



**OWNER:**  
**THE TATA POWER COMPANY LIMITED**

**TITLE OF WORK TO BE AWARDED:**

**PRE-FABRICATED CONSTRUCTION WORKS FOR LABOUR COLONY AT SHIRAWTA  
PUMPED STORAGE PROJECT**

**ENQUIRY REFERENCE NO.: CC27SR045**

## **NOTICE INVITING EXPRESSION OF INTEREST (EOI) FOR**

### **PRE-FABRICATED CONSTRUCTION WORKS FOR LABOUR COLONY AT SHIRAWTA PUMPED STORAGE PROJECT**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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| <b>Enquiry reference no.:</b> CC27SR045                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Title of Work:</b> PRE-FABRICATED CONSTRUCTION WORKS FOR LABOUR COLONY AT SHIRAWTA PUMPED STORAGE PROJECT                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Type of Bidding:</b> E-tendering (through Ariba online portal) / Two Part (Technical and Price bids under separate envelopes)                                                                                                                                                                                                                                                                                                                                                                |
| <b>Contact Details:</b> All communication including EOI submission shall be addressed to following officer/s:<br>Mr. Sarthak Rathod<br>Email: <a href="mailto:Sarthak.rathod@tatapower.com">Sarthak.rathod@tatapower.com</a><br>Copy of all communications shall be marked to (Cc):<br>Ms. Yogita Waman<br>Email: <a href="mailto:yogita.waman@tatapower.com">yogita.waman@tatapower.com</a><br>Mr. P Ramrayka<br>Email: <a href="mailto:p.ramrayka@tatapower.com">p.ramrayka@tatapower.com</a> |

The Tata Power Company Limited ("Owner") invites Expression of Interest (EOI) from interested parties for the Two-Part e-Tendering Process of following Relevant Work Package:

Table 1

| <b>Package Description</b>                                                                                                        | <b>Tender Fee</b>                                                                | <b>Bid Security</b>                                                                                                                               | <b>Estimated package value</b>                 |
|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| <b>Outline agreement for Civil Infrastructure Works at Transmission and Distribution Divisions, Mumbai for Three years Period</b> | INR 2000/- (INR Two Thousand Only)<br><br><i>To be submitted along with EOI.</i> | INR 2 Lakh (INR Two lakhs Thousand only).<br><br><i>Bid Security to be submitted as a Guarantee/ DD/ NEFT at the BID stage (and not with EOI)</i> | INR 500 Lakhs (INR Five hundred lakhs) approx. |

#### **1. INTRODUCTION:**

The Tata Power Company Limited (TPC) is among the largest private sector Power Utility companies in India with presence in Generation, Transmission and Distribution of Power through conventional and renewable sources.

The tendering/ procurement activities for this Package are being managed from Tata Power's following office

Smart Center of Procurement Excellence (SCOPE),  
Corporate Contracts,  
The Tata Power Company Limited,  
2<sup>nd</sup> Floor, Sahar Receiving Station, Near Hotel Leela,  
Sahar Airport Road, Andheri East, Mumbai – 400 059.  
Maharashtra, India.

## 2. SCOPE OF WORK:

The project includes design, manufacturing, supply and erection with interior and exterior finishes by Light Gauge Steel Framed (LGSF) Technology including civil foundation works, electrical works, plumbing, sanitation, road works, water supply and drainage and all other works associated with labour colony etc.

Detailed Scope of Work/BOQ for this Contract shall be provided in the Tender / RFQ document to all potential buyers submitting the valid EOI with due tender fees.

## 3. TENDER FEE & TIMELINES:

a) Interested parties meeting the "Bidder Pre-Qualification Requirements" specified under point no. 4 in this document can request tender document and participate in the bidding process by submitting the Expression of Interest (EOI) Letter along with the Tender Fee Payment Details to the contact details mentioned below not later than deadline specified below. Request for extension of EOI submission date will be not entertained.

**b) Interested bidders should submit the Expression of Interest (EOI) letter and tender fee payment details to below mentioned email addresses:**

- Mails shall be addressed to (To): [Sarthak.rathod@tatapower.com](mailto:Sarthak.rathod@tatapower.com)
- Must mark copy to (cc): [yogita.waman@tatapower.com](mailto:yogita.waman@tatapower.com); [p.ramrayka@tatapower.com](mailto:p.ramrayka@tatapower.com)

EOI / requests without complete information and communication as above within deadline shall be liable to be rejected and will not be considered further.

c) Tender Fee, as indicated in the Table1 above may be paid through **NEFT/RTGS** as per details for payment of Tender Fee given in Table2 below:

Table 2

| Details for payment of Tender Fee:                                    |                                                                                                                                                                                                                                                   |
|-----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bank details for submitting Tender fees through bank transfer / NEFT: | Beneficiary Name: The Tata Power Company Limited<br>Bank Name: HDFC Bank<br>A/c no: 00600110000763<br>IFS Code: HDFC0000060<br>A/c type: CC<br>Branch Name & Address: HDFC Bank, Maneckji Wadia Building, Nanik Motwani Marg, Fort, Mumbai 400023 |
| Deadline for tender fee payment and submission of EOI:                | <b>25th October 2026, CoB.</b>                                                                                                                                                                                                                    |

**d) Expression of Interest letter to be submitted along with tender fee payment details should include the following details:**

- A covering letter duly stamped and signed by an authorized signatory clearly indicating the Tender Reference number and your EOI to participate in the tendering process.
- Tender fee payment details / reference no (ensure that tender fee is received by us within specified deadline)
- Bidder to indicate authorized person name, contact number and e-mail id (mandatory) of the person to whom RFQ / tender and all other communications to be addressed for this tender.

e) Detailed Bid Document (also referred as RFQ) shall be issued through Tata Power e-tender portal (Ariba System) only to the parties submitting a valid EOI as per terms mentioned in this document.

