factory evaluation, their bid shall not be evaluated any further and shall be summarily rejected. The decision of Tata Power shall be final and binding on the bidder in this regard.

Price Variation Clause and Cap: Not Applicable. The prices shall remain firm during the entire contract period.

3. Submission of Bid Documents

3.1 Bid Submission

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

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

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

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

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

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

First Part must be submitted in hard copy in Sealed Envelope.

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

- a) Documentary evidence in support of Technical, Commercial qualifying criteria

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

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

Second Part has to be submitted through E-Tender System Only

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

Third part must be submitted through E-Tender System. Hard Copy of Third Part, "Price Bid" need not be submitted.

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

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

SECOND and THIRD PART of the Bid must be submitted in E-Tender System.

Bidders must mandatorily submit SECOND PART and THIRD PART (Technical, Un-priced commercial Bid, and Price Bid) only through E-Tender system of Tata Power. Bids submitted through any other form/ route shall not be admissible.

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

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

EMD

"Please mention Tender Reference No"

Please mention our Tender Reference No on the Tender and drop the same in our Tender Box located at The Tata Power Company Limited (Tata Power), Corporate Contracts, Tata Power Sahar Receiving Station, T2 Airport Road, Sahar, Andheri-E, Mumbai 400 059.

The bids and the outer envelope shall be addressed to:

Head - Procurement
Corporate Contracts, Tata Power Sahar Receiving Station, T2 Airport Road, Sahar, Andheri-E,
Mumbai 400 059

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

The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and Tata Power, shall be written in the English Language. Any printed literature

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furnished by the Bidder may be written in another Language, provided that this literature is accompanied by an English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

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

SIGNING OF BID DOCUMENTS:

The bid must contain the name, residence, and place of business of the person or persons making the bid and must be signed and sealed by the Bidder with his usual signature. The names of all persons signing should also be typed or printed below the signature.

The Bid being submitted must be signed by a person holding a Power of Attorney authorizing him to do so, certified copies of which shall be enclosed.

The Bid submitted on behalf of companies registered with the Indian Companies Act, for the time being in force, shall be signed by persons duly authorized to submit the Bid on behalf of the Company and shall be accompanied by certified true copies of the resolutions, extracts of Articles of Association, special or general Power of Attorney etc. to show clearly the title, authority and designation of persons signing the Bid on behalf of the Company. Satisfactory evidence of authority of the person signing on behalf of the Bidder shall be furnished with the bid.

A bid by a person who affixes to his signature the word 'President', 'Managing Director', 'Secretary', 'Agent' or other designation without disclosing his principal will be rejected.

The Bidder's name stated on the Proposal shall be the exact legal name of the firm.

3.2 Contact Information

Communication Details: Detailed in 1.1

3.3 Bid Prices

Bidders shall quote for the entire Scope of Supply/ work with a 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 Tata Power. The all-inclusive prices offered shall be inclusive of all costs as well as Duties, Taxes and Levies paid or payable during the execution of the supply work, breakup of price constituents.

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

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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, Tata Power may solicit the Bidder's consent to an extension of the Period of Bid Validity. The request and responses thereto shall be made in writing.

3.6 Alternative Bids

Bidders shall submit Bids, which comply with the Bidding documents. Alternative bids will not be considered. The attention of Bidders is drawn to the provisions regarding the rejection of Bids in the terms and conditions, which are not substantially responsive to the requirements of the bidding documents.

3.7 Modifications and Withdrawal of Bids

The bidder is not allowed to modify or withdraw its bid after the Bid's submission. The EMD submitted along with the bid shall be liable for forfeiture in such event.

3.8 Earnest Money Deposit (EMD):

The bidder shall furnish, as part of its bid, an EMD amounting as specified in the tender. The EMD is required to protect the Tata Power against the risk of bidder's conduct which would warrant forfeiture.

The EMD shall be in following form:

- Bank Guarantee valid for 180 days after due date of submission.

The EMD shall be forfeited in case of:

- The bidder withdraws its bid during the period of specified bid validity.
- Or**
- In case of a successful bidder, if the Bidder, within 15 days, does not.
- accept the purchase order, or.
- furnish the required Contract Performance Bank Guarantee (CPBG).

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

4. Bid Opening & Evaluation process

4.1 Process to be confidential.

Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process. Any effort by a Bidder to influence Tata Powers processing of Bids or award decisions may result in the rejection of the Bidder's Bid.

4.2 Technical Bid Opening

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

First the envelope marked "EMD" will be opened. Bids without EMD of required amount/ validity in prescribed format, shall be rejected.

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Next, the technical bid of the bidders who have furnished the requisite EMD will be opened in E-Tender system.

4.3 Preliminary Examination of Bids/Responsiveness

Tata Power will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order. Tata Power may ask for submission of original documents in order to verify the documents submitted in support of qualification criteria.

Prior to the detailed evaluation, Tata Power will determine the substantial responsiveness of each Bid to the Bidding Documents including production capability and acceptable quality of the Goods offered. A substantially responsive Bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviation.

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

4.4 Techno Commercial Clarifications

Bidders need to ensure that the bids submitted by them are complete in all respects. To assist in the examination, evaluation and comparison of Bids, Tata Power may, at its discretion, ask the Bidder for a clarification on its Bid for any deviations with respect to the Tata Power specifications and attempt will be made to bring all bids on a common footing. All responses to requests for clarification shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted owing to any clarifications sought by Tata Power.

4.5 Price Bid Opening

The EMD of the bidder withdrawing or substantially altering his offer at any stage after the technical bid opening will be forfeited at the sole discretion of Tata Power without any further correspondence in this regard.

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

4.6 Reverse Auction and Price Matching Option

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

Only those bidders who are techno-commercially qualified shall be eligible to participate further in RA process. However, the original H1 bidder (whose price bid is the highest post techno-commercial

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evaluation) shall not be allowed to participate in further RA process provided minimum three techno-commercially qualified bids are available.

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

5.0 Award Decision

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

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

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

In case of award, the Purchase Order shall be issued digitally through Ariba Commerce Automation portal. In all such cases, further transaction such as Order Acceptance, SES / GRN preparation, Invoicing etc. shall be conducted in the Ariba Commerce Automation system.

5.1 Rate Contract / Outline Agreement

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

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

6.0 Order of Preference/Contradiction:

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

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

The Tata Power Company Ltd		<i>OPEN TENDER NOTIFICATION</i>
<i>Tender Reference:</i> 4100071381/CC27ADO011		<i>Document Date: 15th September 2026</i>

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

7.0 Ethics

Tata Power is an ethical organization and as a policy Tata Power lays emphasis on ethical practices across its entire domain. Bidder should ensure that they should abide by all the ethical norms and in no form either directly or indirectly be involved in unethical practice.

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

8.0 General Condition of Contract and Special Condition of Contracts

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

The Tata Power Company Ltd		OPEN TENDER NOTIFICATION
Tender Reference: 4100071381/CC27ADO011		Document Date: 15 th September 2026

Annexure – 1 Schedule of Items

CC27ADO011/4100071381 - Supply of Mobile Battery Energy Storage System (BESS), Truck-Mounted / Trolley-Mounted, rated 505 kW / 1010 kWh, 415V AC, 3-Phase, 50 Hz output.

Sr. No.	Description	Quantity	UoM	Rate (Rs.)	GST (%)	Rate with GST (Rs.)	Total (Rs.) (Basic)	Total With Taxes (Rs.)
1	Mobile Battery Energy Storage System (BESS), Truck-Mounted / Trolley-Mounted, rated 505 kW / 1010 kWh, 415V AC, 3-Phase, 50 Hz output, complete with Lithium-Ion Battery System, Bidirectional Power Conversion System (PCS), Battery Management System (BMS), Energy Management System (EMS), integrated HVAC, fire detection and suppression system, protection and control equipment, remote monitoring and communication interfaces, interconnecting cabling, and all associated accessories. Suitable for Diesel Generator (DG) replacement, temporary power supply, site power support, peak shaving, load management, backup power, and emergency applications. Complete supply, testing, commissioning, and warranty as per technical specification.	2	EA			-	-	-

Note

1. Please enter values in the Cells highlighted yellow only. Please do not edit any other cells.
2. 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.
3. Mentioning “extra/inclusive” in any of the column may lead for rejection of the price bid. Please do not edit any other cell in the sheet.

The Tata Power Company Ltd		OPEN TENDER NOTIFICATION
Tender Reference: 4100071381/CC27ADO011		Document Date: 15 th September 2026

ANNEXURE II
Scope of Work

The Tata Power Company Ltd		TECHNICAL SPECIFICATION FOR TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)
ENSE-DS-2068-R00		Date of Issue: 21/08/2026

TECHNICAL SPECIFICATION

TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)

The Tata Power Company Ltd.
Engineering Services (ENSE),
Distribution Division, Senapati Bapat Marg,
Lower Parel, Mumbai – 400013 Maharashtra

The Tata Power Company Ltd		TECHNICAL SPECIFICATION FOR TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)
ENSE-DS-2068-R00		Date of Issue: 21/08/2026

Document No: ENSE-DS-2068-R00

Document Title: Technical specifications for TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)

00	For tender purpose (ENSE-DS-2068-R00)	21/08/2026	YMM	<i>yash mane</i>	TP	<i>TP</i>	VK	VK
Rev No.	Remarks	Date	Initials	Sign	Initial	Sign	Initials	Sign
			Prepared By		Checked By		Approved and Issued By	

The Tata Power Company Ltd.
 Engineering Services (ENSE),
 Distribution Division, Senapati Bapat Marg,
 Lower Parel, Mumbai – 400013 Maharashtra

The Tata Power Company Ltd		TECHNICAL SPECIFICATION FOR TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)
ENSE-DS-2068-R00		Date of Issue: 21/08/2026

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1. INTRODUCTION
2. SCOPE
3. GENERAL TERMS AND CONDITIONS
4. CLIMATIC CONDITIONS OF THE INSTALLATION
5. GENERAL DESIGN FEATURES OF M-BESS
6. CODES AND STANDARDS
7. BATTERY PARTICULARS
8. BATTERY MANAGEMENT SYSTEM FUNCTIONS
9. POWER CONDITIONING SYSTEM (PCS)
10. ISOLATION TRANSFORMERS
11. LT CABLES AND ACCESSORIES
12. EMS HARDWARE CONTROL PANEL AND COMMUNICATION FOR M-BESS
13. PROTECTION SYSTEM
14. FIRE DETECTION & SUPPRESSION SYSTEM (FSS)
15. HEATING VENTILATION AND AIR CONDITIONING (HAVC) SYSTEM FOR M-BESS
16. TEMPERATURE SCANNING SYSTEM
17. EARTHING AND LIGHTNING PROTECTION
18. RATING PLATES, NAME PLATES, COLOUR CODES AND LABELS
19. AUXILIARY POWER SYSTEM FOR M-BESS
20. GPS TIME SYNCHRONIZATION
21. APPROVED MAKES FOR M-BESS AND ITS COMPONENTS
22. MANDATORY SPARES
23. TESTING
24. DOCUMENTATION (TO BE SUBMITTED ALONG WITH BID)
25. DOCUMENTATION (TO BE SUBMITTED AFTER AWARD OF CONTRACT)

The Tata Power Company Ltd		TECHNICAL SPECIFICATION FOR TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)
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- 26. TRAINING
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- 29. MANUFACTURING ACTIVITIES
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The Tata Power Company Ltd			TECHNICAL SPECIFICATION FOR TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)
ENSE-DS-2068-R00			Date of Issue: 21/08/2026
1.	INTRODUCTION	Tata Power Company Limited (TPCL) intends to procure a Truck / Trolley Mounted Mobile Battery Energy Storage System (M-BESS) to provide temporary and emergency electrical supply during distribution network contingencies. The proposed M-BESS shall function as a clean, silent and rapidly deployable alternative to conventional diesel generator (DG) sets and shall primarily be utilized for: • Double cable faults • Feeder outages • Distribution transformer failures • Planned shutdown activities • Emergency maintenance works • Supply restoration to critical consumers • Temporary network extension works • Disaster recovery and emergency response activities • Islanded operation of distribution network sections The M-BESS shall be supplied as a fully integrated, self-contained and roadworthy vehicle comprising Truck / Trolley chassis, battery energy storage system, battery management system, power conversion system, energy management system, fire detection and suppression system, thermal management system, auxiliary systems, communication systems and all accessories necessary for safe and reliable operation. The M-BESS shall be capable of estimated delivery of 505 kW / 1010 kWh. The complete system shall be engineered for reliable operation under TPCL's operating conditions and shall comply with all applicable statutory, safety and regulatory requirements.	
2.	SCOPE	The bidder shall be responsible for complete design, engineering, manufacturing, assembly, supply, transportation, testing, commissioning, training and warranty support of the M-BESS. The scope shall include but not be limited to: 2.1 Vehicle Platform • Heavy duty commercial Truck / Trolley chassis of reputed brand viz, Tata Motors, Ashok Leyland, Bharat Benz, Eicher Motors, etc • Driver cabin • Vehicle electrical system. • Structural mounting frame. • Equipment enclosure. • Outrigger/stabilization arrangement. • Cable storage compartment. • Safety lighting. • Reflective markings.	

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		• Reverse warning system. 2.2 Battery Energy Storage System • Battery cells. • Battery modules. • Battery racks. • Battery enclosure. • DC cabling. • DC combiner arrangement. • Battery disconnect units. • Battery management system. 2.3 Power Conversion System • Bidirectional power conversion system. • AC switchgear. • Synchronization equipment. • Control and protection system. • Harmonic mitigation system. 2.4 Energy Management and Controls • EMS. • Local HMI. • Data logger. • Communication gateway. • Remote monitoring platform. 2.5 Thermal Management • Liquid cooling system. • Heat exchangers. • Pumps. • Ventilation system. • Environmental monitoring system. 2.6 Fire Protection System • Thermal runaway detection. • Smoke detection. • Gas detection. • Fire alarm system. • Automatic fire suppression system.

The Tata Power Company Ltd		TECHNICAL SPECIFICATION FOR TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)
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2.7 Testing and Commissioning

- Factory Acceptance Test (FAT).
- Acceptance Test (SAT).
- Performance verification.
- Operator training.

Bidder shall include in his proposal all the material and services needed for the completeness even if the same are not specifically appearing in these specifications.

M-BESS shall comprise of Battery Modules & Connectors, Racks, Rack Control Boxes, Containers along with HVAC / Chiller, Fire Detection & Suppression System, Temperature Scanning System, BMS, EMS, PCS, AC & DC Cables, Earthing System, PCS, ACBs, Multi Winding Transformers, Protection System, Auxiliary Power Supply System, Battery Cooling System, Fire Detection & Suppression System, Temperature Scanning System, Communication System, Monitoring & Control System and all other associated materials and accessories necessary for trouble free operation and maintenance of M-BESS System. The configuration and internal layout of the M-BESS shall provide suitable safe access to all equipment for installation, operation, maintenance and repair in all weather conditions.

Bidder shall provide all necessary cables and control cables till the point of coupling.

Bidder shall include in his proposal all the material and services needed for the completeness even if the same are not specifically appearing in these specifications.

Detailed scope includes: Bidder shall be responsible for identifying and providing any and all the equipment, Components and services necessary for fully functional Truck / Trolley mounted mobile battery energy storage system M-BESS. Equipment, materials and services required for satisfactory operation of M-BESS for 25 years (other than Battery) shall be deemed to be included in the scope of turnkey package work and shall not be limited to the following

1. Basic Engineering and Design philosophy M-BESS System
2. Design, engineering, planning of M-BESS based on overall Truck / Trolley length of maximum 14 / 20 feet of trailer, engineering drawings, data, process calculation, single line diagrams, Design calculation, and Test Procedures for review and approval of TPCL.
3. Submit drawings / Data sheets of bought out items,
4. Engineering - Relevant design. drawings and documents required for engineering of all facilities within the scope including but not limited to

The Tata Power Company Ltd		TECHNICAL SPECIFICATION FOR TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)
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		a) Design philosophy of whole System b) Detailed Battery & BMS Schemes, logic diagrams, Architecture c) EMS Control logic diagrams, schemes & Architecture d) Battery System calculation e) Earthing Design and calculations f) Project Document including drawings, features of M-BESS System & its components, System Configuration, System Architecture, Safety hazard to environment and personnel, Operation & Maintenance practices, O&M Manuals and procedure of safe disposal/handling etc 5. M-BESS container to be mounted on Truck / Trolley bed or trolley mounted 6. The Bidder who offers the said highest capacity in lesser footprint design compliant with all safety requirements. 7. The scope shall include integration of the proposed M-BESS with the existing Centralized Energy Management System (EMS) and server infrastructure available with the Tata Power. The Bidder shall provide all necessary communication hardware, networking equipment, gateways, software licenses, interconnection cabling, protocol converters, and associated accessories required for seamless integration of the proposed M-BESS installations with the Utility's existing EMS platform. The solution shall support monitoring, control, data acquisition, alarm/event management, reporting, and dispatch functions for the offered M-BESS. The Bidder shall ensure interoperability with the Utility's existing EMS/SCADA environment using open and industry-standard communication protocols such as IEC 61850, IEC 60870-5-104, Modbus TCP/IP, DNP3, or other protocols specified by the Utility. Any required software customization, database configuration, API integration, testing, commissioning, cybersecurity compliance, and performance validation for successful integration with the existing EMS shall be included within the Bidder's scope. No separate centralized EMS platform shall be required unless specifically identified as necessary for interfacing with the Utility's existing EMS. 8. Packaging & Transportation from manufacturers works to the including mode of transportation, required statutory coordination, custom

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		clearances & Port clearance, port charges etc. Transit insurance and storage insurance till the handing over of M-BESS to TPCL. 9. Receive, Store, preserve the M-BESS Equipment, Components at the Bidder Office and Security of Project material on. Realtime GPS tracking system for activity with link and log in to TPC project and services team. 10. Finalization of sub-vendors, prepare quality assurance plans including manufacturing, execution and CATS quality plans. No sub-contracting of work in full or in part is allowed unless approved by the TPCL in writing. 11. Detailed design, engineering, Manufacturing, fabrication, Supply, transport, shipping, assembling, installation, erection, commissioning, testing (including pre commissioning and commissioning) of all the equipment and system. Warrant and make ready for service a fully functional battery energy storage system on turnkey basis. Including but not limited to a) Lithium-ion Battery modules, Battery Racks, Containers, Rack Control Boxes, Battery module connectors, DC Cables along with cable trays / trenches, cable terminations and earthing system, b) Compatible Liquid Cooling System for M-BESS including indoor or Outdoor Units, Controllers, Ducts & Piping system c) Compatible Electrical system (including protection) up to Point of Connect 415 V AC comprising Power Conditioning System (PCS), Isolation Transformers (optional) (Fire Fighting), HT/LT AC/DC Cables (along with cable trays / trenches), Earthing System. d) Compatible Auxiliary Power Supply System comprising, Distribution Boards, Earthing system e) Compatible Fire Detection & Suppression System for M-BESS including smoke detectors, Gas Detectors, Gas Release Panel, Fire Dampers, NOVAC / AEROSOL Cylinder & piping, Manual Call Points, Fire Controller panel in Control Room, Abort & Emergency release switches, Panels, Cabling & integration along with Trays, Switches & Racks. Firefighting system shall be provided as per IEC 62897 or NFPA 72.A or NFPA 855 compliance. f) Compatible Temperature Scanning System for M-BESS including Temperature sensors, Temperature loggers, Controllers, Panels, Cabling & integration along with Trays, Switches & Racks g) Compatible EMS system for Monitoring & Control of Isolation Transformers, PCS, ACB Panels, batteries, FSS, Cooling System, Auxiliary Power Supply System and any other system. Provide Local EMS System at each location and Centralized EMS System at TPCL.	

