

SECTION -5

TECHNICAL SPECIFICATION

1. Brief Description of Project

BHEL is setting up a manufacturing plant at Jagdishpur; district Sultanpur UP, for production of components for electrical machines. The new facility will be located adjacent to the existing insulator plant of BHEL. The project is to be executed in 2 stages. The first phase is being planned for commissioning in March 2008. Matching with the proposed strength of the new plant, additional quarters in the existing BHEL township are required to be built at Jagdishpur.

2. Scope of Work

- i. The scope of work consists of preparation of preliminary designs, documents and drawings for additional quarters / flats etc, submission of the feasibility study report including site topographical survey and preliminary soil testing and submission of the budgetary estimates for the scope of work. The design work shall include preliminary architectural, civil, structural, electrical, ventilation, plumbing, fire systems and other related infrastructural works required for construction of the complete township. Based on the documents prepared by the Contractor, BHEL will issue separate tender(s) for appointment of construction contractors after taking due approval.
- ii. The tentative major types of quarters and facilities/ services proposed for construction are as per following. However, the proposed no. of additional quarters and services as given below may increase or decrease based upon the feasibility study report conducted in the present tender by the bidder. :
 - a) Type- D – 4 Nos.
 - b) Type – C – 32 Nos
 - c) Type- B – 64 Nos.
 - d) Additional power requirement including backup power.
 - e) Electrical distribution system with switch boards etc including area lighting in the whole area.
 - f) Service and potable water supply including RO plant (without overhead tank)
 - g) Drainage and sewage disposal
 - h) Security building, entry and exit gates, fencing etc.
 - i) Open and covered parking for vehicles

- j) Approach road and roads with in the plot.
 - k) Landscaping of whole area
 - l) Rain water harvesting.
 - m) Any other infrastructural facility required according to the latest trends of township/ apartment construction .
- ii. The work shall include:
- a) Preparation of Technical Specifications including bill of quantities (BOQ):
 These documents shall be self-sufficient and shall clearly indicate the scope of work, material and work specifications, method of measurements, specific technical requirements etc. and a detailed Bill of Quantities (BOQ) i.e. various items of work required to be executed and their quantities. The quantities indicated in the BOQ shall be reasonably accurate.
 Based on these Technical Specifications and BOQ, BHEL will issue tenders for appointment of construction contractors.
 - b) Preliminary design, preparation of design documents & drawings:
 The Contractor shall perform all engineering services required for detailed design and preparation of preliminary drawings and documents.
 - c) Visits to site and BHEL Office.
- iii. The Contractor will be required to depute their engineers to site, and BHEL' office at New Delhi for any clarification and technical supervision etc.

2. General

- i. The bidder will be required to give break-up of quantities of each item as appearing in BOQ with respect to each drawing / sub-section either on the drawing or annexure separately.
- ii. Description of items provided in the BOQ should be self-explanatory and shall be according to the latest CPWD (DSR) / UP PWD schedule of rates or market rates for non- schedule items , so that no separate procedure is to be written and if at all it is necessary the procedure should be given along with specification.
- iii. All calculations shall be performed and supervised by qualified and experienced personnel and shall be checked to ensure their correctness and completeness and shall be prepared in a neat, sequential & comprehensive form.

3. Technical Inputs and Coordination

- i. The technical inputs shall be provided by BHEL from time to time after award of work.
- ii. The Contractor is expected to assess the total work involved and quote accordingly for items mentioned in Price Schedule. However, the drawings are only for information and may undergo changes during detail design stage. No price variation will be allowed due to this.
- iii. After award of work, all other necessary inputs required for preparation of Specifications & designs shall be provided by BHEL. The Contractor is expected to interact closely with BHEL for any inputs/ clarifications.
- iv. There may be certain cases, when on account of revision or change of inputs; certain designs/drawings may be required to be redone. No claim of additional payment on account of this shall be entertained and the Contractor is expected to have quoted considering all such eventualities. However, BHEL will try to limit these changes to the minimum.
- v. The Contractor shall promptly reply any clarification required at site or suggestion / clarification required due to any deviation in work with respect to specifications / drawings prepared by Contractor.

4. Documentation

- i. All Specifications and Design Documents shall be neatly printed on A4 size paper. The format of design document shall be as approved by BHEL.
- ii. All drawings shall be prepared on AutoCAD or any other approved CAD software. All drawings shall be prepared on standard sizes (viz. A0, A1, A2, A3, & A4). The 'Title Block' shall be as per BHEL approved design. All prints of the drawings shall be clear and legible.
- iii. The number of copies of design documents and drawings required to be submitted shall be as follows: -

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| For approval | 4 |
| Design Calculations , drawings / reports / documents | 4 |