**4. BIDDER PRE-QUALIFICATION REQUIREMENTS:**

Interested parties to note that Bidder shall be required to fulfill the following bidder pre-qualification requirement / criteria to qualify for the subject work. Bidder will be required to submit relevant supporting documents to demonstrate their qualification during the bid submission stage against Tender document / RFQ and bidders not found meeting the pre-qualification requirements given below will be disqualified from the tender.

**4.1 TECHNICAL REQUIREMENT:**

1. Bidder should have minimum 3 years of experience in the field of Prefab Buildings and Infra works. **(Attach Certificates / related supporting documents)**
2. Bidders should have successfully executed minimum 1(One) contract of value Rs. 5 Crores OR minimum 2 (Two) contracts of value of Rs. 3 Crores each OR minimum 3 (Three) contracts of value Rs. 2 Crores each, for Pre-Fab building works in last 3 (Three) years.  
**(Attach Purchase order copy, Certificate of Experience and Satisfactory Completion of work awarded from concerned Establishments / Companies along with their references)**
3. Bidder / Tenderer should have ISO 9001, ISO 14001, OHSAS-18001/ ISO- 45001 certification or must give an undertaking for its willingness to obtain the same within 2 months of qualification for the work.

**FINANCIAL REQUIREMENT:**

Bidder / Tenderer should have minimum Average Annual Turn-over of Rs. 8 Crores (Indian Rupees Eight Crores) in the preceding 3 years. **(Attach Certificates from Chartered Accountant in this regard)**

It may be noted that the above requirements are minimum qualification criteria. However, Tata Power reserves its right to further assess the capabilities of the parties and reserves its rights to further shortlist, accept or reject any party without assigning any reason. The tender may be split in more than one parties at the discretion of Owner.

## **5. BID SECURITY / EMD:**

Interested parties to note that Bidder will be required to furnish a Bid Security along with their Bid, in the format prescribed in Bid Document **in the form of Bank Guarantee or through RTGS or Demand Draft**, for an amount as defined in the covering page of this notice document. Bids not accompanied by an acceptable Bid Security shall be rejected by the Owner as being non-responsive and returned to the bidder without being opened.

**Interested parties to note that Bid Security is not required with the EOI** and it is required to be submitted with the Bid only during Bid Submission stage once RFQ is released to the interested parties that have submitted a valid EOI.

## **6. BIDDING PROCESS:**

Detailed Bid Document (also referred as RFQ) shall be issued through Tata Power e-tender portal (Ariba System) only to the parties that submitted a valid EOI as per terms mentioned in this document.

Bidder to note that commercials for subject tender may be conducted through e-auction. Detailed bidding and auction process shall be detailed in the RFQ / tender document.

|                  |                                          |  |
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| CA/SPEC/080/2026 | THE TATA POWER COMPANY LTD               |  |
|                  | TENDER FOR PRE-FABRICATED BUILDING WORKS |  |

TATA POWER PRE-FABRICATED BUILDING WORKS

DOCUMENT TITLE: SPECIFICATIONS FOR PRE-FABRICATED  
WORKS FOR LABOUR COLONY AT SHIRWATA  
MAHARASHTRA.

Document No: CA/SPEC/080/2026

TENDER FOR PRE-FABRICATED WORKS FOR LABOUR COLONY  
AT SHIRWATA, MAHARASHTRA.

THE TATA POWER COMPANY LTD

Tata Power, Trombay Thermal Power Station Chembur- Mahul Mumbai 400074  
APRIL 2025

Registered Office Bombay House 24 Homi Mody Street Mumbai 400 001

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| R1          | 09.10.2026 | AL          | SJ         |            | - | - | - | -           | SC |
| REV.<br>NO. | DATE       | PREPARED BY | CHECKED BY | CLEARED BY |   |   |   | APPROVED BY |    |

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1. SCOPE OF ENQUIRY

The Tata Power Company Limited (TATA POWER) has decided to construct labour colony at Shirwata. The project includes design, manufacturing, supply and erection with interior and exterior finishes by Light Gauge Steel Framed (LGSF) Technology including civil foundation works, electrical works, plumbing, sanitation, road works, water supply and drainage and all other works associated with labour colony etc.