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		EMS system shall have standard protocol for communication on IEC 104 protocols and shall be communicable with DERMS. h) Metering in AC & DC System for energy accounting purpose at required points (ACBs, PCS, Battery Containers etc) i) EMS Software (5-year licensing for Cloud services under SaaS model) – including managed services Cost (Web Applications, DR system, Yearly operation, FMS, Comprehensive Support services). j) Supply of spares required during CATS contract period (5 Yrs.), replenish of spares based on consumption trend during CATS contract period (5 Yrs.) of the matching quality, quantity and rating within shortest possible time. Bidder shall maintain the spares in his custody at the respective location. Bidder shall maintain spares for each type of M-BESS equipment / item / component as mentioned in this specification. k) Instrumentation & Communication cables, terminations and all other communication devices (hardware and services at both end) required for successful and cybersafe integration of M-BESS & its components with EMS System and integration of SCADA & EMS System and integration of Local EMS with centralized EMS System l) Use of Tools, tackles & testing Equipment and special equipment (hydra, forklift for handling the packs and equipment shall be in bidder scope, and Tata Power safety requirement is to be fulfilled) 12. Complete all Type, routine, and acceptance tests. Develop detailed test acceptance Plan. Perform FAT, SAT for M-BESS System & its components. 13. Successful trial run of M-BESS System for 7 days from date of commissioning and submission of relevant Test Reports. Carry out Reliability and functional guarantee tests after successful completion of trial Operation. 14. Ensure adequate warranty for the battery energy storage system and its constituent equipment / Components including bought out items to deliver Comprehensive Annual Maintenance services for CATS Contract period (5 Yrs.). 15. M-BESS Comprehensive Support for Contract period (5 Years) - Scope includes: periodic maintenance/servicing of complete system including replace faulty equipment / items, preventive maintenance and providing all spare parts/ tools/ consumables for servicing as required as per good engineering practice, recommendation(s) of the respective equipment manufacturer(s) and instructions of engineer-in-charge and Maintain performance of M-BESS.

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		16.Earthing of AC and grounding of DC equipment as per Manufacturer recommendation. 17.24X7, Monitoring & Control for efficient Operation of M-BESS (Charging & Discharging) from TPCL centralized EMS System and provide M-BESS Support to Grid as per TPCL Requirement. 18.Training to TPCL team for 2 Man-days at Bidders facility, manufacturing plant, design office, (Installation, Commissioning, testing, FAT and O&M). Expenses towards travel, lodging and other expenses of personnel will be borne by TPCL. 19.Providing project documents in English including O&M / instruction manuals, as built drawings, block diagrams, single line diagrams, technical characteristics of equipment, Test Reports, features of M-BESS System & its components, System Configuration, System Architecture, Contact details of Bidder etc Satisfactory completion of Contract within timelines defined in tender.	
3.	GENERAL TERMS AND CONDITIONS	1. Bidder shall include in his proposal all the Industrial Grade Hardware, Software, Panels, Power Supply, electronic items such as HMI, Gateway, Networking equipment and associated Cable etc. needed for the completeness even if the same are not specifically appearing in these specifications. 2. Conformal Coating: a) Conformal coating shall be provided for all field devices for protection against harsh environmental condition G3 as per ISA 71.04-1985 b) Conformal coating products shall be tested and approved by EIA 364- 65A c) Supplier shall comply the coating requirement as per following standard specification i. IPC –CCC-830, Qualification and performance of electrical insulating compounds for printed board assemblies ii. UL 746E Polymeric materials – Industrial laminate, filament wound tubing, vulcanizing fiber, materials used in printed wiring boards iii. IEC 60664-3. Insulation coordination for equipment within low voltage systems Part 3, Use of coatings to achieve insulation coordination of printed board assemblies	

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		3. Considering the harsh, saline environment, Bidder shall also include the dehumidifiers, weather control, etc as required for improving the service life of equipment. 4. All surfaces shall be protected against abrasion, impact, discoloration and any other damages. All exposed threaded portions shall be suitably protected with either metallic or a nonmetallic protection device. The parts which are likely to get rusted, due to exposure to weather, should also be properly treated and protected in a suitable manner. All exposed metallic surfaces subject to corrosion shall be protected by shop application of suitable coatings. 5. Bidder shall be responsible for providing all material, equipment and services, specified or otherwise which are required to fulfill the intent of specification and ensuring availability, operability, maintainability and the reliability of the complete work covered under this specification 6. Bidders are requested to carefully examine and understand the specifications and seek clarifications, if required, to ensure that they have understood the specifications. Such clarifications should be sought within the time period as stipulated in section Information to Bidders (ITB). Bidder's offer should not carry any sections like clarifications, interpretations and/or assumptions. However, if the bidder feels that, in his opinion, certain features brought out in his offer are superior to what has been specified, these may be highlighted separately 7. All equipment furnished by the bidder shall be complete in every respect, with all mountings, fittings, fixtures and standard accessories normally provided with such equipment and/or those needed for erection, completion and safe operation & maintenance of the equipment and for the safety of the operating personnel, as required by applicable codes, though they may not have been specifically detailed in these specifications. 8. All local labor, employment, and other issues during project execution and CATS period shall be handled independently by the Selected Bidder 9. The material and services shall be conforming all aspects to high standard of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in a manner acceptable to the TPCL, who will interpret the meaning of the specification and drawings and shall have a right to reject or accept any work or material which in his assessment is not complete to meet the requirements of this specification and/or applicable Indian / International standards mentioned in this specification. 10. Approvals - Bidder shall complete design and engineering, arrange / coordinate and conduct technical meetings with TPCL team, finalize

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		drawings & documents and submit the same for approval of TPCL. Bidder shall also conduct submission, in proper shape and format, of all types of manuals, handbooks and documents to TPCL during different phases of the project as per TPCL requirement. 11.Failure of any equipment to meet the specified requirements of tests carried out at works or at shall be sufficient cause for rejection of the equipment. Bidder shall not hold rejection of any equipment as a valid reason for delay in completion of the works as per schedule. Bidder shall be responsible for removing all deficiencies and supplying the equipment that meet the requirement. 12.Bidder shall dispatch the battery system in a way so as to avoid any accident either due to road conditions, environmental conditions and any other conditions which may arise due to transportation. Bidder shall follow all the rules, regulations, and standards applicable for transport of batteries in India. 13.Bidder shall strictly adhere to the TPCL Safety and Environment Management policy and System. Bidder shall fulfill the entire requirement mentioned in the policy and its documents. Violation to the stipulated norms shall lead to heavy penalty in this regard. Any changes in the policy during the execution period and its fulfillment or compliance shall be binding on bidder and no extra amount shall be paid for the same by TPCL. 14.Bidder shall develop the M-BESS strictly in accordance with the approved drawing. No deviation in any case shall be entertained.																																	
4.	CLIMATIC CONDITIONS OF THE INSTALLATION	<table border="1"> <tr> <td>1</td><td>Maximum ambient temperature</td><td>50 °C</td></tr> <tr> <td>2</td><td>Max. Daily average ambient temp</td><td>40 °C</td></tr> <tr> <td>3</td><td>Min Ambient Temperature</td><td>0 °C</td></tr> <tr> <td>4</td><td>Maximum Humidity</td><td>100%</td></tr> <tr> <td>5</td><td>Minimum Humidity</td><td>10%</td></tr> <tr> <td>6</td><td>Average No. of thunderstorm per annum</td><td>50</td></tr> <tr> <td>7</td><td>Total Annual Rainfall</td><td>2386 mm</td></tr> <tr> <td>8</td><td>Average No. of rainy days per annum</td><td>115</td></tr> <tr> <td>9</td><td>Rainy months</td><td>June to Oct.</td></tr> <tr> <td>10</td><td>Altitude above MSL not exceeding</td><td>300m</td></tr> <tr> <td>11</td><td>Average Air Pressure</td><td>29.6-inch Hg</td></tr> </table> The atmosphere is generally laden with mild acid and dust in suspension during the dry months and is subjected to fog in cold months. The design of equipment and accessories shall be suitable to withstand seismic forces corresponding to an acceleration of 0.3 g.	1	Maximum ambient temperature	50 °C	2	Max. Daily average ambient temp	40 °C	3	Min Ambient Temperature	0 °C	4	Maximum Humidity	100%	5	Minimum Humidity	10%	6	Average No. of thunderstorm per annum	50	7	Total Annual Rainfall	2386 mm	8	Average No. of rainy days per annum	115	9	Rainy months	June to Oct.	10	Altitude above MSL not exceeding	300m	11	Average Air Pressure	29.6-inch Hg
1	Maximum ambient temperature	50 °C																																	
2	Max. Daily average ambient temp	40 °C																																	
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		For Mumbai the atmosphere is mainly humid across year.
5.	GENERAL DESIGN FEATURES OF M-BESS	The Bidder shall be responsible for deployment of installed capacity of 125 KW and estimated delivery of 1010 kWh M-BESS in TPCL having following design features Vendors shall share assumptions considered while calculating the total battery capacity in terms of Battery Module capacity (kWh), No of Modules / Rack, installed capacity/Rack, No of Battery Racks, total Installed capacity (MWh), One-way conversion efficiency considered, Battery Rack operating voltage (Vdc), Auxiliary power. Vendors shall also share 5-year (wise) Capacity availability calculations considering 100% DoD, Standard Operating Conditions @25 deg C & Full Load - Year - No.of Cycles - Degradation in % - SoH - Rated / Installed MWh - DC Usable MWh - Available Capacity (MWh) at POC (415 V bus) including Aux consumption - Available Capacity (MWh) at POC (415 V bus) excluding Aux consumption Vendors shall also share. Auxiliary power consumption at plant level and container level tested during acceptance test Cycle - Complete one charge cycle is used when an amount that equals 100 % of battery's capacity is discharged — but not necessarily all from one charge. For instance, if 75 % of your battery's capacity is used one day, then recharged it fully overnight. If 25 % capacity is used the next day, then total discharged 100 % capacity, and the two days will add up to one charge cycle
6.	CODES AND STANDARDS	Material, equipment and methods used in the manufacturing of M-BESS and its components shall confirm to the latest edition of following standard. Bidders to submit the certifications / test reports required for below mentioned standards. All standards specifications and codes of practice referred to shall be the latest editions including all applicable official amendments and revisions as on date of opening of bid M-BESS Components proposed for deployment must have valid test certificates as per specified IEC / BIS standards by one of the ILAC member signatory accredited laboratories. Test Certificates from

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reputed ILAC member body accredited labs from outside India will be acceptable in case Test facilities are not exist in India at present.

At least one set of complete M-BESS with partial or full capacity should be offered for inspection, verification of M-BESS functionalities as per relevant IEC/International standards. The test facility should be NABL approved

Equipment should comply to standards listed below. Bidder shall share standard adopted along with salient features.

In addition to the codes and standards specifically mentioned in the relevant technical specifications for the equipment / plant / system, all equipment parts, systems and works covered under this specification shall comply with all currently applicable statutory regulations and safety codes as well as of the locality where they will be installed.

1. National / International Standards for Battery Energy Storage System

Standard	Title	Requirement
IEC 62619 or UL1642 or UL1973 (For Cell)	specifies requirements and tests for the safe operation of secondary lithium cells and batteries used in industrial applications including stationary applications	Compliance with Certification
IEC 63056 or UL1642 or UL1973 (For Battery Level)	Secondary cells and batteries containing alkaline or other nonacid electrolytes - Safety requirements for secondary lithium cells and batteries for use in electrical energy storage systems	Compliance with Certification
IEC 62620 (For Cell)	Marking, tests and requirements for lithium secondary cells and batteries used in industrial applications including stationary applications	Compliance with Certification
IEC 62897 or NFPA 72.A or NFPA 855.	Stationary Energy Storage Systems with Lithium Batteries – Safety Requirements	Compliance
IEC 62281 or UN38.3 (For battery & Cell)	Test methods and requirements for primary and secondary (rechargeable) lithium cells and batteries to ensure their safety during transport other than for recycling or disposal.	Compliance with Certification

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		IEC 62933-5-1 + IEC 62933-5-2 or UL9540 and UL9540A (M-BESS Level) IS 17092	Electrical Energy Storage System Safety Requirements	Compliance with Certification
		UL 9540A	Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy	Compliance
		IEC/TS 62933-5	Electrical energy storage (EES) systems - Part 5-2: Safety requirements for grid-integrated EES systems - Electrochemical based systems	Compliance with Certification
		IEC 61850 / DNP3	Communications networks and management systems. (M-BESS control system communication)	Compliance
		RoHS	Restriction of the use of certain hazardous substances in electrical & Electronic equipment	Compliance
		UL 1642	Standard of Lithium Batteries (Safety of Lithium-Ion Batteries)	Compliance with Certification
		IEC 61508 (For EMS / OS and BMS)	Functional Safety of Electrical/ Electronic/ Programmable Electronic Safety-related Systems: Applicable for all Battery Energy Storage Systems	BMS comply with IEC 60730
		NFPA 855	Standard for the Installation of Stationary Energy Storage Systems	Compliance
		IEC-60529	Ingress Protection Testing for Enclosures	Compliance, IP55
		2. National / International Standards related to operation & safety of PCS, testing procedures and protection devices		
IEC Certificates		Test Name		
IEC 62477-1		Safety requirements for power electronic converter systems and equipment - Part 1: General		
IEC60068-2-1:2007		Environmental testing – Part 2-1: Tests – Test A: Cold-35 C /72 Hour		
IEC60068-2-2:2007		Environmental testing -Part 2-2: Tests – Test B: Dry heat: 60 C /72 Hours		

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	IEC60068-2-14:2009	Environmental testing – Part 2-14: tests – Test N: Change of Temperature : -35 C / 60 C , 3 Hours / 2 Cycle				
	IEC60068-2-30:2005	Environmental testing Part 2 30: Tests – Test Db: Damp heat, 25 C /60 C 95 % RH 2 Cycle				
	IEC62116 Ed 2	Islanding prevention measures				
	IEC61000-6-2	EMC, Generic standards immunity for Industrial Environments				
	IEC61000-6-4	EMC, Generic standards immunity for Industrial Environments				
	IEC 60947-1:2020	Low-voltage switchgear and control-gear assemblies				
	IEC 61439	Low Voltage Switchgear and Control Assemblies				
	IEC61683	Procedure for Measuring Efficiency				
	IEEE 1547	Standard for interconnecting distributed resources with electrical power systems				
	UL 1741	Inves and Interconnection System Equipment For Use With Distributed Energy Resources				
	IEC 62909 -1	Bi-directional grid connected power converTErs - Part 1 : General requirements				
	IEC 62909-2	Bi-directional grid- connected power converTErs - Part 2: Interface of GCPC and distributed energy resources				
	3. Other Standards					
<table><tr><th>Standard Number</th><th>Title</th></tr><tr><td rowspan="2">Grid Connectivity</td><td>Relevant CEA 2019/2022 Regulations – CEA technical standards for connectivity to the Grid by RE generators-July 2022 and CEA technical standards for distributed generation resources Amd. Regulation-2019 (including LVRT / HVRT compliance) and Grid Code as amended and revised from time to time.</td></tr><tr><td>The M-BESS shall remain connected to the grid as per Central Electricity Authority Technical (standards for connectivity to the grid) regulation 2007 with all latest amendments and its components shall be designed accordingly. M-BESS and its components shall conform to the CEA / CEIG and local statutory requirements for</td></tr></table>		Standard Number	Title	Grid Connectivity	Relevant CEA 2019/2022 Regulations – CEA technical standards for connectivity to the Grid by RE generators-July 2022 and CEA technical standards for distributed generation resources Amd. Regulation-2019 (including LVRT / HVRT compliance) and Grid Code as amended and revised from time to time.	The M-BESS shall remain connected to the grid as per Central Electricity Authority Technical (standards for connectivity to the grid) regulation 2007 with all latest amendments and its components shall be designed accordingly. M-BESS and its components shall conform to the CEA / CEIG and local statutory requirements for
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			Commissioning, Testing and integration with Grid.		
		IEC 61180	High Voltage test techniques for LV equipment's		
		IEC 60076-1/ IS 2026	Power Transformer		
		IEC 61439	Low Voltage Switchgear and Control Assemblies		
7.	BATTERY PARTICULARS	Lithium-ion battery cells with different chemistry are allowed so as far as the following technical specifications are met by bidder			
		Technical parameters			
		Parameters		Remark	
		Battery Cycles per day		Max 2 cycles per day	
		Battery Cycles per year		Max 600 cycles per year	
		Guaranteed complete charge and discharge cycles		8000 Cycles*	
		Battery Type		Lithium ion	
		Battery Chemistry		(LFP, Liquid Cooled)	
		Battery Life		12 Years from Date of Commissioning or 8000 cycles whichever is earlier	
		Min. Battery Energy at the end of 12th Year		70% of 1st Year Opening Installed Battery Capacity	
		Response Time		1 Second	
		Battery cell discharge efficiency		>96%	
		Gas Evolution from Battery		None	
		Battery Cooling Type		Liquid	
		Maximum permissible depth of discharge (DoD)		Bidder to specify within 95% to 100%	

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		Battery Charging Rate	C/2
		Battery Discharging Rate	From C/2 to C/8 (As per load)
		Battery lifting/withdrawing arrangement	Suitable arrangement on Module / Battery Pack
		Suitable Marking arrangement on Container	Marking will be done as per IEC 62619 and shall have following, a. PO Number and Date b. Customer Name- Tata Power Company Ltd, Mumbai c. Manufacturer name, d. Month & year of manufacturing e. Warranty Period f. Nominal voltage g. Rated kWh capacity h. Rated kW capacity i. Cell numbers j. C rate k. Customer Care Number/ Emergency number l. Separate Tata Power Logo branding visible size min. 0.5mx0.5m on both sides
		Flame Arresters	Each module / pack / string / container shall be equipped with flame arrestor to diffuse any flammable gas escaped during charge/discharge
		Fire protection system at each level	Bidder to Specify
		Pressure Regulation Valve (PRV)	a. Each module / pack shall be provided with a pressure regulation valve. b. Valve shall be sealed and flame retardant.
		Terminal polarity marking	Positive and negative marked / embossed on Module / non interchangeable arrangement of connectors
		Insulating shrouds	Required for all battery terminals & shorting links
		Insulating pads for battery rack - required	At the bottom of rack supports, made from high impact material

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		Memory /scheduled cycling for effective operation	NO	
		Min. Battery Energy capacity at the end of 12th Year (% of installed Capacity / rating)	1st Year – 94% 2nd Year – 90% 3rd Year – 88% 4 th year – 86% 5th Year – 84% 6th year – 82% 7th Year – 80% 8th Year – 78% 9th Year – 76% 10th Year – 74% 11th year – 72% 12th year – 70%	
		IP Rating for battery module / pack	IP67 or better	
		Self-Discharge per month	< 5%	
		Approved Battery Manufacturer (Bidder to validate that proposed Battery complies the IS/IEC.UL/IEEE standards before proposing it to TPCL)	1. Contemporary Amperex Technology Co., Limited. (CATL) 2. LG Energy Solution 3. Panasonic Corporation 4. BYD Company Ltd 5. SAMSUNG SDI CO., LTD 6. Gotion High tech Co Ltd 7. Shanghai Electric Gotion New Technology 8. Kore Power 9. EVE Energy Co. Ltd 10. Tianjin Lishen Battery Joint-Stock Co., Ltd 11. Xiamen Hithium Energy Storage Technology Co., Ltd.	
			1. Over and Under Discharge 2. Over and Under Temperature	

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		Protections	3. Over and Under Current 4. Over and Under Voltage Ground Fault 5. Internal battery Fault Cell Balancing 6. Pack / Module level fuse 7. Module reverse polarity 8. DC Contactor for each Battery Rack 9. Failure of temperature controller	
			1. The sizing calculations with detailed supporting documents shall be submitted for approval during detailed engineering 2. Ramp up and Ramp Down – Bidder shall also submit battery selection technical parameters based on which battery is selected for M-BESS. Bidder shall also submit battery particulars such as C Rate, E rate, SoC, DoD, terminal voltage, nominal voltage, nominal capacity (Ah), nominal energy (Wh). Cycle life, Open-circuit voltage (V), Internal Resistance, Cut-off Voltage, Specific Energy (Wh/kg), Specific Power (W/kg), Energy Density (Wh/L), Power Density (W/L), Maximum Continuous Discharge Current, Maximum 30-sec Discharge Pulse Current, Charge Voltage, Float Voltage, (Recommended) Charge Current and (Maximum) Internal Resistance along with bid proposal. 3. Battery system shall have suitable positive and negative ramp rate to support M-BESS Operation in Grid Connected and islanded mode. 4. Cell Covers - The cell covers shall be capable to withstand internal pressure without bulging / cracking. It shall also be fire retardant. Fixing of pressure regulation valve (if provided) & terminal posts in the cover shall be such that seepage of electrolyte, gas escape, and entry of electrostatic spark are prevented. 5. Terminals - Both the positive and negative terminals of the cells shall be capable of proper termination and shall ensure its consistency with the life of the battery. The surface of the terminal post extending above the cell cover including bolt hole / laser welding shall be coated with an acid / alkaline resistant and corrosion retarding material. Terminal posts or any other metal part which is in contact with the electrolyte shall be made of the same alloy as that of the plates or of a proven material that does not have any harmful effect on cell performance. Both positive and negative posts shall be clearly and unambiguously identifiable. Terminal post seals shall not transmit stresses between the cover or container and posts. All battery modules shall be supplied with terminal covers to avoid unintentional contact 6. Connectors, Nuts and bolts, Heat Shrinkable sleeves - Where it is not possible to bolt the cell terminals directly to assemble a battery, separate non-corroding lead or copper connectors of suitable size shall be provided to enable connection of the cells. Copper connections shall	

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		be suitably coated to withstand corrosion due to acid / base at a very high rate of charge or discharge. Nuts and bolts for connecting the cells shall be made of copper, brass, or stainless steel, which shall be effectively coated to prevent corrosion. All inter cell connectors shall be protected with heat shrinkable silicon sleeves for reducing the environmental impact including a corrosive environment 7. Mounting - All the batteries shall be mounted in a metallic stand/frame. The suitable isolation should be provided between base of frame and ground to avoid the grounding of frame. All batteries shall be mounted in a suitable metallic stand / frame. The frame shall be properly painted with the acid / base resistant paint. The battery stands shall be designed to withstand the wind speed and seismic design considerations 8. External connection to the cells, including inter-cells or inter-module connections (such as cables/ straps etc.) shall also be designed to prevent failure during transportation. 9. The Cell/module terminals and interconnects shall have adequate current carrying capacity. The Cells/modules, wiring, switch gear, and all DC electrical components shall be insulated for the maximum expected voltages plus a suitable factor of safety. The dc bus work and load-carrying cables within the storage subsystem shall have an enough margin for the actual load current. Also, all other components shall have enough margin for the actual load current according to applicable code and/or standard 10. Each electrically series-connected battery string shall include a means of disconnecting the string from the rest of the system and of providing over-current protection (during a fault). This protection shall be coordinated with the PCS capabilities and battery string protection, and shall take into account switching or other transients and the inductance/resistance (L/R) ratio at the relevant areas of the dc system. These disconnecting devices should be capable of operating with normal load current and provide physical interruption. 11. The battery system may be ungrounded or grounded. Grounded configurations may be centre or one-pole-grounded and/or solid or high resistance grounded. Bidder to deploy ground leakage current levels detection and alarm system with field adjustable detection / trip level for each container / bank or, if more than one electrical series string is installed in the container / bank, for each series string. 12. The DC voltage of battery system shall be selected by the Bidder to suit the PCS and efficient and safe operational requirement of M-BESS. 13. Material, equipment, safety requirements and methods used in the	

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		manufacturing of Lithium-Ion Battery (Cell, Module, Racks, Enclosure) of M-BESS shall conform to the relevant IEC / UL / IS latest edition of standards and Codes. 14.All cells/modules shall be traceable to the point of origin for purpose of addressing safety issues 15.Each Cell shall be integrated with BMS and each module shall be provided with Battery Management Unit, 16.Each rack comprising Battery Modules shall be supplied with Battery Control Box. Battery Control Box shall provide Manual switch to isolate Rack from Grid, lifting / withdrawing arrangement, LED Indications for status (Running, Alarm), Debugging port, Communication ports, and Auxiliary Power Supply connection arrangement, Contactor with PoS and Precharge status and Battery Control Unit. 17.Battery Cell, Modules and Rack system shall be compatible to conduct BMS Functions as mentioned in separate section in this specification. 18.Suitable ventilation liquid controlled in battery room / container must be maintained to minimize health hazards to any exposure to hazardous battery elements. 19.Bidder shall deploy safety measures such as Rubber mats, Convex mirrors, Fire extinguishers, Emergency Trip provisions, manual call points, Safety PPE etc	
8.	BATTERY MANAGEMENT SYSTEM FUNCTIONS	1. Bidders to deploy BMS at Battery bank/string level, Controllers, Battery Administration Unit, network & Communication Cables etc where Battery Modules & Battery Control Boxes will communicate with Battery Administration Unit (BAU). BMS of each battery bank / string shall be integrated with EMS over MODBUS TCP connection/ CAN. 2. BMS should be designed to provide for automatic, unattended operation of the battery storage system. BMS should provide the necessary monitoring and control to protect the battery cells/module/string from out of tolerance ambient or unsafe operating conditions. 3. The BMS should automatically control the charge and discharge of the individual cells/module, balancing between cells/module to optimize energy consumption and range, monitor cell/module health and provide critical safeguards to protect the batteries from damage. 4. Bidder to supply the BMS system as per battery OEM	

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		recommendation & requirement and shall be in line with the application requirements. 5. BMS shall perform high level functionalities (illustrative list) a) Cell/module Monitoring: Each cell voltage, Module voltage, Rack Voltage, each cell, Module & Rack current, Rack Power, Cell /Module level Temperature. b) Cell/module Protection: Protecting the battery from out of tolerance operating conditions such as voltage, Temperature, Current etc. and BMS must provide full cell/module protection to cover almost any eventuality. The protection shall be inbuilt to avoid thermal runaway of Battery system at any condition. Isolate battery cell, Module, Rack in case of emergency. c) Charge control: BMS shall automatically control the charge and discharge of the individual cell/module along with PCS through EMS d) SOC Determination: BMS shall automatically determine the State of Charge (SOC) of the individual cell/module. e) SOH Determination: BMS shall automatically determine the State of Health (SOH) of the individual cell/module f) Cell Balancing: BMS shall automatically balance between cells/modules to optimize energy consumption, range and protect the battery g) History - (Logbook Function): Monitoring and storing the battery's parameters and communicating the same EMS. h) Alarm and fault generation and communicating the same to SCADA. i) Isolating the battery in cases of emergency. 6. Bidder shall develop multi-tiered framework that allows real time monitoring and protection of the battery within the M-BESS not just at the cell level but at module, string and system level. The BMS shall constantly monitor the status of battery and use applications specific algorithms to analyze the data, control the battery environment and balance it. 7. Bidder should consider new technological solutions to extend the useful life of the batteries through intelligent smart technologies for cell monitoring, smart BMS with high state of health accuracy and smart analytics tools, etc through Intelligent new platform solutions. 8. BMS at Battery bank / Container level shall provide following features / information. Bidder shall include in his proposal all the BMS features needed for the completeness and trouble free operation even if the same are not specifically appearing in this

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		specifications and unless otherwise specifically excluded.																																
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			Max Temp & Its Location - Value >> Module >> Cell No.	
			Min Temp & Its Location - Value >> Module >> Cell No.	
			Charging / Discharging – Status Voltage – Value	
			Current – Value Insulation – Value	
			Positive Insulation – Value	
			Negative Insulation – Value	
			System Status - Normal / Abnormal	
			Precharge Voltage – Value	
			Average Temperature – Value	
			Average Voltage – Value	
			SoC – Value SoH – Value	
			Positive Status - Open / Close	
			Precharge Status – Open / Close	
			Negative Status – Open / Close	
			Disconnecter – Open Close	
			Charging Current Limit – Value	
			Discharging Current Limit – Value	
		RackWise Alarms (Normal / Warning / Alarm / Critical)	Cell Voltage High	
			Cell Voltage Low	
			Total Voltage High	
			Total Voltage Low	
			Charging Overcurrent	

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			Discharging Overcurrent	
			BMU Communication Fail	
			BMU Fault	
			HVB Temp High	
			Charging Temp High	
			Charging Temp Low	
		Discharging Temp High		
		Discharging Temp Low		
		Insulation Low		
		Terminal Temp High		
		Contactor Faulty		
Rackwise / Batterywise Cell Voltage	Module 1 to n >> Cell No 1 to n >> Voltage Value for each cell			
Module Positive Point	Module 1 to n >> temp Value			
Temperature				
Rackwise Warning Limit / Alarm Limit and Critical Limit Setup	Total Voltage High			
	Total Voltage Low			
	Charging Overcurrent			
	Discharging Overcurrent			
Insulation Low				
Cell Voltage High				
Cell Voltage Low				
Charging Temp High				

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				Charging Temp Low
				Discharging Temp High
				Discharging Temp
				Low HVB
				Temp High
			Rackwise Alarm Info	Date>>Time>>Alarm
				Values>>Alarm Description
			BCU Operation	Rack Connection Status - Connected / Disconnected
				Rack Status - Enable / Disable
				Operate Command - Disable / Enable
				Error Code - High Voltage Difference, Type 1 Fault, type 2 Fault, High Cell Voltage, Low Cell Voltage, System Status Stop
				Connection Operate - Command with Status Minimum Parallel Numbers of Rack - Value with Status
				Emergency Stop Electrical Status - Normal / Abnormal
			Configure Type 1 Fault	High Cell Voltage Alarm
				Low Cell Voltage Alarm
				Cell - High Temp Discharge Alarm, Cell Low Temp Discharge Alarm, Cell High Temp charge Alarm
				Cell - Low Temp charge Alarm, Module terminal Over temperature Alarm
				High Temp of BCU Power Connection
			Configure Type 2 Fault	High Rack Voltage Alarm or Critical Alarm
				High Cell Voltage Critical Alarm
				Low Rack Voltage Alarm or Critical Alarm
				Low Cell Voltage Critical Alarm

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			Cell High Temp Discharge Critical Alarm	
			Cell low Temp Discharge Critical Alarm	
			Cell High Temp charge Critical Alarm	
			Cell Low Temp charge critical Alarm	
			Charge Over current alarm or critical alarm	
			Discharge Over current alarm or critical alarm	
			Low insulation resistance alarm or critical alarm	
			Module terminal Over temperature Critical Alarm	
			High Temp of BCU Power Connection	
			Critical BAU & EMS Communication failure	
			BCU & BAU Communication failure	
			BCU & BMU Communication failure	
			BMU Hardware failure	
			Contactor failure	
			BCU Hardware failure	
			BAU Hardware failure	
			Current Sensor Failure	
			Insulation sampling failure	
Isolation switch Off				

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9.	POWER CONDITIONING SYSTEM (PCS)	1. Bidder to specify the Size Limiting dimensions during detailed engineering of the PCS. 2. Bidders shall propose PCS capacity and Type (Indoor / Outdoor as per feasibility) after considering the harsh, saline environment at . 3. Bidder shall propose the PCS compatible to Battery & multi winding Transformers as far as the following technical specifications are met by bidder 4. PCS is interface between Battery (DC System) and AC Systems carrying out power conversion function i.e. AC to DC conversion during battery charging and DC to AC conversion during battery discharging. It may be a single unit or combination of parallel units. 5. The PCS, in conjunction with the control system, shall be capable of completely automatic, unattended operation, including self-protection, synchronizing and paralleling with the utility, and disconnect 6. Minimum power delivery Capacity of proposed PCS shall not be less than 515 kVA continuous. Accordingly the design capacity to be provided by bidders. 7. Proposed PCS shall consist of solid-state devices, contactors, relays charge controller, associated controls and protection systems and compatible to proposed Battery & isolation Transformers technology. 8. PCS shall supply rated power to the grid / battery for rated duration without violating the temperature rise limits. 9. PCS shall supply rated power to the grid / battery for rated duration without any voltage derating. 10. PCS enclosure & Waste heat removal - PCS enclosure must be designed with C5M coating with base Alu Zinc Material suitable to withstand the harsh environmental conditions for complete designed life. The cooling necessary to maintain temperature of PCS within design limit will be in the Bidders scope. In air cooled system: Waste heat rejection shall be done to ambient air. Air handling system to have filters to stop entrance of dust inside PCS. In oil cooled system: Provision to monitor coolant leaks, alarming & protection. Weatherproof & dustproof enclosure/Container of IP-54 with provisions to prevent moisture condensation, water, airborne dust, rodents, insects etc. from air intake / exhaust ports and compliant to IEC-60529	

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11. Bidder shall include in his proposal all the Industrial Grade Hardware, Software, Panels, Power Supply, LCD, Networking equipment and associated Cable etc. needed for the completeness even if the same are not specifically appearing in this specifications. PCS PCBs shall have conformal coating, industrial grade Hardware to withstand the harsh environment 12. PCS shall contain adequate inbuilt filter bank, harmonic filters etc. for its operation without deteriorating the quality of power in terms of power factor, harmonics, transients, flicker etc. 13. PCS Flicker shall be as per IEC 61000. 14. PCS shall have suitable communication port for communication with EMS 15. PCS should conform to all applicable IEC / IS and UL standards and IEEE Guidelines 16. PCS Shall be also have adequate protection against earth leakage faults. Internal Surge Protection Device (SPD – Type 1+2) shall be provided in the PCS on both DC and AC side. It shall consist of MOV Type arrestor. The discharge capability of the SPD shall be at least 10kA at 8/20 microsecond wave as per IEC 61643-12. During earth fault and failure of MOV, the SPD shall safely disconnect the healthy system. 17. PCS Shall have provision to be isolated from grid (AC and DC) through Circuit Breakers which shall be inbuilt within the PCS. 18. Local LCD Display - PCS shall have Local LCD display to monitor various functions and parameters locally viz. charging / discharging, voltage, current, power, alarms etc. Control and read-out should be provided on the indicating panel integral to the Inverters 19. PCS should be suitable for parallel operation of multiple PCSs to scale energy storage installations for future expansion without any common mode voltage noise 20. The bidder shall ensure by carrying out all necessary studies that the PCS will not excite any resonant conditions in the system that may result islanding / tripping of M-BESS Plant 21. PCS should communicate with EMS for its optimized operation & for reporting health parameters to EMS to monitor & control. 22. Bidders to propose Modular Type of PCS preferably. Bidder shall		

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		ensure shall ensure that no abnormal interaction shall take place among the various PCS modules during any grid operating condition which may result in outages. The PCS controller offered by the Contactor shall be such as to ensure stability, reliability and a good dynamic performance. 23. Active Standby mode shall be provided so that unnecessary losses are minimized. 24. The inverters shall be capable of supplying reactive power as per grid requirement (automatically or manual intervention through EMS) during normal operation. However, reactive power support, beyond 0.95 pf, might be at the behest of active power. 25. Outdoor Type PCS - PCS enclosure must be suitable to withstand the harsh environmental conditions for complete life of plant. The PCS enclosure shall be made of Alu Zinc and C5M coated. 26. PCS shall be compatible to conduct functions as mentioned below: a)Active/ Reactive Power Control: PCS shall have capability to provide both active and reactive power separately as per requirement limited to rated MVA capacity of system and provide power in all four quadrants complied to IEEE 1547 and IEEE 519. Change in delivery of active/reactive power towards load side should be smooth over the range of 0~100%. Similarly, the change in charging current of batteries should also be smoothly controllable. PCS output power shall remain within 1% of the set value, for AC input variation of +/- 10%. PCS shall be able to provide 0.8 lead to 0.8 lag reactive power support without curtailing the active power b)Charge control functions – PCS shall be able to control battery Charge based upon power/energy requirements, Charge battery in float/boost /cc-cv mode as per requirement and regulate float/boost voltage in case of prescribed temperature rise of battery (OEM Recommendation) to avoid thermal runaway through EMS System (Without any manual intervention). The maximum C-rate for charging and discharging shall be C/2. c)Charge control functions – PCS shall be able to control battery Charge based upon power/energy requirements, Charge battery in float/boost /cc-cv mode as per requirement and regulate float/boost voltage in case of prescribed temperature rise of battery (OEM Recommendation) to avoid thermal runaway through EMS System (Without any manual intervention). The maximum C-rate for charging and discharging shall be C/2.