2. BRIEF SCOPE OF WORK

The specific requirement briefly covers the following:

Engineering, supply, construction and erection pertaining to civil structural and architectural and all other associated works for proposed pre-fabricated structure for labour colony at Shirwata, Maharashtra which comprises of:

- Construction of building with storey height as per approved tender purpose drawings, with structural framing of fabricated sections as per design.
- Bidder's scope shall also include civil and interior work (including foundation, plinth beam, grade slab, deck slab, walls, toilet blocks, roofing, flooring, painting, etc and not limited to.), electrical works, plumbing, sanitation, drainage, water supply, road works, STP, overhead water tank along with supporting structure, paver block pavement, barbed wired fencing with gates, area grading, bush cutting as per required profile etc. as required for construction of labour colony at Shirwata, Maharashtra.

3. DETAILED SCOPE OF WORK

3.1 The BIDDER's scope of work shall cover, but not limited to, designing of pre-fabricated structures, preparation of fabrication drawings, submitting drawings [General Arrangement, Details (Connections, Splicing, Base Plate, Anchor bolts), fabrication, Erection & As built drawings] for approval from client, procuring, fabricating, supplying, erecting/installing and Painting the structure with all materials required for the construction including structural steel, side cladding & roof sheeting, rain water gutters and down takes, access ladders for roof, platform for water tanks, overhead water tank with required internal plumbing, louvers, providing framed openings and making leak proof joints with required providing & applying of polysulphide sealants after installation of fittings supplied by civil contractor viz. doors with fixtures, windows with fixtures, including supply of anchor bolts with templates for foundation as per design loads, furnishing / employing equipment, plant, labour, transport, tools and all other services necessary for the complete execution of works, including all surveying and setting out necessary for the

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works, housekeeping, BIDDERS site office, maintaining safety of workers and other people at site and clean up of working areas after completion of the works.

3.2 The OWNER will not supply any of the materials required for construction, fabrication, erection and complete execution of work.

3.3 The BIDDER shall supply the anchor/ foundation bolts at site, before casting of foundations well in advance and its layout details shall be furnished along with design and drawings submitted for approval and get approved well within the time. The correctness and alignment of the bolts will be BIDDER's responsibility. BIDDER shall depute his representative to supervise the bolt erection at site.

3.4 The details of the structure are shown in the drawing attached with this tender document. Brief scope and Approx sizes mentioned here are tentative and preliminary, for the purpose of understanding only, which may vary suitably as per requirements during detailing.

3.5 The BIDDER should follow all relevant ASTM Standard in combination with IS Standards for design and fabrication of the building and all other related works.

3.6 It is not the intent to specify completely herein all details of erection and fabrication. However, the WORK executed shall conform in all respects, to high standards of engineering design and workmanship and be capable of performing in continuous commercial operation in a manner acceptable to OWNER, who will interpret the meaning of drawings and specifications and shall have the power to reject any work or materials which in his judgement are not in full accord therewith.

3.7 All the work carried out by the BIDDER and methodology adopted by him shall be fully in harmony with the clean environment and any operation in general shall not be detrimental to the safety and peace of the people and the surroundings

3.8 The scheme of erection/fabrication has to be evolved keeping in view following requirements

- BIDDER shall supply & deliver materials to site at his own cost. Any extra taxes/duties should be clearly mentioned to the OWNER & CONSULTANT before starting the work.
- BIDDER shall make his own arrangement for unloading, storage & Security of materials at his own cost & its prior information shall be given to the OWNER.
- Water and power supply shall be provided at single point. BIDDER will have to make his further arrangements required for fabrication and erection.

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d) Before start of any work, BIDDER has to obtain the approval from OWNER.

e) Before start of Erection work, BIDDER to submit the detail "Erection Methodology" and get the same approved.

f) BIDDER should complete the work within the time schedule as specified by the OWNER. All changes should be discussed with OWNER before taking up the work

g) BIDDER should use Acetylene instead of LPG for any fabrication/welding work is required to be carryout at site.

3.9 The BIDDER, along with his bid has to submit the GA drawings of his proposed bid indicating all columns' out to out dimensions and rafter and jack beam sizes.

3.10 'Building Virtual Completion Certificate' will be issued to BIDDER only after hydro testing of the roof for any leakages in the roofing laps, gutters and down takes is completed by BIDDER under supervision of Engineer in charge and BIDDER submitting the 'No Claim No Due Certificate'.

3.11 During the Defect Liability Period BIDDER shall inspect the building once in four months time for recertification.

3.12 The BIDDER should provide chalking Warrantee and Leak Proof Warrantee for 10 years.

3.13 Notes: -

a) Bidders, while quoting, shall make sure that their quote, includes enabling measures that shall be needed to secure existing life and property from damage and isolate the working areas, to minimise disturbance of construction activity to other operations. A few examples are noted below,

- Fire Blanket will have to be used, to contain the hazards while having Welding operation inside the shop.
- The measures noted above are only indicative examples. It is not intended to list all the measures here. Case to case basis, some other measures may be required, and BIDDER shall be deemed to have included its provision in the quote.

c) Bidder is advised to visit the project site before submitting their Bids to acquaint themselves thoroughly with all site conditions, which may affect the work. Ignorance of site conditions shall not be accepted as the basis of any claim for any additional compensation, extension of time for completion or any other claim whatsoever.