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		d)Operation Mode – PCS shall be connected with the distribution grid and operate in grid connected mode. The grid connected mode shall be the default mode and shall be capable for standalone mode as well. Beyond the voltage limits, PCS shall disconnect itself from grid automatically. After normalization of voltage condition, it shall be able to restart / reconnect automatically. e)Ramp up and Ramp Down – PCS Shall have suitable positive and negative ramp rate (Bidder to specify) to support M-BESS Operation in Grid Connected and islanded mode. Bidder shall study the load profile of EHV Power transformers (Grid connected Scenario) and DSS power Transformers (islanded Scenario) and propose the M-BESS equipment accordingly. Bidders shall consider highest ramp up/down load profile of power transformers while designing the M-BESS Solution. 27. PCS should have capability of seamless transition between grid following and grid forming mode with PCS transition from grid following to grid forming mode within 200 msec (Excluding sensing and switch opening time) a) PCS shall be capable of supplying reactive power as per grid requirement (automatically or manual input through EMS) during normal operation. However, it should supply required active and reactive power based on load during off grid mode of operation. b) PCS should have functionality to start multiple PCS together in a black start application. This should also be demonstrated during FAT at the factory. c) PCS should have operational capability for both standalone and grid- connected mode. d) PCS include appropriate self-protective and self-diagnostic feature to protect itself and the Battery from damage in the event of PCS component failure or from parameters beyond the PCS's safe operating range due to internal or external causes. Faults due to malfunctioning within the PCS, including commutation failure, shall be cleared by the PCS protective devices. e) PCS Shall be capable of starting and operating as black start (Automatically or with external command from EMS). Exercise of the black start capability shall under no circumstance result in an accidental energizing of the Host Utility's bus. PCS black start shall be possible from EMS without any setting modification at PCS panel locally.

f) The bidder shall specify the conversion efficiency at following load conditions i.e. 25%, 50%, 75% and 100% during detail engineering, which shall be confirmed by type test reports.

28. PCS should feature high speed controls that are capable of servicing load steps of up to 100% rated power in under 10 msec

- a) The PCS shall have protection against any sustained fault in the feeder line /Grid.
- b) PCS should be designed for volt VAR function i.e., immediate, and automatic voltage support to the grid.
- c) PCS should be designed for Hz-Watt function i.e., immediate, and automatic frequency support to the grid
- d) PCS should have weak grid support option as per CEA regulation
- e) PCS should be able to handle phase un-balancing.
- f) PCS should support frequency droop support in grid following mode.
- g) PCS should be designed for four-quadrant energy storage applications in both grid-tied and micro-grid applications.

29. Type test compliance report

Type test reports and certification to be submitted along with bid. OEM should have attained the 'authority to mark' approval (for the offered product) for UL marking by third party certifying bodies. However, test report for IP test in accordance with IS 60529.

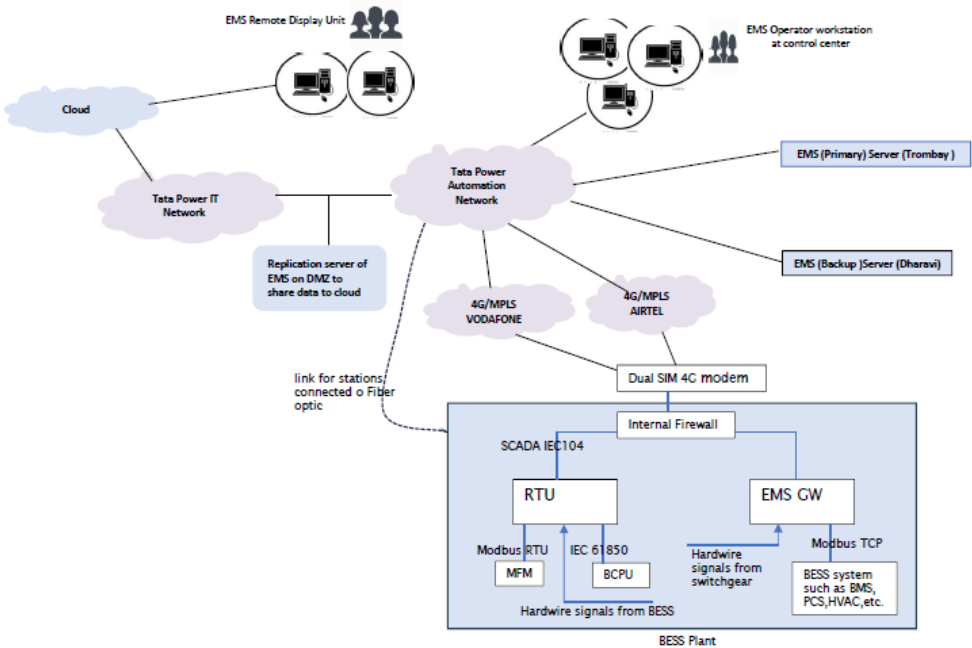
30. PCS Technical Parameters

Parameters	TPCL Requirement
Installation Type	Indoor / Outdoor
Cooling Type	Forced Air
Maximum DC voltage	Upto 1500 V _{DC} full power operation
User Interface HMI	Min 8 inch Touchscreen LCD
Communication	Modbus TCP, DNP 3.0
Type of AC & DC Side Disconnection	DC side contactor + Fuse
Nominal power (AC) at 50 °C	Minimum Capacity 515 KVA

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		Max. Total Harmonic Distortion (Amp)	Total < 3%,
		Efficiency	Max. Efficiency > 98%,
		IP Rating	IP54 or better with C5M coating
		AC & DC side Surge Arrestor	Type 2 as standard
		Noise Level	Maximum noise level – 85dBA
		Operating Temperature	0°C to 50° C ambient Temperature with no derating and 95% non-condensing Humidity
		Output current DC injection	Less than 0.5% of nominal load Current
		Frequency Range	47.5 Hz to 52 Hz
		Protection Systems (Illustrative list)	Thermal Overload Insulating monitoring ground fault Over Voltage : DC & AC Side Under Volatge : DC & AC Side Over Current : DC & AC Side Over and Under Grid Frequency Over Temperature Short Circuit Surge Protection (Power, Control & Signal Cables) Lightening Protection Surge Voltages induced on AC & DC Side due to external source Islanding & Anti Islanding as per IEC 62116 Internal Fault e.g Logic failure EMS requirement as per IEC61000 or equivalent standard Protection against any fault in feeder / load line Earth leakage faults Shock, Energy, Fire, Mechanical & Other Hazards
		(i) AC & DC overcurrent protection.	To be provided
		(ii) Synchronization loss protection.	To be provided
		(iii) Over temperature protection. (iv)DC & AC under and over voltage Protection	To be provided
		(v) Under & over frequency protection.	To be provided

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		(vi) Cooling system failure protection	To be provided			
		(vii) Ground fault monitoring & detection	To be provided			
		(viii) LVRT and HVRT protection (ix) Anti-islanding protection	To be provided			
		(x) Grid monitoring	To be provided			
		(xi) Frequency response and droop function	To be provided			
10.	Isolation transformer (Optional)	Bidders may propose isolation transformer as per their design if required Proposed isolation transformer should fit in the limiting dimension of trolley / Truck / Trolley bed				
11.	LT Cables and Accessories	1. DC Power Cables required for interconnection between Battery Rack & PCS & Earthing System shall be sized considering connecting equipment Manufacturer’s recommendations for Voltage and Cable Loading. 2. AC Power Cables required for interconnection between PCS, ACB & Isolation Transformer (MWT), and Auxiliary Power Supply System shall be sized considering connecting equipment Manufacturer’s recommendations for Voltage and Cable Loading. Auxiliary cable form metering point. 3. The power cable used shall conform to IS7098 part I & XLPE insulated Al Cables shall be used for connection. Type test reports shall be submitted for approval. 4. The communication cables depending on protocol supported by various devices connected to EMS shall be laid at min. safe distance, in separate Cable trays from power cables. 5. Any other cable including the cables as specified above shall be considered under the scope of bidder. 6. Cables shall be laid in perforated GI cable trays/cable trench (as per IS 1255) of suitable size. The routing of cable shall be finalized along with TPCL representative. Approved Cable makes for LT Cable – Apar, Ravin, KEC, Torrent, KEI Cables, Polycab				

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12.	EMS Hardware, Control Panel and Communication for M-BESS	Bidder shall deploy all hardware like controller, RTU, I/O Cards, Control Panel, Controller, Processors, Firewall, Local Control room Hardware, network racks, data cables, routers, display screens, nodes etc required to integrate the M-BESS and its components to centralized EMS Software on Cloud and prem at centralized location Communication Media shall be Fibre optic or GPRS having 4 G, 5 G cellular routers (to be supplied by bidder) with 2 number of sim cards of different service provider. Bidder to consider adequate redundancy of critical components to meet the SLAs. TPCL has existing EMS System at Centralized location to monitor and control the DERMS. Bidder should be able to integrate its EMS with existing EMS available with utility. Existing EMS architecture for M-BESS is as mentioned below  <i>1NOTE – SCADA – Supervisory Control and Data Acquisition System, RTU – Remote Terminal Unit, PCS – Power Conditioning System,</i> Bidder shall include in his proposal all the Industrial Grade Hardware, Firmware, Software, Panels, Power Supply, Networking equipment and associated Cable etc. needed for the completeness even if the same are not specifically appearing in this specifications. All electronic items supplied shall have conformal coating and industrial grade Hardware to withstand the harsh environment.
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		Bidder shall deploy necessary infrastructure for local EMS including EMS, HMI, network switches, Firewalls, racks, etc 1. All hardware or devices deployed on M-BESS for EMS system shall be compatible for remote firmware update and configuration from centralized location without affecting the operation or taking any outage of M-BESS and its components. 2. Bidder shall conduct EMS Controller / RTU integration test cases to achieve seamless integration with proposed EMS hosted on Cloud and existing SCADA systems in TPCL. 3. RTU/Controllers, Firewalls and network devices within the architecture shall be redundant and configured with dual LAN to achieve redundant network scenario. At device level if the working port or communication cable or hardware becomes faulty, then the data communication shall continue on the redundant port without any disturbance in the monitoring and control operation of the entire system. Every critical function must be supported by hardware redundancy to ensure that no single hardware failure will interrupt/impact the monitoring and control operations at any point of time. 4. System shall be capable of device management including Access Control Management, Device Configuration, Firmware Upgrade, Real Time Devices Status, Report compliance configuration, Alarm Event configuration, Threshold configuration for events, reports, triggering DI/DO etc 5. Bidder shall also maintain the EMS system spares required during CATS period (5 Years), replenish of spares based on consumption trend during CATS period (5 Years) of the matching quality, quantity and rating within shortest possible time., Bidder shall maintain the spares in his custody at the respective location. TPCL will provide space to Bidder to maintain the required spare inventory. 6. EMS system Hardware, Software systems procured by bidders for M-BESS shall comply MoP / CEA guidelines. 7. Time synchronization – Bidder shall deploy GPS Time base where EMS system shall be time synchronized using SNTP every 15 minutes. 8. Cyber & Data Access Security - Bidders to ensure local login for all Controllers / RTU deployed on M-BESS to access the device locally. 9. Refer specification of Control Panels, GPS and Local EMS infrastructure mentioned under respective sections in this

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		Document. 10. EMS system shall have open control system API in order to integrate the same with Tata Power custom applications (like Power Manager) to accept control commands from Tata Power custom applications. It shall also be possible to fetch required reports from EMS, through custom applications. 11. Operator should be able to upload periodic (daily/weekly/monthly) charging and discharging schedules from centralized EMS system, at once. It shall run automatically till operator modifies the same or system observes any deviation. Alerts in case of any deviation observed with respect to set schedule. 12. Minimum quantum of M-BESS charging/discharging schedule shall be 1MW or lower on 15/5 minutes basis. 13. EMS shall be able to automatically optimize priority of charging/discharging of individual batteries basis on operational efficiency. 14.EMS Input and Output Modules, Controllers: 15.Bidder shall deploy necessary EMS input and Output modules, Controllers, network switches / Racks, data cables, power supply system and other accessories required at M-BESS for successful integration of M-BESS Components to EMS and TPCL SCADA System. 16.Bidder shall propose modular input/output system for expansions in future or quick repair / replacement. All input/output cards shall have quick disconnect termination allowing for card replacement without disconnection of external wiring and without switching off power supply 17.All I/O Cards, controllers circuits shall be powered through protection of fuse units of appropriate rating. 18.The interfaces of all I/O cards, controller shall have electrical isolation of 1.5kV from plant input/output to avoid damage / maloperation of cards, controllers due to inadveRTent voltage are voltage spikes. 19.In case of power supply failure, hardware fault, loss of I/O communication link, the system shall be automatically switch to fail safe mode to avoid any maloperation. The fail-safe mode shall be finalized during detailed engineering. 20.All proposed Output Modules shall be capable of switching

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		ON/OFF inductive loads like auxiliary relays etc. Without any additional hardware. Analog output modules shall be able to drive a load impedance of 500 ohms minimum and Binary output modules shall have contact rating minimum 10Amp. Vendor shall evaluate and confirm this required contact ratings based on actual system requirements. Bidder shall ensure and supply the system with additional 25% I/O capacity for each type, along with all the spares I/O and processor modules. All I/O modules, Processor, controller modules shall be prewired upto TBs including contact multiplying relays (DI) and heavy duty relays (DO) within the panel Data Communication System (DCS) 21.All the infrastructure deployed for data communication between various systems shall have redundant networking devices and redundant media (OFC / STP CAT6 / 4 G, 5 G Modem). The communication devices shall switch to redundant devices in case of failure of active devices without any glitch in network and loss of data. 22.Bidder shall provide Built-in diagnostics for faster fault detection and Communication errors along with correction facility at all levels of communication. 23.The design shall ensure that any single failure or physical removal of module connected to the system bus shall not affect the entire or part of M-BESS Communication function and only disrupted message gets transmitted automatically. 24.The bidder shall furnish details regarding the communication system like communication protocol, bus utilization calculations etc during detailed engineering. Each Modbus cable shall be provided with surge protection device at EMS panel end.	
13.	PROTECTION SYSTEM	All M-BESS components be capable of monitoring all the operating parameters and sensing all abnormal conditions to isolate the faulty circuit or component without damaging other parts of the system. Adequate indications/ alarms should also be provided locally as well as at remote control system for identification of faults and taking preventive / corrective action Emergency shutdown: Provision shall be given for automatic as well as manual disconnection of the M-BESS from distribution system if and not limited to following conditions 1. Protection system fail is detected during self-diagnostic, control	

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		healthy check 2. Breaker trip coil or interruptive device fails 3. DC Supply lost 4. Overall M-BESS components shall be equipped with following protection system 5. AC Protection 6. Under & Over Voltage Protection 7. Under & Over Current Protection 8. Earth Fault Protection 9. Transient / Surge Protection 10. Breaker Failure Protection 11. Synchronization check for Relay 12. Loss in Phase Difference 13. DC Protection 14. Under & Over Voltage Protection 15. Over Current Protection 16. Ground Fault Protection 17. Transient / Surge Protection 18. Breaker Failure Protection Synchronization check for Relay	
14.	FIRE DETECTION & SUPPRESSION SYSTEM (FSS)	The bidder shall design and install a fire alarm and protection system that conforms to national, CEIG requirements and local codes, as applicable. Bidder shall provide adequate fire protection and M-BESS shall comply with international standards such as IEC 62897 or NFPA 72.A or NFPA 855. The fire protection system design and associated alarms shall take into account that the M-BESS will be unmanned at most times. 1. Bidder shall also obtain thermal runaway characterization of M-BESS. 2. Larger Battery rooms shall be confined /restricted to adequate capacity in case of indoor Type M-BESS using brick wall partitions. 3. Bidder shall be deploy smoke detectors, H2, CO & CO2 gas detectors, for early detection of fire in each battery room / Container. 4. Bidder shall also deploy Fire Detection and suppression system for Battery room / Yard including Gas Release Panel, NOVAC / AEROSOL	

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Cylinder & piping, VESDA, Abort and Emergency Release Switches, Manual Call Points for each battery room / Container. Fire fighting system shall be provided as per NFPA and shall be proven & certified, duly endorsed by the battery OEM.

5. Bidder shall deploy Sand Buckets / Portable Fire extinguishers at requirements of M-BESS. Bidder shall also deploy Corner Convex mirrors in Battery room to view any exigency from outside than entering into Battery room.
6. All the fire equipment to be supplied shall be certified product suitable for operating temperature of 0-55 Deg C in general and/or 0-49 Deg C if UL (US) certified.
7. Fire protection/ alarm system for the Batteries shall be proven & certified and shall be duly endorsed by the battery OEM. All the hardware, relay and accessories required for completeness of fire alarm system is in Bidder scope
8. Bidder shall deploy Main Fire Controller panel along with required cabling through trays, racks & switches and integration of these sensors for main fire Controller Panel
9. Bidder shall also deploy Abort & Emergency release switches in Local EMS Control Room.

Bidder shall minimum supply Type tested portable fire extinguishers as per relevant codes and requirement for each as mentioned below (additional to as specified in 20.7)

Portable fire extinguishers	Per set of mobile BESS
DCP Type (ABC Type) 10 kG	2
Foam Type Hand 9 KG	2
CO2 Type 9 KG	2

10. Bidder shall deploy single integrated Fire detection and Suppression system for M-BESS and its components including building, batteries, PCS, transformers, Switchgear room, Control Room etc.

Microprocessor based Fire alarm Panel

11. Bidder to provide intelligent microprocessor based main fire

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		alarm panel and sensor of modular construction complete with central processing unit, input and output modules, power supply module, supervision control and isolator modules with 10% spare provisions in each loop. 12. Bidder shall deploy single Fire detection alarm system shall include but not limited to the following items A. Fire Alarm control Panel B. H2 ,CO & CO2 gas detectors C. Multi Sensor smoke detector D. Heat Detectors E. Fire Dampers F. Hooter cum strobe (Outdoor Duty) G. Manual call Point H. Hooter I. Fault isolation modules Control Modules J. Cables from Sensors to Fire panels. K. Digital output from the fire detection system shall be integrated with EMS and SCADA Network Module i. Bidder shall submit fire alarm system configuration, layout, BoM, Datasheet and necessary test report to TPCL for final approval. ii. Bidder shall submit FAT, SAT Test Procedure for approval of TPCL. Bidder shall carry out necessary modification and supply hardware/accessories if required in case of unsatisfactory performance during SAT, free of cost at. Bidder to provide fire alarm at EMS and integration with centralized EMS and SCADA level.	
15.	HEATING VENTILATION AND AIR CONDITIONING (HVAC) SYSTEM FOR M-BESS	1) Bidder shall submit Design, capacity calculation, proposed equipment document, Technical particulars etc for M-BESS liquid cooling system for review and approval of TPCL. 2) Proposed liquid cooling system shall be integrated with EMS System for real time performance monitoring of the System. Considering the harsh and saline environment, Bidder shall also include the Air Purifier, dehumidifiers required to maintain the air	

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		Quality inside Battery Room, PCS, Switchgear room to improve service life of equipment.	
16.	TEMPERATURE SCANNING SYSTEM	1. Bidder shall deploy Temperature scanning System comprising Temperature sensors, Controllers etc for early detection of rise in temperature in battery system, PCS etc 2. TSS shall be integrated with EMS System for real time monitoring of inside and outside temperature of Battery Room / Container. 3. Bidder shall submit the detailed specifications, documents for about TSS for TPCL review and approval during detailed Engineering.	
17.	EARTHING AND LIGHTNING PROTECTION	1. The bidder shall submit the detailed specification, calculations and drawings of Earthing arrangements and lightning protection for TPCL approval 2. The earthing conductor should be rated for 1.56 times the maximum short circuit current of the M-BESS Components. The factor 1.56 considers 25 percent as a safety factor and 25 percent as albedo factor to protect from any unaccounted external reflection onto the Battery System increasing its current. 3. The earthing system as per IS 3043 and lightning protection System (LPS) design & material as per IEC 62305 & IEC 62561-1 to 4 shall be provided by the bidder. Earth resistance should be as low as possible and shall never be higher than 5 ohms. The earth strips should not be bolted. Earthing GI strips shall be interconnected by proper welding / brazing. 4. The complete Earthing system shall be mechanically & electrically connected to provide independent return to earth. 5. The lightning protection against induced high-voltages due to atmospheric disturbance, lightning etc shall be provided by the use of Metal Oxide Varistors (MOVs)/Franklin Rod type LA/Early streamer type LA. Lightning protection should be provided as per NFC17-102:2011/IEC 62305 standard. The lightning arrestor shall be CLASS I (Copper Solid Round conductor min. diameter of 16mm with type test report for 200KA, 10/350us current wave) with coverage radius covering complete M-BESS structure for safe operation of M-BESS. The current carrying cable from lightning arrestor to the earth pit should have sufficient current carrying capacity according to IEC 62305. 6. Type test reports for Earthing and lightning protection shall be submitted for approval	

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		11. Earthing and Grounding for equipment shall be carried out as per OEM Recommendations.	
18.	RATING PLATES, NAME PLATES, CLOUR CODES AND LABELS	1. Bidder shall ensure non corrosive material rating plates for each equipment at conspicuous position which shall be engraved with manufacturer's name, equipment type, Serial number, rating details, service condition, diagram etc. 2. Bidder shall deploy nameplates and labels for each equipment on front and rear side with suitable material depending upon indoor / outdoor type installation. 3. Bidder shall ensure tagging of cables, control cables with Aluminium strips on both ends depending upon indoor / outdoor type installation. 4. Bidder shall ensure labeling of all sections of M-BESS and its components (Battery room/Yard, Control room, Transformer yard etc). Bidder shall deploy signages such as Door Push / Pull, First aid Box, section details etc and safety signages such as Emergency exit, Gas Discharged, M-BESS and its components safety & Operating instructions etc for each section of M-BESS Premise. 5. All equipment/ piping/ pipe services are to be painted by the bidder in accordance with TPCL standard colour coding scheme. 3) Bidder shall submit rating plates, name plates and labels, colour code details during detailed engineering for TPCL review and approval.	
19.	AUXILIARY POWER SYSTEM FOR M-BESS	1. Bidder shall avail redundant power supply from M-BESS 2. Design, assumptions. Load calculation and engineering drawings, type test reports for M-BESS Auxiliary Power System shall be submitted to TPCL for approval during detailed engineering.	
20.	GPS TIME SYNCHRONIZATIO N	1. The bidder shall deploy GPS clock, at M-BESS trolley which shall synchronized the local system hardware, Communication devices etc 2. Equipment shall be supplied with necessary electrical protection against surges and over voltages. All hardware, software, auxiliary systems including special cables, communication cable, power supply, antenna, processing equipment for Time synchronization unit at M-BESS shall be supplied and commissioned by Bidder. 3. System shall be able to track minimum 1 satellite at a time to ensure uninterrupted synchronization. The system shall be fully tested to the relevant international standards such as IEC: 801 and IEC: 255. The actual port requirements (no./type) in line with the system offered shall be finalized during detailed engineering.	

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		4. GPS clock accuracy upto 1 ms. 5. The equipment should have a periodic time correction facility of one-sec. periodicity. 6. (GPS at server side and all s to be synced with central GPS system)
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21.	APPROVED MAKES FOR M- BESS AND ITS COMPONENTS	1. Bidder shall ensure to procure the M-BESS and its components as per approved make list mentioned below. 2. Bidder shall validate the type test of item for the makes mentioned below before submitting proposal to TPCL 3. Bidder may propose equivalent make for the items above In case of poor response of approved manufacturers / OEMs or non availability of type test, subject to compliance to Type Test, specifications & Qualification Criteria by proposed OEM 4. TPCL has indicated the approved make list for critical M-BESS Components only. Approved make for items not listed below shall be finalized during detailed Engineering. a. Approved makes for M-BESS and its Components (Electrical System) <table border="1"> <thead> <tr> <th>Sr.No.</th><th>Particular</th><th>Approved Make</th></tr> </thead> <tbody> <tr> <td>1</td><td>M-BESS Building Electrical work</td><td></td></tr> <tr> <td>1.1</td><td>Wires for point and circuit wiring</td><td>Universal, Polycab, KEI, Ravin Cables, Torrent, Apar</td></tr> <tr> <td>1.2</td><td>Heavy Duty GI CONDUIT</td><td>BEC or equivalent conforming to IS 9537</td></tr> <tr> <td>1.3</td><td>LED - Wall Mounted / Suspended</td><td>BAJAJ / CG / PHILIPS / WIPRO</td></tr> <tr> <td>1.4</td><td>Street Light Poles with Brackets</td><td>Transrail, Valmont, Advance Steel, Skipper, Utkarsh</td></tr> <tr> <td>1.5</td><td>Ceiling / Pedestal / Exhaust Fan</td><td>Bajaj / Crompton / Havells</td></tr> <tr> <td>1.6</td><td>Switchboards & Sockets</td><td>MK/Havells/Schneider/Anchor</td></tr> <tr> <td></td><td></td><td></td></tr> <tr> <td>2</td><td>Cables & Accessories</td><td></td></tr> <tr> <td>2.1</td><td>LT Power Cables</td><td>Apar, Ravin, KEC, KEI, Zenium, Polycab</td></tr> <tr> <td>2.2</td><td>LT Control Cables</td><td>Apar, Ravin, KEC, KEI, Zenium, Polycab</td></tr> <tr> <td>2.3</td><td>LT Cable Lungs & Gland</td><td>Braco, Dowells, Alpha, Pioneer, ECC, SMI</td></tr> <tr> <td></td><td></td><td></td></tr> </tbody> </table>	Sr.No.	Particular	Approved Make	1	M-BESS Building Electrical work		1.1	Wires for point and circuit wiring	Universal, Polycab, KEI, Ravin Cables, Torrent, Apar	1.2	Heavy Duty GI CONDUIT	BEC or equivalent conforming to IS 9537	1.3	LED - Wall Mounted / Suspended	BAJAJ / CG / PHILIPS / WIPRO	1.4	Street Light Poles with Brackets	Transrail, Valmont, Advance Steel, Skipper, Utkarsh	1.5	Ceiling / Pedestal / Exhaust Fan	Bajaj / Crompton / Havells	1.6	Switchboards & Sockets	MK/Havells/Schneider/Anchor				2	Cables & Accessories		2.1	LT Power Cables	Apar, Ravin, KEC, KEI, Zenium, Polycab	2.2	LT Control Cables	Apar, Ravin, KEC, KEI, Zenium, Polycab	2.3	LT Cable Lungs & Gland	Braco, Dowells, Alpha, Pioneer, ECC, SMI			
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			3	Power Conditioning System	Fimer, TMEIC,Ingeateam,Gamesa, Dyna Power, Delta Electronics, Newen Systems
			4	Isolating Transformer	Schneider, Toshiba, Crompton, Telawne, Danish, Tesla (Bhopal), Wilson Power
			5	Battery System (BMS,Modules, BCS, Connectors, Racks)	1. Contemporary Amperex Technology Co., Limited. (CATL) 2. LG Energy Solution 3. Panasonic Corporation 4. BYD Company Ltd 5. SAMSUNG SDI CO., LTD 6. Tianjin Lishen Battery Joint-Stock Co., Ltd 7. Gotion High tech Co Ltd 8. EVE Energy Co. Ltd 9. Kore Power 10. Xiamen Hithium Energy Storage Technology Co., Ltd. 11. Shanghai Electric Gotion New Technology 12. Delta Eletronics
			6	EMS System & Control Room	
			6.1	Control Panels	Schneider electric , Rittal or equivalent
			6.2	Switches	Hirschman/RuggedCOM, Moxa-Industrial Grade
			6.3	Data Cables	DLINK, Schneider electric,Polycab
			6.4	Firewall	Fortinet / Juniper / Cisco / Checkpoint / PaloAlto
			6.5	Routers	Hirschman / MOXA/RuggedCOM / (Planet)
			6.6	RTU/PLC	HITACHI / SIEMENS / SCHNEIDER
			6.7	GPS Clock (Time Master)	SeRTEI / Masibus / Sands
			6.8	Workstations	HP / Dell
			6.9	LCD Screens	Samsung/Sony/LG/Delta Electronics
			9	Auxiliary Power System	

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		9.1	ACB*	Siemens (WA Mdel), Schneider (NW), ABB (New Emax), L&T (Omega U power), Socomec
		9.2	MCCB*	Siemens (VA model),Schneider (NS), ABB (Tmax), Eaton, Socomec
		9.3	MCB	Polycab, Havells, Legrand,Chint,Eaton,Panasonic
		9.4	RCCB /RCBO	Polycab, Havells, Eaton,Siemens
		9.5	MFM	Rishmaster 3440, Satec or equivalent
		9.6	CTs	Pragati, Narayan Power Tech, Reco, Perfect Sales
		10	HVAC - Precision Cooling System	Emerson, Stulz, Climetva, Retail, advance cooling, Swegon
		11	Fire Suppression & Detection System	
		11.1	Fire Suppression & Detection System (Panel & Accessories)	Honeywell. Johnson Control, Stat - X or Equivalent
		11.2	Fire supression agent	NOVAC / AEROSOL or equivalent
		11.3	Portable Fire Extingusher	Transpower, Jupiter or equivalent
		11.4	NIFPS for Transformer	CTR
		12	RODENT REPELLENT SYSTEM	Maser, R-Scat or equivalent
		13	Trolley and EV Truck / Trolley	Tata Ultra E9 (max. 20 ft) or equivalent
22.	MANDATORY SPARES	1. Bidder shall supply the spares of M-BESS and its components as mentioned below. The list indicated below is illustrative and bidder shall additional items to ensure availability, operability, maintainability and the reliability of the complete work and M-BESS plant during CATS contract period. Bidder shall submit the spare list for TPCL review and approval during detailed engineering, 2. Bidder shall keep on replenishing the spares finalized based on consumption trend during CATS contract period.		

3. Bidder shall ensure availability of following spares during CATS period at his premises or through suitable contract, such that SLA can be met.

Sr.No.	Particular	Spares Remark
1	Battery Systems	
1.1	Battery Modules	2% of Battery Modules Population
1.2	Battery Module Connectors	2% of Battery Module Connectors population
1.3	Battery Control Unit (BCU)	2% of Battery Control System (BCU) Population
1.4	Battery Rack BMS Controller & Accessories	1 Set
1.5	DCP- DC Fuses / Breaker for Protection	5% of DC Fuses / Breaker Population
2	Power Conditioning System	
2.1	Electronic cards	5% of Population for each type
3	HVAC System and its components for container including refrigerant,fans, oil,Pipes,Control equipments, Blowers, Casings,Coils, Tubes, Valves,Air fans, Filters etc	5% of Population for each type
4	Isolating Transformer	One time spares to be submitted at TPCL stores
4.1	WTI with Contacts	1 Set for each Type
4.2	OTI with Contacts	1 Set for each Type
4.3	Transformer Protection - MOG, Aircell Rapture,Buchholz, PRV,Buchholz etc relay with contacts and accessories	1 Set for each Type

3. NOTE – Cases where 5% of population of spare is less than single unit, Bidder shall make the arrangement of minimum one item in that category.

23. TESTING

1. Bidder shall submit the Type Test report to TPCL for approval as mentioned in this specification. Type Test carried out by Bidder / OEM on equipment similar to proposed to be supplied under this proposal / Contract, within last ten (10) years from the date of bid opening at an independent laboratory are accepted. However cases where Type Test on equipment is not carried out within applicable period or not meeting the specification requirements, bidder shall conduct all such tests at no additional cost to TPCL at third party lab and in presence

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		of TPCL representative and submit the reports for approval. 2. Bidder shall carry out all acceptance and routine tests as per specification and relevant standards wherein charges for these shall be deemed to be included in the bidders proposal / offer. Bidder shall submit the FAT and SAT Test Plan for TPCL review and approval during detailed engineering. 3. Performance Guarantee (PG) test shall be carried out as mentioned below. All equipments, tools & Tackles, instruments measuring devices required for successful conductance of PG test shall be provided by bidder and cost associated with it shall be included in bid price. 4. AC to AC Round Trip Efficiency (RTE) including Auxiliary Power Consumption 5. Procedure shall be approved during detailed engineering Test Period – 1 Month 6. Incoming & Outgoing energy at interconnection point will be measured using Energy Meters having accuracy class of 0.5s. 7. Bidder shall guarantee a minimum AC to AC RTE of 83% on monthly basis at Grid Point level 8. Penalty on AC to AC Rount Trip Efficiency (RTE) shall be applicable for 1st year. Penalty on AC to AC Rount Trip Efficiency (RTE) for subsequent years will be measured as per service level agreement (SLA) criteria mentioned under CATS Clauses. 1. MWh Capacity Installed Testing - Bidders shall demonstrate the MWh capacity at the point of interaction / Grid Point as per mutually agreed procedure during detailed engineering. Bidders shall augment the battery capacity of M-BESS at its own risk and cost in case MWh capacity installed is less than required value, within 90 days of demonstration made, failing which cost estimated by TPCL or OEM for such augmentation of M-BESS shall be recovered from the Performance Bank Guarantee / CATS Cost.	
24.	DOCUMENTATION (TO BE SUBMITTED ALONG WITH BID)	Bidder shall submit a comprehensive list of the documents applicable for the offered system to the TPCL for review and approval before the commissioning of the project. Bidder shall also submit the drawings / documents for all the hardware & software required for installation, testing and commissioning and thereafter the operation of the system. Bidder shall submit soft copy with each submission during the bidding. The documentation shall be in English. Review and acceptance of the documents does not encumber TPCL with	

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responsibility for the adequacy and safety of the bidders design Documentation shall cover following but not limited to 1. Design Sizing Calculation for Battery, PCS considering CEA regulation. 2. M-BESS System Overview and description Document M-BESS and its components Functional description document. System configuration, System Architecture document 3. Equipment drawings and specifications. Block Diagrams and Single Line Diagrams, 4. Construction and installation drawings including civil layout, electrical layout, communication architecture, EMS hardware configuration 5. Electrical & Communication wiring diagrams 6. Bill of materials / Quantities 7. Conduit Diagram 8. Assembly Drawings 9. List of Connected Devices – EMS & Entire System 10. Contact Details of Bidder 11. Document checklist mentioned above is indicative and shall be updated and shared with bidder during bid submission. Documents shall be submitted in soft copy. 12. No submission is acceptable without check list compliance 13. Deficient/ improper document/ drawing submission shall be liable for rejection. Any drawing not included above but necessary for detailed engineering shall be deemed to be included in bidder's scope.		