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4      **CONFIDENTIALITIES**

- 4.1      Bidders will ensure that they will not disclose any of the information which will be provided to them by the Owner / Consultants relating to process, design method, construction, manufacturing operation, including methods, inventions, trade secrets, process know-how including but not limited to reports, computations/calculations, basic studies, concept notes, flow charts, sketches, drawings, specifications, data sheets, inspection and test reports, operation and maintenance manuals, process data, test data, performance data and all documentation there of including minutes of discussions and will maintain the confidentiality in all respect.
- 4.2      In the event that Bidder disclose or caused to be disclosed or disseminate, distribute or release such Information or other confidential information without the prior written consent of Owner, Owner shall be entitled to seek immediate injunctive relief and such other legal measures as deemed fit by owner for safeguarding owner’s interests.

|                                                                     |                                              |
|---------------------------------------------------------------------|----------------------------------------------|
| 1. Owner/Purchaser                                                  | The Tata Power Company Ltd                   |
| 2. Project Title                                                    | Infra works at Shirwata PSP-<br>Maharashtra. |
| 3. Location                                                         |                                              |
| District                                                            | Pune                                         |
| State                                                               | Maharashtra                                  |
| 4. Nearest Airport                                                  | Pune                                         |
| 5. Nearest Major Railway Station                                    | Lonavala                                     |
| 6. Altitude of site above MSL                                       |                                              |
| 7. Ambient Air Temperatures                                         |                                              |
| a) Maximum                                                          | 40.0 <sup>0</sup> C                          |
| b) Minimum                                                          | 11.0 <sup>0</sup> C                          |
| c) Reference temperature for the design of electrical<br>Equipment. | 50 <sup>0</sup> C                            |
| 8. Relative Humidity                                                |                                              |
| a) Maximum                                                          | 93%                                          |
| b) Minimum                                                          | 48%                                          |
| c) Average                                                          | 70%                                          |
| 9. Basic Wind Speed                                                 | 44 m/s                                       |
| 10. Rainfall                                                        |                                              |
| a) Annual average                                                   | 4223 mm (approximately) Annual               |
| 11. Seismic Data                                                    |                                              |
| a) Zone                                                             | III as per IS 1893(Part 1) – 2016            |
| 12. Transport                                                       |                                              |
| a) Name of the highway near which the plot is<br>located            | National Highway 48                          |
| b) Access road                                                      | National Highway 48                          |
| c) Railway (Gauge)                                                  | Broad Gauge (Lonavala rly. station)          |

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5.0 SCOPE

5.1. The specification covers the general requirements and the specific technical requirements for the Pre-Fabricated Building works and all other works associated with labour colony.

5.2. Following are covered in the scope of pre-fabricated work,

1) The BIDDER shall design the building as per the technical requirements furnished by OWNER. Fabrication & erection shall start only after getting approval on design & drawings from the OWNER.

2) The BIDDER shall be completely responsible for entire foundation and structural design, preparation of fabrication drawings, complete fabrication, erection and transportation to site & safe erection of the building at site, within the estimated time frame.

3) Any approval from OWNER will not relieve the BIDDER of his contractual obligations and his responsibilities for correctness of structural designs, delivery of the structure adopting good engineering practice, dimensions, materials of construction, weights, quantities, design details, assembly fits, performance requirements and conformity of the supplies with the Indian Statutory Laws as may be applicable, nor does it limit the purchaser's rights under the contract.

4) In case of any defect in materials, workmanship or structural failure of any element or the building, the BIDDER shall make good, rectify or replace the element/structure, without prejudice or any claim on OWNER.

5) BIDDER shall provide Structural Stability Certificate of the buildings for 50 years signed by Chartered Engineer

6) Engineering drawings to be submitted by the BIDDER, during the progress of the work, shall be in to the scale Auto Cad format only.

Submittals required from BIDDER:

1) Design Calculations:

The BIDDER must provide design calculations. The design calculation report shall include design of all the components of the building, calculations for loading considered in the analysis of the building, foundation design calculations of designs of all connections and splices of the structural members, calculations of designs of all base plates, design calculations of roof sheet / cladding fixing screws, design calculations for all welding for all connections, design for road pavement, design of drainage and water supply, design of sewage treatment plant (STP), etc and design of all other works associated.

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2) Erection Methodology:

Approval of Erection Methodology shall be obtained from OWNER along with Job Safety Analysis and Safe Method Statement.

3) As-Built Drawings:

After satisfactory completion of all the works at site, BIDDER shall prepare As Built drawings, in accordance with the actual execution at site and submit the 6 sets of drawings in Hard copy to the OWNER.

The as Built drawings shall contain all member sizes and detailed dimensions. Part-mark drawings/ erection drawings without member sizes and dimensions will not be acceptable.

The final payment shall only be released after receipt & approval of As Built drawings as specified above. Along with as-built drawings BIDDER shall submit an undertaking stating that the buildings have been designed, considering expansion as per Tender drawings with the loading conditions mentioned in the tender document and issue a Stability certificate for the structure.

5.3. Design Criteria

5.3.1 The building shall be designed and detailed in compliance with all applicable latest Indian Standards for design & detailing. Following are some of the applicable IS codes for Design,

| Sr. No. | Code No.                   | Title                                                                                                                                                                      |
|---------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | IS 800: 2007               | General Construction in Steel - Code of Practice                                                                                                                           |
|         | IS 456: 2000               | Indian Standard Code of practice for Plain and Reinforced Concrete                                                                                                         |
|         | IS 1893 (Part-1)<br>: 2016 | Criteria for Earthquake resistant Design of Structures<br>Part 1 General Provisions and Buildings                                                                          |
|         | IS 1893 (Part 4)<br>: 2015 | Criteria for Earthquake resistant Design of Structures<br>Part 4 Industrial Structures including Stack-like Structures                                                     |
|         | IS 875 (Part 1) :<br>1987  | Code of Practice for design loads (other than Earthquake) for buildings and structures<br><br>Part 1 Dead Loads - Unit weights of Building materials and stored materials. |

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|  | IS 875 (Part 2) :<br>1987 | Code of Practice for design loads (other than Earthquake) for Buildings and Structures<br><br>Part 2 Imposed Loads                    |
|  | IS 875 (Part 3) :<br>2015 | Design loads (other than Earthquake) for buildings and structures - Code of Practice<br><br>Part 3 Wind Loads                         |
|  | IS 875 (Part 5) :<br>1987 | Code of Practice for design loads (other than Earthquake) for buildings and structures<br><br>Part 5- Special Loads and Combinations. |
|  | IS 7205 : 1974            | Safety Code for Erection of Structural Steelwork                                                                                      |
|  | IS 7215 : 1974            | Tolerances for Fabrication of Steel Structures                                                                                        |
|  | IS 4000 – 1992            | High Strength Bolt in Steel Structure- Code of Practice                                                                               |
|  | IRC: 5-2015               | “Standard Specifications and Code of Practice for Road Bridges”, General Features of Design<br>Section -I Eighth Revision             |
|  | IRC: 6-2016               | “Standard Specifications and Code of Practice for Road Bridges”, Loads and Load combination -II<br>Seventh Revision                   |
|  | IRC: 73-1980              | Geometric design standards                                                                                                            |
|  | IRC: 37-2018              | Guidelines for the design of flexible pavements                                                                                       |
|  | IRC: 58-2002              | Guidelines for the design of rigid pavements                                                                                          |

Following are some of the applicable IS codes for material specification,

| Sr. No. | Code No.      | Title                                                                                                         |
|---------|---------------|---------------------------------------------------------------------------------------------------------------|
| 1       | IS 801 : 1975 | Code of Practice for Use of Cold-Formed Light Gauge Steel Structural Members in General Building Construction |
| 2       | IS 806 : 1968 | Code of Practice for Use of Steel Tubes in General Building                                                   |

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|                                                                    | SCOPE OF ENQUIRY           |   |

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|   |                  | Construction                                                                                        |
| 3 | IS 1730 : 1989   | Steel Plates, Sheets, strips and Flats for Structural and General Engineering Purposes - Dimensions |
| 4 | IS 2062- 2011    | Hot rolled medium and high tensile structural steel — specification                                 |
| 5 | IS : 3757 - 1985 | Specification for high strength structural bolts                                                    |

5.3.2 Following loads shall be considered in the design for structure.

**Dead load** –As per IS 875 Part 1 + Self Weight

**Live load** - As per IS 875:1987 Part 2

**Wind load** –

**Wind Load on Structure is shall be considered as per IS 875 (Part 3).**

|                                                                                                                                                                                                                                                                                                                     |                                     |       |            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-------|------------|
| Basic Wind speed at 10m height<br><br>location- Shirwata, Pune                                                                                                                                                                                                                                                      | $V_b = 44$                          | m/sec | -          |
| Design Wind Speed at any height:                                                                                                                                                                                                                                                                                    | $V_z = k_1 * k_2 * k_3 * k_4 * V_b$ | m/sec | Clause 5.3 |
| Where; $k_1$ = Probability factor<br><br>(Mean probable life of structure 50 years)                                                                                                                                                                                                                                 |                                     |       | Table 1    |
| $k_2$ = Terrain height & structure size factor                                                                                                                                                                                                                                                                      |                                     |       | Table 2    |
| <u>Terrain category:</u><br><br>All the structures fall under category – 2 type of terrain (Open terrain with well scattered obstructions having heights generally between 1.5 to 10m).<br><br><u>Building class:</u><br><br>To calculate the value of $k_2$ , table – 2 of IS: 875 Part 3 - 2015 shall be referred |                                     |       |            |

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| considering terrain category – 2                                                                                                                                |                          |                  |              |
| $k_3 = \text{Topography factor} = 1$                                                                                                                            |                          |                  | Clause 6.3.3 |
| $k_4 = \text{Importance factor for the cyclonic region}$<br><br>$= 1$                                                                                           |                          |                  | Clause 6.3.4 |
| Design Wind Pressure at any height:                                                                                                                             | $P_z = 0.6 \times V_z^2$ | N/m <sup>2</sup> | Clause 7.2   |
| Design wind pressure –<br><br>$P_d = K_d \times K_a \times K_c \times P_z$ .<br><br>The value of $P_d$ however shall not be taken as less than $0.7 \times P_z$ |                          |                  |              |

Based on the above wind pressure and exposure of the building as per IS: 875 Part 3 - 2015, further load calculations will be carried out with respect to profile of the structure.