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25. DOCUMENTATION (TO BE SUBMITTED AFTER AWARD OF CONTRACT)	Documents / drawings to be submitted after award of contract		
	1. Design Sizing Calculation for Battery, PCS considering CEA regulation.		
	2. M-BESS System Overview and description Document M-BESS and its components Functional description document, System configuration, System Architecture document		
	3. Equipment drawings and specifications, Block Diagrams and Single Line Diagrams,		
	4. Construction and installation drawings including civil layout, electrical layout, communication architecture, EMS hardware configuration		
	5. Electrical & Communication wiring diagrams		
	6. Bill of materials / Quantities		
	7. Conduit Diagram		
	8. Assembly Drawings		
	9. Instruction manual		
	10.Erection and commissioning Manuals / Checklists		
	11.O&M Manual		
	12.Maintenance Schedule		
	13.Project Implementation Schedule		
	14.Project Progress Reports		
	15.Project Completion Report		
	16.Master Test Plan and Procedures		
	17.Quality Assurance Documentation		
	18.Software Documentation		
	19.M-BESS & Its Components Test Reports		
	20.FAT and SAT Test procedure and Reports		
	21.Relay & Control Settings		
	22.Training Manuals		

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		23.5 Minutes Audio and Video film of M-BESS 24. List of Connected Devices – EMS & Entire System 25. Troubleshooting Manual 26. Asset Register Covering Model No., Description, Country of Origin, 27. Type of Device (Active & Passive) 28. Detailed engineering Drawing and Data Submission Matrix 29. No submission is acceptable without check list compliance 30. Any drawing not included above but necessary for detailed engineering shall be deemed to be included in bidder's scope.	
26.	TRAINING	1. This section describes general requirements that apply to all training courses. The bidder shall submit the training proposal along with the bid. The training content, schedule and location shall be finalized during project execution 2. Training shall be conducted by bidders personnel, who are experienced (Minimum 8 years of relevant topic) instructors and speak understandable English. 3. All necessary training material shall be provided by the Contractor. Each trainee shall receive individual copies of all technical manuals and all other documents used for training. 4. Class materials, including the documents sent for the training courses as well as class handouts, shall be retained with the users. TPCL shall have the right to create the copy such material for in-house training and use only. 5. Hands-on training shall be done on equipment similar to that as supplied under the contract 6. The training shall be conducted at bidders facility. For all training courses, the travel and per-diem expenses will be borne by the TPCL 7. The bidder shall include training cost in bid proposal 8. The schedule, location, and detailed contents of each course will be finalized during TPCL and bidder discussions in project kick-off or project engineering. The TPCL shall review and approve the contents of the overall training prior to the start of the training. 9. Training Course Requirements - TPCLs training course	

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		requirements are described below in terms of the contents of each course to be provided. Training shall be provided on actual M-BESS system. 10.Operator Training Course – 2 Mandays per location (Max 6 Days) 11.This training course shall provide training to TPCLs operators on EMS Systems so that operators can understand / manage the system effectively. The training shall include: 12.System Overview: Configuration of the system, a functional overview, and an overview of system capabilities and performance. 13.General Operating Procedures: Hierarchical structure of displays, display capabilities and features, user procedures, log-on and user access restrictions, and error messages. 14.System Applications: Theory of operation, capabilities, and operating procedures for each application function. 15.Handling of Equipment: Minor maintenance operations which do not require spares/specialized skills. 16.Operator Documentation: Orientation of the organization and application of all user documentation for Operator and verification of the information contained therein. 17.The course shall focus on hands-on training on the system. 18.EMS Application Software Course – 2 Mandays 19.The bidder shall provide training on Application software courses covering all EMS applications. The training shall include: 20.Overview: Block diagrams of the application software and data flows. Programming standards and program interface conventions. 21. Application Functions: Overview of Functional capabilities, design, and algorithms. Associated maintenance and expansion techniques 22.System Programming: An introduction to software architecture, Effect of tuning parameters (OS software, Network software, database software and Application Software etc.) on the performance of the system. Administration of Database (both real-time and RDBMS), 23.Software Documentation: Orientation in the organization and use of system software and Application software documentation. 24.Display building and Report generation

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		25.EMS Architecture and Database system. How to identify database fields, entries, records, tables, and contents 26.Hands-on Training: shall be provided with allocated computer time for trainee performance of unstructured exercises and with the course instructor available for assistance as necessary. 27.M-BESS Hardware and Software Course – 2 Mandays 28.The training course shall be designed to give TPCL hardware & software personnel sufficient knowledge of the overall design and operation of the system so that they can understand / correct obvious problems, configure the hardware, perform preventive maintenance, run diagnostic programs if required 29.The following subjects shall be covered: 30.System Hardware Overview: Configuration of the system hardware. 31.Operating System: Including the user aspects of the operating system, such as program loading and integrating procedures; scheduling, management service, and TPCL functions; and system expansion techniques and procedures 32.Equipment Maintenance: Basic theory of operation, maintenance techniques and diagnostic procedures for each element of the M-BESS system, 33.Troubleshooting and Diagnostics: Including the execution of diagnostic procedures and the interpretation of diagnostic outputs 34.Troubleshooting and diagnostic tools and software shall be provided and training shall be provided to operate the M-BESS Components 35. System Maintenance: Theory of operation and maintenance of the M-BESS System 36.Operational Training: Practical training on preventive and corrective maintenance of all equipment, including use of testing tools. 37.Protection System details and Configuration 38.Safety Precautions Equipment Configuration, Firmware update

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27.	WARRANTY AND SUPPORT TERMS & CONDITIONS	Standard Warranty 1. Bidder to ensure adequate warranty of M-BESS and its components including bought out items from OEMs for successful delivery of Comprehensive Annual Maintenance Contract for 5 years. 2. Vendor to ensure warranty against the manufacturing defects of M-BESS and its components also. 3. Comprehensive Annual Maintenance Contract (CATS) / Support Scope of Work 4. Essence of Contract - The essence of the Agreement (to be entered) is to provide CATS for the designated M-BESS and its component, with the goal of meeting the Availability as set forth herein and to provide system tuning and configuration to accommodate a growing system. 5. CATS Contract period shall be 5 years post installation and commissioning of M-BESS and its component. 6. Vendor to maintain the M-BESS during contract period post installation & Commissioning of M-BESS including Electrical Components / equipment, hardware and Software system deployed at. 7. The bidder shall be responsible for supply of all spare parts, repairs / replacement of any defective equipment(s) at his own cost as required from time to time during CATS period without affecting the overall performance of M-BESS. Bidder shall ensure genuine spares of high quality standards for optimum performance of M-BESS. 8. Bidder shall obtain the necessary certificate from TPCL for successful completion of project before commencement of CATS services. The CATS will immediately start after submission of Project completion certificate. 9. The Scope of Work for CATS shall include the software & hardware maintenance support to be provided by the bidder in respect of the system supplied under this project without any charges (labour, travel , accommodation etc) to TPCL. 10. Vendor should repair or replace any part or entire equipment that are found to defective either in material or manufacture during CATS contract without any additional cost to TPCL. 11. The bidder shall ensure that all M-BESS components (Hardware & Software) are maintained in good working condition and in case of any defect, timely replacement/repair shall be carried out to meet the availability requirements specified herein. 12. The bidders on- standard hours of service timings for M-BESS would be 24 hours a day, 7 days a week throughout the year (i.e. 24x365). 13. Sufficient nos. of engineers for on- support for M-BESS and its component shall be deployed.	

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		14. The support personnel so deployed shall be qualified personnel having experience in the delivered M-BESS system. 15. Bidder shall submit the CATS document / Plan before completion of Trial run. 16. Bidders to maintain all records of maintenance during CATS period which shall be shown to TPCL on demand. All maintenance records during CATS tenure shall be handed over to TPCL after closure of CATS period. 17. Bidder will assign a service delivery manager for TPCL who will provide the management interface facility and has the responsibility for managing the complete service delivery during the contractual arrangement between TPCL and the Bidder. Service delivery Manager will be responsible for preparation and delivery of all monthly/weekly reports as well as all invoicing relating to the service being delivered. Service delivery Manager's responsibilities should essentially cover the following 18. Overall responsibility for monitor, review and delivery of M-BESS performance and Service Level Agreement (SLA). 19. Act as a primary interface to TPCL for all matters that can affect the performance baseline of services. 20. Maintain communication – accepting queries / problems and respond 21. Provide strategic and tactical recommendations in relation to technology related issues 22. Provide escalation to Bidders senior management if required 23. Identify and resolve problems and issues together with TPCL 24. Responsible for preparation and delivery of all monthly reports as well as all invoicing relating to the services being delivered. 25. As part of this activity, for efficient and effective CATS implementation, the Bidder team will: 26. Manage the vendors / OEMs / Service providers for escalations on support including Logging calls and co-ordination with them, 27. SLA tracking 28. Management of assets sent for repair 29. Provide MIS on performance of M-BESS on Daily, Weekly, Monthly and yearly basis. 30. Coordinate with OEM / service providers for maintenance services and replenish spares 31. Respond and attend the problem / issue within agreed service level objectives set forth 32. The Bidder must adhere to well-defined processes and procedures to deliver consistent quality services throughout its contractual period. Any hardware/software to meet the requirements under this section must be provided by the bidder.

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		33. The bidder is expected to have the SLA management tools having facility to build escalations, workflows, action types and its sequence, etc 34. Repair, Maintain, servicing, lubrication of Air / liquid cooling system, Auxiliary Power Supply System, Fire Detection & Suppression System, Temperature Scanning System, EMS System, Control Room Infra. Refill / replace fire suppression agents of FSS, cooling agent of cooling system during preventive maintenance. 35. Bidder shall ensure statutory compliances like CFO, PWD etc for M-BESS and its components during CATS period. On Support 36. Preventive Maintenance Services shall be carried out on Monthly / Quarterly or as recommended by equipment manufacturer basis to achieve the Service level agreement mentioned below 37. Vendor Qualified Expert Engineer / Supervisor / team shall visit the every month to carry out routine check-up of M-BESS and its components. 38. The vendor engineer / Supervisor will check performance of M-BESS and its components and will inform TPCL about observations and necessary actions to be carried out. Vendor shall also diagnose the problem / issues in M-BESS System. 39. Bidder shall check all M-BESS setup and carry out following scope of work for proper functioning of Setup. 40. Bidder shall also carry out necessary cleaning of M-BESS area and its equipment, M-BESS visual inspection for any deformation, repair / rectification of any deficiencies observed. checking / adjusting and carry out calibration of parameters, measuring devices, tightening of all connections, functional checkup and operational tests on the equipment. 41. All issues / problems that have been identified need to be rectified appropriately. The resolution measures undertaken by the Bidder, RCA of any failure/problem and results produced after resolution shall be documented in the report. 42. Replacing of consumable items if necessary, during maintenance shall be without any cost to TPCL. 43. Replacing of spare part items if necessary, during maintenance shall be without any cost to TPCL. 44. Preventive activities also include (but not limited to) Cleaning of the plant including battery yard on regular basis and as and when required, Cleaning of drains, cable trenches, box culverts, Herbicide spray and grass cutting on a periodic basis etc 45. Breakdown/Corrective Maintenance Services 46. Under this Support, TPCL / Bidders person monitoring and controlling centralized EMS System will report breakdown calls for on

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		support to single point contact person designated by bidder through phone or system notification or email. Service tickets raised on designated number / email id will be acknowledged within 1 hour. 47. Bidder shall attend unlimited break down calls in a period 7 days week, 24 hours/day. No extra charges shall be applicable for such breakdown call visits. Spares required, Visits, Travel charges is in scope of vendor 48. Vendor shall provide Escalation Matrix along with contact numbers for escalation to next level as per duration defined in the Escalation Matrix. 49. Vendor shall be required to provide Support Services to manage deployed M-BESS setup and associated work to meet the desired Service Level Agreement as mentioned below. Vendor shall submit a comprehensive Support process, plan and deliverables for the entire system including the field activities for approval to TPCL. It shall be the responsibility of the vendor to maintain the network uptime and provide the data availability as mentioned in SLA. Emergency Support 50. The severity levels are defined in “ Framework for Problem Resolution” of this document. Emergency Support for Severity 1 issues are to be provided 24 hours a day, seven days a week. The on-call support team shall include all key technical competencies so that any aspect of a system failure can be attended. The team comprise of experienced technical staff that are skilled in troubleshooting M-BESS systems. Severity 1 problems shall be reported by telephone for rapid response; target response times are defined in Service level agreement section. The Bidder shall submit the process details to meet the above requirements along with the offer. For severity 1 problems, the key objective is to restore the system to an operational state as quickly as possible, including by a temporary workaround. Resolution of the defect may be completed during standard hours. Severity 2 and 3 problems shall be tracked through a call tracking system to be provided by the Bidder. The Emergency Support service goal is to meet the availability targets greater than specified in this document. Scope of work (illustrative) during CATS shall include following 51. Remote Monitoring of M-BESS plant to check non availability / functioning / low performance of any equipment / network / Battery Modules /EMS System etc 52. Regular analysis of events and logs generated in M-BESS systems. 53. Submit performance data to TPCL online and / or through a report on regular basis every Day / Week or Month. 54. Routine servicing/ troubleshooting/ setting/ adjustments/ cleaning/ checking of safeties etc. to ensure smooth and trouble free

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		working of the system. 55. Repairs/ replacement to the M-BESS system including re-loading software etc. in the event of any malfunctioning including replacement of spares/ components/ sub-system/ cards/ and any other component, part or whole, which may need replacement/ repairs 56. Procurement, including Import, wherever required, of spares and stocking them shall be responsibility of the bidder. Non availability of spares/ components will not be accepted as a reason for waiving of penalty towards delay in rendering prompt service 57. All manufacturers preventive maintenance schedules/ replacement periodicity of components like electrical/electronics parts including checking of safety of devices, its performance, periodic testing etc. shall be strictly followed as per the manufacturer's periodicity or as required in addition to the scope of maintenance indicated above 58. Inspection along with measurement of earth resistance of all the earth stations and report to be submitted to the concerned TPCL in charge once in a year. 59. Testing, calibration, maintenance, renewal, and repair of all equipments / components and meters at M-BESS . 60. Bidder to ensure that the safety practices outlined by Battery manufacturer for handling battery to be strictly followed. Bidder shall also provide first aid/safety measures at suitable locations to minimize health risk of the personnel involved in battery O&M. 61. The Contractor shall immediately report the accidents, if any, to the Engineer In charge & to all the concerned authorities as per prevailing laws of the state. 62. Other service / support condition – In addition to the on-services described above, Vendor shall provide support on following aspects: 63. Supply and replacement of all spares, consumables and parts required for smooth operation and serviceability of the M-BESS system shall be the responsibility of the selected bidder during CATS contract period. In this respect the bidder shall maintain sufficient spares/consumables for immediate replacement of defective / damaged part during day-to-day routine maintenance / breakdown maintenance. Cost of these spares and any other spares which may be required during maintenance is deemed to be included in the rates quoted by the bidder. The periodicity of service shall be monthly or more depending upon the weather conditions and recommendation of OEM. Bidder shall submit the list of mandatory spares proposed during detailed engineering for review and approval of TPCL. 64. Technical assistance should be provided by OEMs (over phone

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		and other means of communication or visit) for quick resolution of problems wherein on- field team needs support. 65. The engineer / supervisor should carry special tools if required for troubleshooting and maintenance of M-BESS and its components at their own cost. 66. Vendor shall depute qualified and trained engineers, experienced team for M-BESS System to take up preventive and corrective maintenance jobs. 67. Vendor shall work within the limits of the Permit for Work obtained by TPCL engineer. 68. Vendor shall arrange special tools which may be required for the purpose of diagnostic and repairing activity on the M-BESS as required. 69. Vendor representative should strictly observe all the instructions relating to the work issued from time to time by the Engineer-in-Charge from TPCL. Vendor engineer / supervisor must complete the planned maintenance jobs as per the schedule and to the entire satisfaction of the Engineer-in-Charge. 70. Vendor engineer shall provide report on the work carried out, which should be presented to the Engineer-in-Charge whenever demanded. 71. The decision of Engineer-in-Charge shall be final regarding all matters relating to this contract. 72. Accommodation at / To and Fro Travel Charges and Local conveyance is in Vendor Scope. 73. Selected Bidder to submit the Preventive and breakdown Service Report, Plant Performance Report to TPCL Incharge on time to time basis along with Invoice raised towards CATS. 74. Insurance – TPCL shall take Fire and allied Peril insurance during CATS Period. Bidder shall ensure insurance of M-BESS and its Component risks against any loss or damage, under performance, failure etc for successful delivery of CATS services. 75. TPCL personnel shall have unrestricted entry to M-BESS during CATS Period. TPCL may depute a personnels to associate with O&M Activities. Bidder shall assist TPCL in developing the expertise during day to day O&M activities. 76. Bidder shall strictly adhere to the TPCL's information security, Safety and Environment Management policy and System etc during CATS period. Bidder shall fulfill the entire requirement mentioned in the policy and its documents. Violation to the stipulated norms shall lead to heavy penalty in this regard. Any changes in the policy during the CATS period and its fulfillment or compliance shall be binding on bidder and no extra amount shall be paid for the same by TPCL. 77. Bidder shall ensure that hazardous and e-waste like Battery modules, PCB, IO modules etc after their 'end of life' (when they become

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		defective/ non- operational/ non-repairable) are disposed in accordance with the “e-waste (Management and Handling) Rules, 2022” and Battery Waste Management Rules, 2022 as notified by the Government of India and as revised and amended from time to time. Bidder shall carry out battery disposal through authorized vendor of CPCB/MPCB and submit the proof of disposal / certificate to TPCL. Framework for Problem Resolution 1. Severity-1 (Urgent support) - This support is required when there is a complete system failure, severe system instability, the loss/ failure of any major sub-system / system or its components, which may significantly impact the system availability, performance, or operational capability at centralized Control Centre. Upon receiving intimation, the representative of the bidder shall immediately attend to the problem. 2. Urgent support is required during breakdown of trolley or Truck / Trolley 3. Resolution of breakdown to be done within one week. 4. Any temperature rise or Fire incident in M-BESS 5. Loss of data or operational capability to centralized EMS System 6. Failure of critical M-BESS equipment resulting into non availability of Capacity more than 20% of installed Capacity. 7. Failure of GPS clock & Time synchronization 8. Severe system instability 9. Severity 2 - The support services not defined under Severity-1 are included under this category. 10. Severity-3 (General Technical Help) - Request for information, technical configuration assistance, “how to” guidance, and enhancement requests are included under this category. Service Level agreement <table><tr><th>Defined Parameter</th><th>Service level requirement</th><th>Validation Procedure</th><th>Penalty*</th></tr><tr><td colspan="4">M-BESS Performance Management :</td></tr></table>	Defined Parameter	Service level requirement	Validation Procedure	Penalty*	M-BESS Performance Management :			
Defined Parameter	Service level requirement	Validation Procedure	Penalty*							
M-BESS Performance Management :										

The Tata Power Company Ltd				TECHNICAL SPECIFICATION FOR TRUCK / TROLLEY MOUNTED MOBILE BATTERY ENERGY STORAGE SYSTEM (M-BESS)	
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		M-BESS Availability (Energy and Power) *	Bidder shall guarantee a minimum M-BESS availability of 95% on annual basis at Grid Point level including planned and unplanned outages.	Records / Report EMS.	2% penalty on the Support / CATS charges for every 1% of non availability below 95%, subject to a maximum of 50% of the value of CATS charges as mentioned in the payment schedule shall To be recovered from CPBG / CATS Cost.
		Min. Battery Energy at the end of Year (% of installed capacity & excl Aux. Consumption)	Bidder shall guarantee a minimum Battery energy at the end of year against installed Capacity & Excluding Aux Consumption as mentioned below 1st Year – 94% 2nd Year – 90% 3rd Year – 88% 4th year – 86% 5th Year – 84% 6th year – 82% 7th Year – 80% 8th Year – 78% 9th Year – 76% 10th Year – 74% 11th year – 72% 12th year – 70%	Records/ Report of EMS.	Maintain / Augment* the residue capacity of M-BESS at its own risk and cost within 90 days of demonstration made, failing which cost estimated by TPCL or OEM for such augmentation of M-BESS shall be recovered from the Performance Bank Guarantee
		AC to AC Rount Trip Efficiency (RTE)** Including Auxiliary Power Consumption	Bidder shall guarantee a minimum AC to AC RTE of 83% on monthly basis at Grid Point level without Aux Consumption	Records/ Report EMS and Energy Meter installed for M-BESS	A Penalty on additional losses incurred in M-BESS above 18% shall be recovered from bidder at Twice the rate of ABR approved by MERC for TPCL in Tariff Order from the performance Bank Guarantee / CATS Cost
		Resolution of issue / Problem :			