#### Seismic loads –

As per IS-1893 (Part 1): 2016, Seismic load is calculated for seismic zone III. Following parameters are used for the calculation of seismic load:

|                           |   |   |                             |
|---------------------------|---|---|-----------------------------|
| Zone factor               | Z | = | 0.16 (Zone – III)           |
| Importance factor         | I | = | 1                           |
| Response reduction factor | R | = | 3                           |
| Damping for steel         |   | = | 5%                          |
| Damping for Concrete      |   | = | 5%                          |
| Soil Type                 |   | = | As per geotechnical report. |

Based on the above parameters, seismic loads are calculated and used for analysis & design of Structure.

5.3.3 Following Load Combinations shall be considered for the design and analysis of the building,

Load combination for the design of steel building shall be as per IS: 800-2007 using limit state method (LSD).

|                  | Limit State of Collapse:        | Limit State of Serviceability: |
|------------------|---------------------------------|--------------------------------|
|                  | For Design of steel structure   |                                |
| Basic Load comb. | 1.5 (DL)                        | 1.0 (DL)                       |
|                  | 1.5 (DL+RLL) + 1.05 LL          | 1.0 (DL+RLL+LL)                |
|                  | 1.5 (DL+LL) + 1.05 RLL          | 1.0 (DL+WL)                    |
|                  | 1.5 (DL+WL)                     | 1.0 (DL±EQ)                    |
|                  | 1.5 (DL±EQ)                     |                                |
|                  |                                 |                                |
| Live Load comb.  | 1.2 (DL+RLL) + 1.05 LL + 0.6 WL | 1.0 (DL)+0.8 (RLL+ LL+ WL)     |
|                  | 1.2 (DL+LL) + 1.05 RLL + 0.6 WL | 1.0 (DL)+0.8 (RLL + LL ±EQ)    |
|                  | 1.2 (DL+RLL) + 1.05 LL ± 0.6 EQ |                                |
|                  | 1.2 (DL+LL) + 1.05 RLL ± 0.6 EQ |                                |
|                  | 1.2 (DL+RLL+WL) + 0.53 LL       |                                |
|                  | 1.2 (DL+LL+WL) + 0.53 RLL       |                                |
|                  | 1.2 (DL+RLL± EQ) + 0.53 LL      |                                |
|                  | 1.2 (DL+LL± EQ) + 0.53 RLL      |                                |

Where,

DL – Dead Load,  
 LL – Live Load,  
 RLL – Roof Live Load,  
 WL – Wind Load,  
 EQ – Seismic Load,

5.3.4 Expansion joints at approved locations shall be provided conforming to IS 800: 2007.

5.3.5 Tie beam/Strut pipe shall be provided at Top of each column along the full length of the building.

5.3.6 No increase in permissible stresses shall be considered, on account of wind and earthquake load combinations.

5.3.7 Deflections – Deflections of the building, under serviceability loads should not impair the strength of the structure or components should not cause damages to the finishing and shall satisfy the requirements of the IS 800: 2007 clause 5.6.1.

#### 5.4. Roof Drainage System

5.4.1 All the components of the roof drainage system i.e., gutters and down takes shall be designed as per NBC requirement for minimum rainfall intensity of 150 mm per hour.

5.4.2 Design of gutter and down takes shall be based on rainfall intensity and catchment area of roof and guidelines given by NBC.

5.4.3 All the rain water down takes for all the buildings shall be placed away from the face of the column, with the help of clamps, cleats and spacers, so as to align them in a way that they shall not foul with the concrete pedestal below.

#### 5.5. Road and drains:

5.5.1 Road shall be designed as rigid pavement of 7m and 6m width shown in approved layout as per IRC 58 considering M30 as minimum grade of PQC. The Contractor shall provide the design parameters of dry lean concrete, sub-base viz., width thickness, grade of concrete, details of joints, if any, etc in the drawings. The work shall consist of construction of un-reinforced, dowel jointed, plain cement concrete pavement in accordance with the requirements in specifications as mentioned in Cl. 602 of MORT&H.

5.5.2 Side drains are designed for 25-year frequency flood discharge with minimum M25 grade of concrete.

5.5.3 Wherever required, pipe drains shall be provided for cross drainage purposes, laying of concrete pipes of NP3 class as per IS 458

#### 5.6. Material Specification

##### **RCC:**

| <b><u>Material</u></b>            | <b><u>Grade</u></b>  |
|-----------------------------------|----------------------|
| <b><u>Concrete</u></b>            | <b><u>M25</u></b>    |
| <b><u>Reinforcement Steel</u></b> | <b><u>Fe 500</u></b> |

**Structural Steel:**

| MEMBER                                 | FU      | FY      |
|----------------------------------------|---------|---------|
| CFS steel ( $\leq 1.2$ mm thk. Member) | 550 MPa | 500 MPa |
| CFS steel ( $> 1.2$ mm thk. Member)    | 350 MPa | 310 MPa |
| HR (Built Up Sections)                 | 490 MPa | 350 MPa |
| HR (Indian Standard Section)           | 410 MPa | 250 MPa |

**5.7. Product Specification:****5.7.1 Steel structure - Square / Rectangular Hollow Section tubes as per design:**

Structure shall be fabricated of Rectangular Hollow Sections or built-up section for Columns and Trusses, Cold Form Folded Sections for purlins and runners. The steel structure shall be designed as per IS- 800:2007 and as per wind load conditions applicable for the area mentioned in IS-875:1987. The RHS sections shall be used as per IS-4923 and the Cold formed sections shall be used as per IS- 801:1975. All steel member surfaces will be prepared through wire brush with one coat primer and two coat enamel paint.

- a) MS staircase and chequered plate: MS Staircase shall be supplied with one primer coat of red oxide and two finish coats of black paint. Chequered Plate shall be provided for the walk way. The Chequered Plate shall be supplied with one primer coat of red oxide and two finish coats of black paint. MS handrail shall be provided in balcony and walkway.

|                                  |                            |    |
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5.7.2 Light Gauge Steel Framework:

Designing, providing, factory finished custom designed cold formed, Light Gauge Steel framed, super structure comprising of steel wall panel, trusses, purlins, etc manufactured out of minimum 0.75 to 1.2mm thick steel sheet as per design requirements. The steel sheet shall be galvanized (AZ-150 Aluminium Zinc coated alloy coated steel having minimum yield strength 300 to 550 Mpa) conforming to AISI specifications and IBC 2009 for cold forming steel framing and construction and as per IS: 875-1987(wind load), ISO 800-1984(general construction in steel) and ISO: 801- 1975 (use of Cold Formed Light Gauge Steel Structural Members in General Building Construction).

5.7.3 Walls:

The wall panels shall be made up of 50mm thick composite PUF sandwich between Pre-Painted Galvanized Iron Sheet. The panels shall be made of micro ribbing Pre-Painted Galvanized Iron Sheet on both sides with 50mm thick layer of PU foam of density of 40±2 kg/m3 as insulation. The wall panels will have tongue groove arrangement. Pre-Painted Galvanized Iron Sheet shall have minimum coating of 4-5micron epoxy primer and 25micron polyester top coat on the finish surface and 7-8micron primer alkyl base on reverse. The PPGI sheet shall have plastic protective guard film of minimum 25 microns to avoid scratches during transportation& installation. Color Shall be preferably Off white or Blue.

5.7.4 Roofing (Sloped Pitched roofing):

The insulated Roofing shall be 30+30mm thick PUF insulated Sandwich panels with density of 40±2Kg/m3. The top covering on roof panels will trapezoidal Pre-coated galvanized iron sheet with crest height 30±1mm,crest width 24±1mm and pitch 200±1mm & bottom covering on roof panels shall be micro ribbing Pre-coated galvanized iron sheet.

The Roof sheet shall be done with 0.35mm thick trapezoidal pre-coated galvanized iron sheet. The Color Shall be preferably RAL 9002 – Off white or RAL 5012 – Blue.

Flooring system: The mezzanine floor shall be of 0.8 mm Metal Deck Sheet with 100 mm RCC Slab. Vitrified tile shall be fixed over RCC slab as floor finish.

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| <div> <p>5.7.5 Flush Doors: For Main doors</p> <p>PPGI framed PUF panelled Single leaf swing/overlap door size (900x2100) mm will be provided with fittings.</p> <p>5.7.6 Windows:</p> <p>Powder coated extruded aluminium framed clear float glass of 4 mm thick 2 track sliding window size (1850x1000) mm will be provided with aluminium grill.</p> <p>5.7.7 Electrical:</p> <ul style="list-style-type: none"> <li>a) Providing and fixing all internal Wiring and Conduiting with FRLS insulated copper wire from i.e., from the Distribution board/LT Panel to all fittings and fixtures concealed within the walls shall be provided.</li> <li>b) Electrical fixtures like LED Tube Light (36W), bulk head light, Wall mounted Fans, Exhaust Fans, outdoor lights, modular Switches and Sockets of 6amp with GI box and Modular plates as per approved drawing. LT Panel and Main &amp; Sub- Distribution Boards shall be provided. note all fixtures will be recessed type.</li> <li>c) Exhaust Fan with all fixing accessories with mounting clamps etc. Diameter: 250 mm.</li> </ul> <p>5.7.8 Plumbing and sanitation:</p> <p>All Internal Plumbing line i.e., distribution of water from Over Head Tank to all fittings and Fixtures shall be within the walls with Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot &amp; cold-water supply, including all CPVC plain &amp; brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing.</p> </div> <div> <div>Bidder's Stamp &amp; Initials</div> <div>ISSUE<br/>R1</div> </div> |                                                                   |                           |