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		Severity 1	Response Time – 30 Min Action Time – 24 Hours	Telephone Call from Centralized EMS control room	2% penalty on the Support / CATS charges for every reported incident subject to a maximum of 50% of the value of CATS charges as mentioned in the payment schedule shall be recovered from CPBG / CATS Cost.
		Severity 2	Response Time – 1 Day Action Time – 3 Days	Call registration in Tracking System	1% penalty on the Support / CATS charges for every reported incident subject to a maximum of 50% of the value of CATS charges as mentioned in the payment schedule shall be recovered from CPBG / CATS Cost.
		Severity 3	Response Time – 2 Day Action Time – 5 Days	Call registration in Tracking System	0.5% penalty on the Support / CATS charges for every reported incident subject to a maximum of 50% of the value of CATS charges as mentioned in the payment schedule shall be recovered from CPBG / CATS Cost.
		*NOTE – Annual System Availability = System availability of all time-blocks during the year in which the TPCL has capacity requirement (Power & Energy) for charging/discharging and same is delivered by M-BESS subject to availability of SoC and operating the M-BESS within OEM recommended parameters. TPCL will communicate / Configure the M-BESS capacity requirement (Power & Energy) in EMS system on 15 minute basis before start of time block. Annual System Availability of individual station shall be calculated through EMS system only. **NOTE – AC to AC round Trip Efficiency (RTE) shall be derived using data			

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		recorded by Energy Meter installed for M-BESS at Grid Point. AC to AC Round Trip Efficiency = Sum of Total of Actual energy injected / discharging in a month / Sum of Total Actual Energy drawn / charging in a month *Bidder shall ensure that all Battery modules after their ‘end of life’ (when they become defective/ non-operational/ non-repairable) are disposed in accordance with the “e-waste (Management and Handling) Rules, 2022” and Battery Waste Management Rules, 2022 as notified by the Government of India and as revised and amended from time to time. Bidder shall carry out battery disposal through authorized vendor of CPCB/MPCB and submit the proof of disposal / certificate to TPCL.
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28. ABBREVIATION		Abbreviation	Meaning
		AC	Alternate Current
		ACDB	Alternate Current Distribution Board
		TPCL	Tata Power Company Ltd
		BAU	Battery Administration Unit
		BCU	Battery Control Unit
		M-BESS	Battery Energy Storage System
		BIS	Bureau of Indian Standards
		BMS	Battery Management System
		BMU	Battery Management Unit
		BoQ	Bill of Quantities
		CATS	Comprehensive Annual Technical Support
		CEA	Central Electricity Authority
		CEIG	Chief Electrical Inspector
		CFO	Chief Fire Officer
		CPBG	Contract Performance Bank Guarantee
		CRZ	Coastal Regulation Zone
		DB	Distribution Board
		DC	Direct Current
		DCDB	Direct Current Distribution Board
		DIN	Deutsches Institut für Normung
		DSS	Distribution Substation
		EES	Electrical Energy Storage
		EHV	Extra High Voltage (220 kV)
		EMC	Electromagnetic compatibility
		EMS	Energy Management System
		FAT	Factory Acceptance Test
		FSS	Fire Detection and Suppression System
		AIS	Air Insulated Substation

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29.	MANUFACTURING ACTIVITIES	The successful bidder will have to submit first GTP & Drawing with 7 days from placement of outline agreement for approval and complete the approval process within 14 days of outline agreement. The date of Code -2/ Code-1 approval given by TATA Power will be treated as first day for assessment of LD (if applicable).																																																																																												
30.	GUARANTEED TECHNICAL PARTICULARS	A. GENERAL PARTICULARS <table><tr><th>Sr. No.</th><th>Parameter</th><th>Unit</th><th>Required</th></tr><tr><td>1</td><td>OEM Name</td><td>-</td><td>To Specify</td></tr><tr><td>2</td><td>System Integrator Name</td><td>-</td><td>To Specify</td></tr><tr><td>3</td><td>Country of Origin</td><td>-</td><td>To Specify</td></tr><tr><td>4</td><td>Model Number</td><td>-</td><td>To Specify</td></tr><tr><td>5</td><td>System Type</td><td>-</td><td>EV Truck / Trolley Mounted BESS</td></tr><tr><td>6</td><td>Application</td><td>-</td><td>Emergency Power Restoration</td></tr><tr><td>7</td><td>Standards Compliance</td><td>-</td><td>As Specification</td></tr><tr><td>8</td><td>Design Life</td><td>Years</td><td>≥ 12</td></tr><tr><td>9</td><td>Warranty</td><td>Years</td><td>≥ 5</td></tr></table> B. VEHICLE PARTICULARS <table><tr><th>Sr. No.</th><th>Parameter</th><th>Unit</th><th>Required</th></tr><tr><td>1</td><td>Vehicle Make</td><td>-</td><td>To Specify</td></tr><tr><td>2</td><td>Vehicle Model</td><td>-</td><td>To Specify</td></tr><tr><td>3</td><td>Chassis Manufacturer</td><td>-</td><td>To Specify</td></tr><tr><td>4</td><td>GVW Rating</td><td>kg</td><td>To Specify</td></tr><tr><td>5</td><td>Wheel Base</td><td>mm</td><td>To Specify</td></tr><tr><td>6</td><td>Axle Configuration</td><td>-</td><td>To Specify</td></tr><tr><td>7</td><td>Engine Rating</td><td>HP</td><td>To Specify</td></tr><tr><td>8</td><td>Fuel Type</td><td>-</td><td>To Specify</td></tr><tr><td>9</td><td>Cabin Configuration</td><td>-</td><td>Factory Built</td></tr><tr><td>10</td><td>Vehicle Registration</td><td>-</td><td>Included</td></tr><tr><td>11</td><td>Reverse Alarm</td><td>-</td><td>Yes</td></tr><tr><td>12</td><td>GPS Tracking</td><td>-</td><td>Yes</td></tr></table>	Sr. No.	Parameter	Unit	Required	1	OEM Name	-	To Specify	2	System Integrator Name	-	To Specify	3	Country of Origin	-	To Specify	4	Model Number	-	To Specify	5	System Type	-	EV Truck / Trolley Mounted BESS	6	Application	-	Emergency Power Restoration	7	Standards Compliance	-	As Specification	8	Design Life	Years	≥ 12	9	Warranty	Years	≥ 5	Sr. No.	Parameter	Unit	Required	1	Vehicle Make	-	To Specify	2	Vehicle Model	-	To Specify	3	Chassis Manufacturer	-	To Specify	4	GVW Rating	kg	To Specify	5	Wheel Base	mm	To Specify	6	Axle Configuration	-	To Specify	7	Engine Rating	HP	To Specify	8	Fuel Type	-	To Specify	9	Cabin Configuration	-	Factory Built	10	Vehicle Registration	-	Included	11	Reverse Alarm	-	Yes	12	GPS Tracking	-	Yes
Sr. No.	Parameter	Unit	Required																																																																																											
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11	Reverse Alarm	-	Yes																																																																																											
12	GPS Tracking	-	Yes																																																																																											

C. BATTERY PARTICULARS

Sr. No.	Parameter	Unit	Required
1	Battery Chemistry	-	LFP
2	Cell Manufacturer	-	To Specify
3	Cell Model	-	To Specify
4	Cell Capacity	Ah	To Specify
5	Total Installed Capacity	kWh	≥1010
6	Guaranteed Usable Capacity	kWh	≥1000
7	Battery Nominal Voltage	VDC	To Specify
8	Number of Battery Racks	Nos	To Specify
9	Number of Battery Modules	Nos	To Specify
10	Number of Cells	Nos	To Specify
11	Cycle Life	Cycles	≥8000
12	End of Life Capacity	%	≥70
13	DoD	%	≥95
14	Protection Degree	-	IP55 or Better

D. BATTERY MANAGEMENT SYSTEM

Sr. No.	Parameter	Unit	Required
1	BMS Make	-	To Specify
2	BMS Model	-	To Specify
3	Cell Monitoring	-	Yes
4	Module Monitoring	-	Yes
5	Rack Monitoring	-	Yes
6	SoC Monitoring	-	Yes
7	SoH Monitoring	-	Yes
8	Cell Balancing	-	Yes
9	Event Logging	-	Yes
10	Communication Protocol	-	To Specify

E. POWER CONVERSION SYSTEM

Sr. No.	Parameter	Unit	Required
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1	PCS Make	-	To Specify
2	PCS Model	-	To Specify
3	Rated Apparent Power	kVA	≥505
4	Rated Active Power	kW	≥500
5	Output Voltage	V	415
6	Output Frequency	Hz	50
7	Efficiency	%	≥98
8	Voltage THD	%	<3
9	Current THD	%	<3
10	Grid Forming	-	Yes
11	Grid Following	-	Yes
12	Black Start	-	Yes
13	Island Operation	-	Yes
14	Synchronization	-	Yes

F. OUTPUT DISTRIBUTION PANEL

Sr. No.	Parameter	Unit	Required
1	System Voltage	V	415
2	Incoming ACB Rating	A	To Specify
3	Outgoing Feeders	Nos	Minimum 4
4	Feeder Rating	A	≥1500
5	Metering Class	-	Class 1.0 or Better
6	Neutral Bus Rating	A	To Specify
7	Earth Bus Rating	A	To Specify

G. THERMAL MANAGEMENT SYSTEM

Sr. No.	Parameter	Unit	Required
1	Cooling Type	-	Liquid Cooling
2	Cooling Pumps	Nos	To Specify
3	Redundant Pumps	-	Preferred
4	Heat Exchanger Type	-	To Specify
5	Cooling Capacity	kW	To Specify

H. FIRE DETECTION & SUPPRESSION SYSTEM

Sr. No.	Parameter	Unit	Required
1	Smoke Detection	-	Yes
2	Heat Detection	-	Yes
3	Thermal Runaway Detection	-	Yes
4	Hydrogen Detection	-	Yes
5	CO Detection	-	Yes
6	Suppression System Type	-	To Specify
7	Fire Alarm Panel	-	Yes
8	Automatic Activation	-	Yes

I. EMS & COMMUNICATION

Sr. No.	Parameter	Unit	Required
1	EMS Make	-	To Specify
2	EMS Model	-	To Specify
3	HMI	-	Yes
4	Data Logger	-	Yes
5	Modbus TCP/IP	-	Yes
6	IEC 61850	-	Preferred
7	GSM/4G/5G	-	Yes
8	GPS Tracking	-	Yes

J. PERFORMANCE GUARANTEES

Sr. No.	Parameter	Required	Bidder Offer
1	Active Power Output	500 kW	
2	Apparent Power Output	505 kVA	
3	Installed Capacity	1.01 MWh	
4	Guaranteed Usable Capacity	1 MWh	
5	Full Load Backup	2 Hours, 8 Hours at C/8	
6	Availability	99%	
7	Design Life	12 Years	
8	Cycle Life	8000 Cycles	

K. OVERALL M-BESS VEHICLE DIMENSIONS

Sr. No.	Parameter	Unit	Bidder Offer
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1	Overall Length	mm	
2	Overall Width	mm	
3	Overall Height	mm	
4	Ground Clearance	mm	
5	Wheelbase	mm	
6	Front Overhang	mm	
7	Rear Overhang	mm	
8	Turning Radius	m	

L. WEIGHTS

Sr. No.	Parameter	Unit	Bidder Offer
1	Chassis Weight	kg	
2	Battery System Weight	kg	
3	PCS Weight	kg	
4	Cooling System Weight	kg	
5	Fire Protection System Weight	kg	
6	LT Panel Weight	kg	
7	Auxiliary System Weight	kg	
8	Total Kerb Weight	kg	
9	Gross Vehicle Weight (GVW)	kg	
10	Axle-1 Load	kg	
11	Axle-2 Load	kg	
12	Axle-3 Load	kg	

M. TRANSPORTATION PARTICULARS

Sr. No.	Parameter	Unit	Bidder Offer
1	Transport Configuration	-	
2	Maximum Road Speed	km/hr	
3	Road Worthy Certification	Yes/No	
4	RTO Registration Included	Yes/No	
5	Special Transport Permit Required	Yes/No	
6	Maximum Gradient Capability	%	
7	Side Slope Capability	Degrees	
8	Operating Wind Speed	km/hr	
9	Survival Wind Speed	km/hr	

DIMENSIONAL LIMITS (MANDATORY)

To ensure unrestricted deployment within TPCL's urban distribution network, the offered M-BESS shall comply with the following maximum limits:

Parameter	Maximum Permissible
Overall Width	2550 mm
Overall Height	4000 mm
Overall Length	As per CMVR Limits
Gross Vehicle Weight	As per Applicable CMVR/RTO Limits
Turning Radius	≤ 12 m Preferred

(TO BE ENCLOSED WITH THE BID)

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

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

31. SCHEDULE OF DEVIATIONS

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

Seal of the Company:

Signature

Designation

The Tata Power Company Ltd		OPEN TENDER NOTIFICATION
Tender Reference: 4100071381/CC27ADO011		Document Date: 15 th September 2026

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:

The Tata Power Company Ltd		<i>OPEN TENDER NOTIFICATION</i>
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ANNEXURE IV

Schedule of Commercial Specifications

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

S. No.	Particulars	Remarks
1.	Prices firm or subject to variation (If variable indicate the price variation clause with the ceiling if applicable)	Firm / Variable
1a.	If variable price variation on clause given	Yes / No
1b.	Ceiling	----- %
1c.	Inclusive of 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.)

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ANNEXURE V

Checklist of all the documents to be submitted with the Bid

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

S. No.	Documents attached	Yes / No / Not Applicable
1	EMD of required value	
2	Tender Fee as mentioned in this 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	

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ANNEXURE VI

Acceptance Form for Participation In Reverse Auction Event

(To be signed and stamped by the bidder)

In a bid to make our entire procurement process more fair and transparent, 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 outrightly 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

The Tata Power Company Ltd		OPEN TENDER NOTIFICATION
Tender Reference: 4100071381/CC27ADO011		Document Date: 15 th September 2026

Annexure VII
Inspection Test Plan

Not Applicable

The Tata Power Company Ltd		OPEN TENDER NOTIFICATION
Tender Reference: 4100071381/CC27ADO011		Document Date: 15 th September 2026

Annexure VIII
General Conditions of Contract

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 statutes, rules & regulations by the use of or sale of any article or material supplied by the Vendor. The indemnity shall include any infringement of patent, trade mark, design, copyright or other property rights whether in Country of Origin, or elsewhere resulting from the Vendor's design, manufacture, use, supply or re-supply & would also cover use or sale of any article or material supplied by the Vendor to the Purchaser under the Purchase Order. The Indemnity shall cover any claim/action taken by a third party either directly against the Purchaser or any claim/action made against the Vendor & where under the Purchaser is made liable. The

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

16 Latent Defects Liability period (if applicable):

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

17 Force Majeure:

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

18 Variation:

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

19 Termination

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

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

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

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

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

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

20 Sub letting and assignment:

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

21 Dispute Resolution:

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

22 Governing laws

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

23 Jurisdiction

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

24 Limitation of Liability

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

25 Confidentiality:

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

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

26 Consequential Damages:

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

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

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

28 Relation between parties:

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

29 Environment / ISO 14001 Certification:

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

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

30 Tata Code of Conduct

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

31 Responsible Supply Chain Management:

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

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

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

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

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

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

32 Vendor rating

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

33 Vendor Feedback:

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

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

34 Non-Waiver:

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

35 Repeat Order:

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

36 Severability

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

ESG FRAMEWORK FOR BUSINESS ASSOCIATES

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

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

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

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

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

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

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

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

Responsible Supply Chain Management:

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

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

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

The BA is expected to:

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

Waste Disposal:

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

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

Water Management:

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

Compliance to Law:

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

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

Social Accountability (SA 8000):

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

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

Health and Safety

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

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

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

Grievance Mechanism

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

Data Protection

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

ANNEXURE-I



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

Signature

Business Associate Name

ANNEXURE-II

CORPORATE SUSTAINABILITY POLICY

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

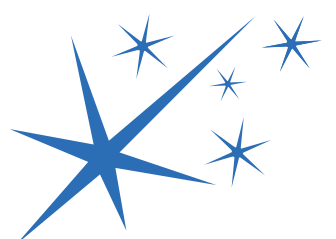
- We will uphold the values of honesty, partnership and fairness in our relationship with stakeholders
- We shall provide and maintain a clean, healthy and safe working environment for employees, customers, partners and the community
- We will strive to consistently enhance our value proposition to the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

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



(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018



Supplier Code of Conduct

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

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

Toll-free Number	1800 267 4065
Email	tatapower@tip-offs.in
Website & Chatbot	www.tatapower.tip-offs.in
Postal address	Attn to: Mr. Puneet Arora, Deloitte Touch Tohatsu India LLP, 6 floor, AIPL Business, Sector 62, Gurugram, Haryana 122102

CYBERSECURITY COMPLIANCE

The Vendor unconditionally undertakes, for the entirety of the contract term and the warranty / support period, to comply with the cybersecurity obligations set out below. Acceptance of this clause is a condition precedent to award; non-compliance constitutes a material breach.

1. Universal Obligations — applicable to all Vendors and all supplies

- (a)** ISO/IEC 27001:2022 certification covering the supply scope is maintained current; where the supply includes vendor develop software, firmware, or a vendor operated software solution, an independent third-party VAPT of the offered solution has been conducted within the last 12 months (this VAPT requirement does not apply to distributors reselling OEM hardware such as laptops, switches, routers, and similar IT/OT and networking equipment's).
- (b)** No private Wi-Fi, personal hotspots, 4G/5G modems, unmanaged switches, or unauthorised broadband shall be deployed at Tata Power sites. All remote access shall be conducted exclusively through Tata Power's approved Secure Remote Access (SRA) solution and processes defined.
- (c)** MFA is enforced for privileged and remote access; integration with enterprise IAM (SAML 2.0 / AD / LDAP) is supported; RBAC under least privilege is applied; dedicated named accounts are used (no shared Vendor credentials); hardcoded or default credentials are prohibited in production; data is encrypted at rest using AES-256 (or equivalent) and in transit using TLS 1.2 or higher, with SSL / TLS 1.0 / 1.1 disabled.
- (d)** All operational, configuration, and diagnostic data remains the sole property of Tata Power; the supplied solution contains no hidden telemetry, backdoors, undisclosed data collection, or background cloud synchronisation.
- (e)** For IT solutions and applications, security patches shall be provided within: Critical (CVSS $\geq$ 9.0) 15 days; High (7.0–8.9) 30 days; Medium (4.0–6.9) 60 days; Low ($<$ 4.0) 90 days. For OT solutions, security patches for vulnerabilities with a CVSS score above 8.0 shall be provided to Tata Power as and when released by the OEM / Vendor, after due testing in a representative environment to prevent operational instability. Zero-Day interim mitigation is issued within 24–48 hours of internal discovery. Not less than 12 months' written notice of any EOL / EOS milestone shall be given.
- (f)** Tata Power shall be notified of any confirmed or suspected security breach within 4 hours of discovery, with full cooperation for CERT-In's 6-hour mandate.

2. Conditional Obligations — applicable where the supply category applies

- (a)** IT Software / Firmware (where the supply includes Vendor-developed software or firmware): A documented SSDLC with SAST, DAST, and SCA gates is operated; a machine-readable SBOM is delivered identifying all components, versions, licences, and known CVEs at delivery.