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5.7.9 Sanitary fixtures:

a) Floor Mounted EWC with Cistern: White glazed earthenware European type water closet of approved make with 'P' or 'S' trap with or without vent hole, black solid plastic seat and cover of approved make with chromium plated hinges and rubber studs, 15 litres capacity white glazed porcelain, lowdown mosquito proof cistern of approved make with Porcelain syphon, non-ferrous internal and external fittings, chromium plated flush bends, push handle etc. Feature: Dual-Flush Finish: Self-cleaning glaze Flushing Method: Siphon Flushing. (Flushing cistern to be placed in toilet shaft).

b) Wall Hung Wash Basin: White glazed vitreous China wash basin as per approved design with central tap hole including supplying and fixing of C.I. brackets painted with one coat of approved red oxide Zinc chromate primer and two coats of approved synthetic enamel paint, 15 mm Dia chromium plated brass self-closing tap, 32 mm Dia chromium plated heavy duty approved waste fittings, chain rubber plugs etc.

c) S S Sink: Providing and fixing stainless steel sink of size 600 x 450 (19 gauge) single bowl, drain board including 40mm dia. Waste coupling, CP bottle trap, waste flexible pipe up to nahani trap, water tap Jaguar make with aerator and making inlet/outlet connections all complete as per specifications and directions of the Engineer-in-Charge. (For Kitchen / Pantry)

d) Overhead Shower Code: Cat. No. OHS-1709 Round Shape Single Flow with Air Effect ABS Body & Face Plate Chrome Plated Rubit Cleaning System Single Lever Shower Mixer Code: FLR-CHR-5123 Shower Arm: Code: SHA-479L300 Round Shape with 90° Bend for Wall Mounted Showers with Flange

e) Urinal: Urinal of 590 mm x 390 mm x 375 mm white glazed vitreous China standing type flat back sensor operated urinal, fixed on panel wall with concealed type bracket, wooden gutties etc including partition wall of 600 X 900 mm size, side corner to be rounded off & fixed at height 1500 mm (top level).

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| <p>f) Miscellaneous items: Mirror, Soap holder, Brass Coat Hook, Towel Rail, Floor Trap Grating, Health Faucet, Towel Ring, Urinals, Water Tank-Flat Bed Tank. Refer data sheet and architectural palette (Residential) for details not specified in this document. For furniture list shared separately.</p> <p>5.7.10 Paver blocks:</p> <p>Providing and laying precast concrete paver blocks having compressive strength not less than 30N/mm<sup>2</sup> from an approved manufacturer as Engineer in charge. Laid over a layer of compacted bed of fine sand with necessary compaction, cutting paver blocks as per required size and pattern etc. complete at the locations shown in the approved drawings. The work shall include concrete kerbing wherever required all executed as per relevant IRC specifications &amp; IS: 15658 and directions of the Engineer.</p> <p>5.7.11 Barbed wire fencing and gate:</p> <p>Barbed wire shall conform to IS : 278 Barbed wire shall be made from hot dipped galvanized wire of 12 G, 2 ply with barbs of 18 G spaced at 100 mm. Barbed wire shall be procured in bundles of standard weights and shall be fully stretched across the posts and secured with G.I. hook bolts and washers. Spacing of horizontal wires shall not be greater than 225 mm or as specified in the drawing. Diagonal wires shall be provided in each bay between two adjacent posts. No wire shall be left loose or sagging.</p> <p>Gate shall be fabricated out of tubular sections conforming to IS : 1161 and shall be hot dipped galvanized. Outer frame shall be 65 NB (medium) tube and diagonal 50 NB (medium) tube 50 mm sq. welded mesh with 4 mm dia GI wire fabric shall be welded to 25 mm X 6 mm thick GI flat which in turn shall be welded to the outer tubular frame. The gate shall be provided with 20 mm wide X 80 mm dia flat M.S. roller at the bottom. The gate frame shall be fixed to GI tubular post or RCC post.</p> <p>5.8. Sewage Treatment Plant (STP):</p> <p>Design, supply, installation, testing, and commissioning of a complete Sewage Treatment Plant (STP) for treatment of domestic sewage to meet applicable discharge/reuse standards.</p> <div> <div>Bidder's Stamp &amp; Initials</div> <div>ISSUE<br/>R1</div> </div> |                                                                   |    |



**THE TATA POWER COMPANY LIMITED**

**CC27SR045- PRE-FABRICATED CONSTRUCTION WORKS FOR LABOUR COLONY AT SHIRAWTA PUMPED STORAGE PROJECT**

| Sr. No | Description                                                                                                                                                                                                                                                                                                                                                                                                                                          | UOM     | Qty | Unit Rate          | Total |  |  |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----|--------------------|-------|--|--|
| 1      | EPC price for the complete scope as per Technical specification no. CA/SPEC/080/2026 enclosed with RFQ.<br>Brief scope:-<br>The project includes design, manufacturing, supply and erection with interior and exterior finishes by Light Gauge Steel Framed (LGSF) Technology including civil foundation works, electrical works, plumbing, sanitation, road works, water supply and drainage and all other works associated with labour colony etc. | Lumpsum | 1   |                    |       |  |  |
|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |     | <b>Sub Total</b>   | -     |  |  |
|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |     | GST @__%           |       |  |  |
|        |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |         |     | <b>Grand Total</b> | -     |  |  |