- (b) IT Hardware & Endpoints** (servers, workstations, laptops, network equipment): EDR / AV with 3 years of free updates is bundled, or formal compatibility with Tata Power's chosen EDR / AV with central manager is declared; Windows endpoints are hardened to CIS Benchmark Level 1; BIOS / UEFI password protection is enabled; boot-from-external-media is disabled; USB ports are lockable; unused ports, services, and default accounts are disabled and documented; shipments arrive in tamper-evident packaging.
- (c) Operational Technology / ICS** (PLCs, RTUs, IEDs, SCADA, EMS, DCS, HMIs, OT firewalls, MES, SIS, engineering workstations and OT endpoints/computers): IEC 62443-4-1 and 4-2 compliance is held or independently assessed; architecture aligns with the Purdue Model with a Communication Matrix; MES-to-OT exchanges traverse approved OT firewalls (no direct IT-to-Level 1 / 2 connectivity); Secure Boot with cryptographic firmware validation; offline patching via removable media or local update server (no internet dependency); SIS is physically and logically segregated from BPCS (no shared credentials, networks, or power); secure industrial protocols supported (DNP3 SAv5, IEC 61850 with TLS, OPC-UA SignAndEncrypt) — Telnet, FTP, SNMP v1 / v2c, unencrypted HTTP, rsh, rlogin are not used on any OT segment; application whitelisting enabled on HMIs by default; all OT project files (PLC / DCS / RTU programs, HMI projects, SCADA exports, IEC 61850 SCL / CID / SCD files, network device configs, SIS files) are delivered in native and vendor-agnostic formats at handover and refreshed after every configuration change. Cybersecurity compliance during FAT and SAT is a condition of acceptance; non-conformance entitles Tata Power to reject equipment without commercial impact, with any re-FAT / re-SAT at Vendor's cost.
- (d) Cloud / SaaS** (solutions hosted outside Tata Power's infrastructure): A current SOC 2 Type II report or ISO 27017 / 27018 certification covers the offered service; all data processing, storage, and transmission occurs exclusively within India unless explicitly approved in writing by the Tata Power CISO and Legal teams.
- (e) Personal Data Processing** (any solution processing personal data on behalf of Tata Power, regardless of hosting model): The Digital Personal Data Protection Act, 2023 is complied with; a Data Processing Agreement defining data categories, retention, deletion, sub-processor disclosure, and the Vendor's processor role shall be executed prior to go-live.

3. Remedies, Indemnity, and Survival

- (a)** Any false, misleading, or materially incomplete declaration, or any material non-compliance with this clause, shall entitle Tata Power to: (i) disqualify the bid; (ii) terminate any awarded contract for material breach; (iii) forfeit bid security and performance guarantees; (iv) blacklist the Vendor for a period determined by Tata Power; and (v) pursue such other legal recourse, civil or criminal, as may be available.
- (b)** The Vendor shall indemnify Tata Power against losses, penalties, damages, regulatory fines, and reasonable legal costs arising from a security breach attributable to the Vendor's negligence or non-compliance with this clause.
- (c)** Sub-clauses 1(d), 1(f), 2(d), and 2(e) shall survive expiry or termination of the contract for the period during which Tata Power data remains in the Vendor's custody, or any obligation remains capable of giving rise to a cause of action, whichever is longer.

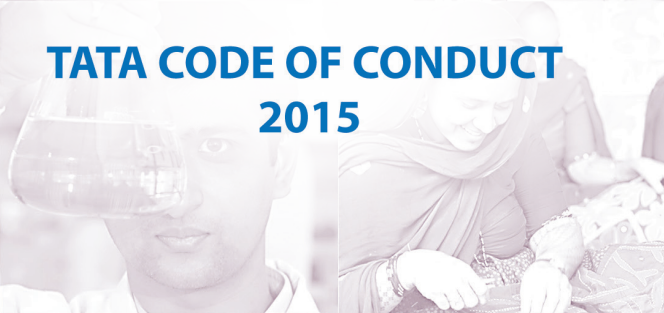
Supply of Truck/Trolley mounted Mobile Battery Energy Storage System (BESS). Ref. No.4100071381/CC27ADO011	THE TATA POWER COMPANY LIMITED	
	SPECIAL CONDITIONS OF CONTRACT	

Sr. No.	TOPIC	PRINCIPLES OF TERMS & CONDITIONS
1	GENERAL	The following Special Conditions of Contract (SCC) shall supplement the General Terms and Conditions Supply. Wherever there is a conflict, the provisions herein shall prevail over those in the “General Terms and Conditions”.
2	Earnest Money Deposit (EMD)	Bidders willing to participate in the tender shall submit an EMD for Rs. 2,50,000/- (Rs. Two Lakh Fifty Thousand Only) in the form of Bank Guarantee (BG). Hard copy of EMD BG shall reach Tata Power at below mentioned address before the bid submission Date and Time. EMD BG shall be valid for 180 days from the due date of bid submission, favouring ‘The Tata Power Company Limited’. The EMD must be strictly in the format as mentioned in Tender Document, failing which it shall not be accepted by Tata Power and the bid as submitted shall be liable for rejection. Address for submission of EMD BG- Head – Procurement The Tata Power Company Limited, Smart Centre of Procurement Excellence, 2nd Floor, Sahar Receiving Station, Near Hotel Leela, Sahar Airport Road, Andheri East, Mumbai-400059 EMD BG of the successful bidder shall be returned after submission of Contract Performance Bank Guarantee. EMD BG of unsuccessful bidders shall be returned on completion of the tendering process.
4	WARRANTY/GUARANTEE	As per Clause no. 27 “Warranty and Support Terms and Conditions” in scope of work.
5	CONTRACT PERFORMANCE BANK GUARANTEE (CPBG)	This is further to General Terms & Conditions – Supply Clause 9 Vendor shall submit an unconditional and irrevocable Contract Performance Bank Guarantee (CPBG) cum performance Bank Guarantee (PBG) for a value equal to 10% of the total Purchase Order (P.O) value including taxes. Such CPBG shall be valid till the expiry of Warranty Period with a further claim period of 6 months.
6	TERMS OF PAYMENT	This is further to General Terms & Conditions – Supply. Invoice for 100% value shall be submitted after receipt of material at Tata Power site/Stores. Payment shall be made with a credit period of 60 days. Credit period shall start after acceptance of commercially correct invoice.

Supply of Truck/Trolley mounted Mobile Battery Energy Storage System (BESS). Ref. No.4100071381/CC27ADO011	THE TATA POWER COMPANY LIMITED	
	SPECIAL CONDITIONS OF CONTRACT	

		The aforesaid payments shall be subject to receipt of invoices along with enclosures/supporting documents for having completed the Job according to the Scope and duly verified/certified by Owner's Order Manager against which payment is being claimed. Payments due to the Contractor shall be made after deduction of the Liquidated Damages (LD) amount, TDS, Safety Retention etc. as applicable. Credit period for MSME vendors will be 45 days.
7	Safety Retention	Not Applicable.
8	Delivery Schedule:	All the materials shall be delivered to Tata Power Site/Stores within 3 months from drawing approval.
9	Liquidated Damages (LD)	LD shall be applicable as per the Tata Power General Terms and Conditions.
10	INSURANCE	This is further to General Terms & Conditions Complete Insurance will be in Bidder's scope.
11	Splitting of Quantities	NA
12	Reverse Auction	Tata Power reserves the right to go for Reverse Auction (RA) for price negotiation and discover the most competitive price on ARIBA portal, Tata Power's official e-tendering platform. Date and time of e-auction will be intimated through E-TENDER system to Authorized Person of Interested Bidder. This will be decided after techno-commercial evaluation of the bids. Bidders need to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case Tata Power decides to go for RA. Only those bidders who are techno-commercially qualified shall be eligible to participate further in RA process. However, the original H1 bidder (whose price bid is the highest post techno-commercial evaluation) shall not be allowed to participate in further RA process provided minimum three techno-commercially qualified bids are available.

---XXX---



TATA CODE OF CONDUCT 2015



LEADERSHIP THAT INSPIRES

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

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

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

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



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

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

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FOREWORD

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

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

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

N. Chandrasekaran

21st February, 2017



A. OUR VALUES

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



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

B. SCOPE AND PURPOSE OF THIS CODE

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

REMEMBER...

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

OUR CORE PRINCIPLES



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

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

C. OUR CORE PRINCIPLES

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

REMEMBER...

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

OUR EMPLOYEES



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

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

D. OUR EMPLOYEES

Equal opportunity employer

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

Q&A

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

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

REMEMBER...

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

Dignity and respect

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

Human rights

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

Bribery and corruption

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

REMEMBER...

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

Gifts and hospitality

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

Freedom of association

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

REMEMBER...

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

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

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

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

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

Working outside employment with us

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

Integrity of information and assets

14. Our employees shall not make any wilful omissions or material misrepresentation that would compromise the integrity of our records, internal or external communications and reports, including the financial statements.
15. Our employees and directors shall seek proper authorisation prior to disclosing company or business-related information, and such disclosures shall be made in accordance with our company's media and communication policy. This includes disclosures through any forum or media, including through social media.
16. Our employees shall ensure the integrity of personal data or information provided by them to our company. We shall safeguard the privacy of all such data or information given to us in accordance with applicable company policies or law.
17. Our employees shall respect and protect all confidential information and intellectual property of our company.
18. Our employees shall safeguard the confidentiality of all third party intellectual property and data. Our employees shall not misuse such intellectual property and data that comes into their possession and shall not share it with anyone, except in accordance with applicable company policies or law.
19. Our employees shall promptly report the loss, theft or destruction of any confidential information or intellectual property and data of our company or that of any third party.

Q&A

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

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

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

Insider trading

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

Q&A

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

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

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

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

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

REMEMBER...

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

Prohibited drugs and substances

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

Conflicts of interest

24. Our employees and executive directors shall always act in the interest of our company and ensure that any business or personal association *including close personal relationships* which they may have, does not create a conflict of interest with their roles and duties in our company or the operations of our company. Further, our employees and executive directors shall not engage in any business, relationship or activity, which might conflict with the interest of our company or our group companies.
25. Should any actual or potential conflicts of interest arise, the concerned person must immediately report such conflicts and seek approvals as required by applicable law and company policy. The competent authority shall revert to the employee within a reasonable time as defined in our company's policy, so as to enable the concerned employee to take necessary action as advised to resolve or avoid the conflict in an expeditious manner.
26. In the case of all employees other than executive directors, the Chief Executive Officer / Managing Director shall be the competent authority, who in turn shall report such cases to the Board of Directors on a quarterly basis. In case of the Chief Executive Officer / Managing Director and executive directors, the Board of Directors of our company shall be the competent authority.

Q&A

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

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

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

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

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

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

REMEMBER...

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

Examples of Potential Conflicts of Interest

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

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

28. If there is a failure to make the required disclosure and our management becomes aware of an instance of conflict of interest that ought to have been disclosed by an employee or executive director, our management shall take a serious view of the

matter and consider suitable disciplinary action as per the terms of employment. In all such matters, we shall follow clear and fair disciplinary procedures, respecting the employee's right to be heard.

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

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

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

Q&A

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

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

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

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

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

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

OUR CUSTOMERS



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

Jamsetji Tata

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

E. OUR CUSTOMERS

Products and services

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

Export controls and trade sanctions

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

Fair competition

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

Dealings with customers

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

Q&A

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

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

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

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

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

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

REMEMBER...

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

OUR COMMUNITIES AND THE ENVIRONMENT



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

Jamsetji Tata

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

F. OUR COMMUNITIES AND THE ENVIRONMENT

Communities

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

The environment

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

OUR VALUE-CHAIN PARTNERS



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

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

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

G. OUR VALUE-CHAIN PARTNERS

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

Q&A

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

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

REMEMBER...

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

OUR FINANCIAL STAKEHOLDERS



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

Ratan Tata

Chairman, Tata Sons (1991 – 2012)

H. OUR FINANCIAL STAKEHOLDERS

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

GOVERNMENTS



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

Ratan Tata

Chairman, Tata Sons (1991 – 2012)

I. GOVERNMENTS

Political non-alignment

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

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

Government engagement

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

OUR GROUP COMPANIES



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

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

J.R.D. Tata

Chairman, Tata Sons (1938 – 1991)

J. OUR GROUP COMPANIES

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

Q&A

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

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

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

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

RAISING CONCERNS

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

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

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

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

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

Q&A

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

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

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

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

ACCOUNTABILITY

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

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

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

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

SPEAK UP...

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

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

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

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

NOTE

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

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

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

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

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



TATA CODE OF CONDUCT – 2015

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

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

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

Signature: _____

Date: _____

Name: _____

Department: _____

Address: _____

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

35

NOTES

[illegible]



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

HEALTH AND SAFETY POLICY

We, at Tata Power, reaffirm our belief that the health and safety of our stakeholders is of the utmost importance and takes precedence in all our business decisions. In pursuit of this belief and commitment, we strive to:

- Maintain and proactively improve our management systems to minimize health and safety hazards to our stakeholders and all others influenced by our activities.
- Comply and endeavour to exceed all applicable occupational health & safety legal and other requirements by setting the highest standards.
- Integrate health & safety procedures and best practices into every operational activity with assigned line-functional responsibilities at all levels, for improving and sustaining health & safety performance.
- Involve our employees in maintaining a safe and healthy work environment through risk assessments, periodic reviews of operational procedures, safe work methods and adoption of new technology.
- Develop a culture of safety through active leadership and provide appropriate training at all levels to enable employees developing their skills to work safely.
- Incorporate appropriate health & safety criteria into business decisions for selection of plant and technology, performance appraisal of individuals and appointments in key positions.
- Ensure availability at all times of appropriate resources to fully implement the health & safety policy of the company.
- Promptly report incidents, investigate for root causes and ensure lessons learnt shared and deployed across the company.
- Ensure service providers and their workmen align with company's safety codes and practices for the health and safety of personnel working with us.
- Set safety & health metrics as indicators of excellence, monitor progress and continually improve performance.

We shall actively communicate this policy to all stakeholders by suitable means and periodically review its relevance in continuously changing business environment.

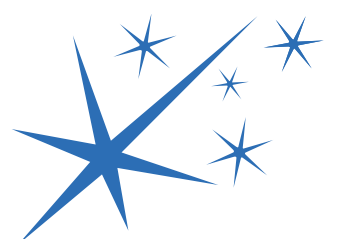


(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018

TATA POWER

Lighting up Lives!



CORPORATE ENVIRONMENT POLICY

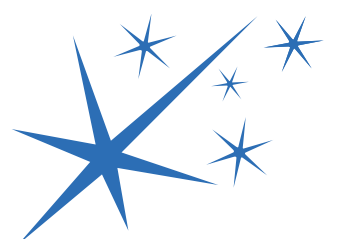
Tata Power is committed to a clean, safe and healthy environment, and we shall operate our facilities in an environmentally sensitive and responsible manner. Our commitment to environmental protection and stewardship will be achieved by:

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



(Praveer Sinha)
CEO & Managing Director

Date: 15th June, 2018



FORMAT OF EMD – Bid Guarantee BG

FORMAT OF EMD – Bid Guarantee BG

Note: a) Format shall be followed in toto

b) Claim period of six months must be kept. In case of Bank is not ready to give BG for six months and claim period of six months EMD BG valid of one year to be given

c) The guarantee to be accompanied by the covering letter from the bank confirming the signatories to the guarantee on the Bank's letter head.

The Tata Power Co Ltd
34, Sant Tukaram Road
Carnac Bunder,
Mumbai 400 009

Whereas (Name of the Contractor), a Company incorporated under the Indian Companies Act 1956, having its Registered office at _____, (hereinafter called the "BIDDER") has in response to your Invitation to Bid against Enquiry No. _____ dated _____, for (name of work), offered to supply and/or execute the works as contained in Employers letter dated _____.

AND WHEREAS BIDDER is required to furnish to you a Bank Guarantee for the sum of Rs. _____/-(Rupees ____ only) as Earnest Money against Bidder's offer as aforesaid.

AND WHEREAS we, (name of the bank) having our Registered Office at _____ and Branch office at _____, have at the request of Bidder, agreed to give you this Guarantee as hereinafter contained.

NOW THEREFORE, in lieu of earnest money deposit, we, the undersigned, hereby covenant that the aforesaid Bid of the BIDDER shall remain open for acceptance by you during the period of validity as mentioned in the Bid Document or any extension thereof as requested by you and if Bidder shall for any reason back out, whether expressly or impliedly, from this said Bid during the period of its validity or any extension thereof as aforesaid, we hereby guarantee to you the payment of the sum of Rs. _____/-(Rupees ____ only) on demand and without demur and notwithstanding the existence of any dispute between you and the BIDDER in this regard and we hereby further agree as follows:

- (a) You shall have the right to file/make a claim on us under the Guarantee for a further period of six months from the said date of expiry.
- (b) That this guarantee shall not be revoked during its currency without your written express consent.
- (c) That you may without affecting this guarantee grant time or other indulgence to or negotiate further with BIDDER in regard to the conditions contained in the said Bid document and thereby modify these conditions or add thereto any further conditions as may be mutually agreed upon between you and BIDDER.
- (d) That the guarantee hereinbefore contained shall not be affected by any change in the constitution of our Bank or in the constitution of BIDDER.

- (e) That any account settled between you and BIDDER shall be conclusive evidence against us of the amount due hereunder and shall not be questioned by us.
- (f) That this guarantee commences from the date hereof and shall remain in force till BIDDER, if his Bid is accepted by you, furnishes the Contract Performance Guarantee as required under the said specifications and executes formal Contract Agreement as therein provided or till ____Days (__ days) from the date of submission of the Bid by the BIDDER i.e. (expiry date), whichever is earlier.
- (g) That the expression, BIDDER and Bank, and OWNER herein used shall, unless such an interpretation is repugnant to the subject or context, include their respective successors and assignees.
- (h) Notwithstanding anything herein contained, our liability under this guarantee is limited to Rs._____/-(Rupees _____ only) and the Guarantee will remain in force upto and including and shall be extended from time to time for such period or periods as may be desired by you. Unless a demand or claim under this Guarantee is received by us in writing within six months from (expiry date), i.e. on or before (claim period date), we shall be discharged from all liabilities under this guarantee thereafter.
- (i) Any claim/extension under the guarantee can be lodgeable at issuing outstation bank or at Mumbai branch and claim will also be payable at Mumbai Branch. **(To be confirmed by Mumbai Branch by a letter to that effect)**

Notwithstanding anything contained hereinabove :

- a) Our liability under this Bank Guarantee shall not exceed Rs._____/-(Rupees _____ only).
- b) This Bank Guarantee shall be valid upto ----- 200.
- c) Our Liability to make payment shall arise and we are liable to pay the guaranteed amount or any part there of under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before ----- 200.