# TENDER SPECIFICATION

# BHEL PSSR SCT 2103

**For**

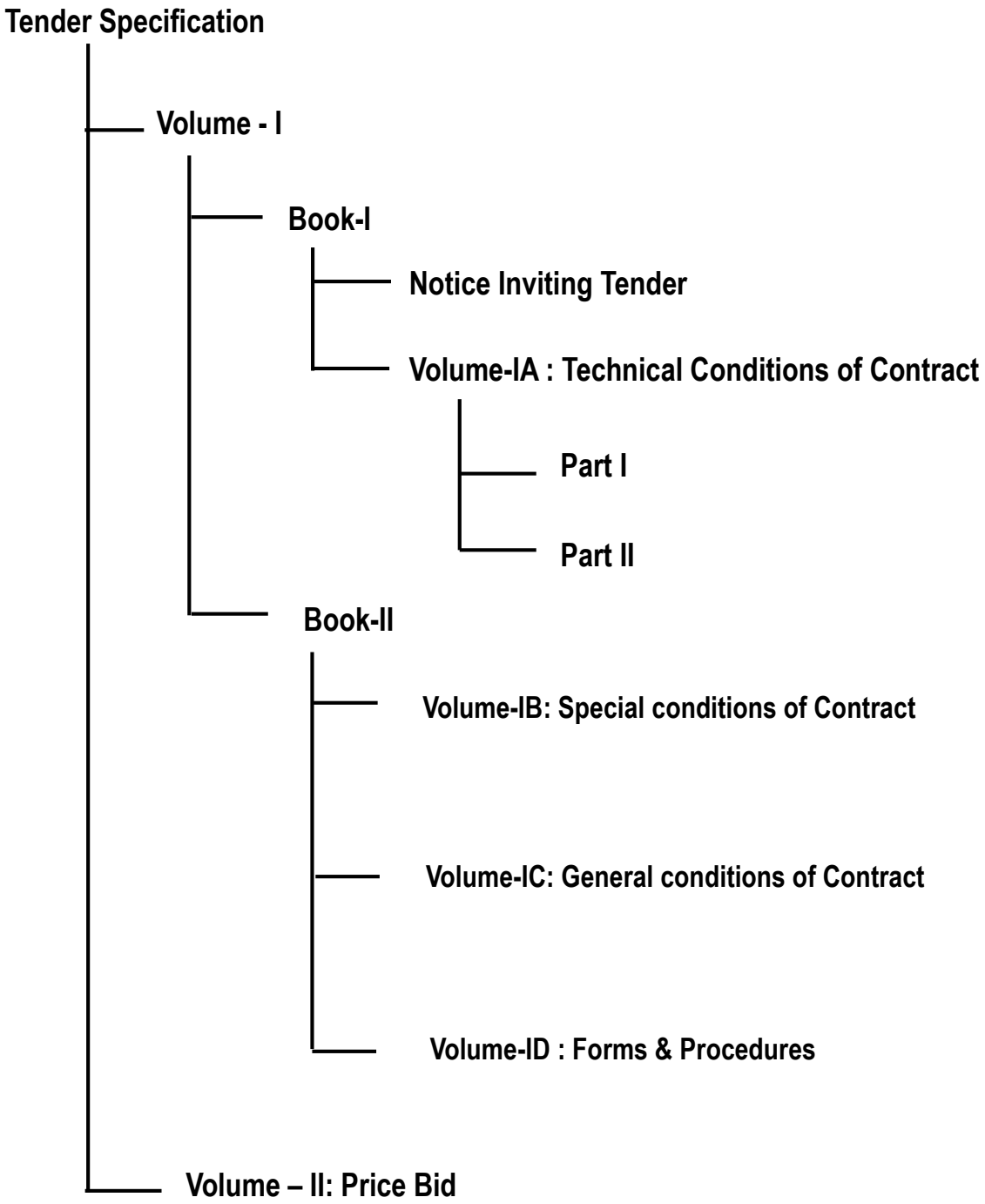
# Geotechnical investigation for 3x800MW NLC Talabira Thermal Power Project (NTTPP), near Kumbhari & Tareikela villages in Jharsuguda District, Odisha

# VOLUME –II

# PRICE BID

**BHARAT HEAVY ELECTRICALS LIMITED**
(A Government of India Undertaking)
Power Sector – Southern Region
BHEL Integrated Office Complex,
TNEB Road, Pallikaranai,
Chennai - 600100

# TENDER SPECIFICATION CONSISTS OF



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# PART A

## Instruction to Bidders:

1. The quantity indicated in the BOQ in Part C of Price Bid is approximate only and is liable for variation. Payment will be as per actual quantity executed and as certified by BHEL Engineer.
2. Tenderers are requested to affix their company seal and authorized signature in all pages.
3. Bidders shall quote 'Total Amount' in the format enclosed as a separate Excel File in BHEL NIC e-Procurement portal for the subject tender and upload the same under 'Packet details - > Tender covers -> Finance '(Cover Type Description – Price Bid)'' and same shall be taken into account for evaluation and awarding and hence, shall be complete in all respect for the full scope of work defined in specification and in accordance with terms & conditions of the tender. Any other entry elsewhere in the price bid shall be treated as Null and Void. Quoting of rates in any other form/formats will not be entertained.
4. The above mentioned 'Total amount' is for the entire Bill of Quantity (BOQ) given in Part -C of the Price Bid.
5. BHEL has pre-fixed the weightages for the amount of individual items of Bill of Quantity with respect to the 'Total Amount' in Part C of Price Bid.
6. Based on the pre-fixed weightages, the amount for the individual items of the Bill of Quantity shall be arrived at. This amount shall be rounded off to the nearest rupee.
7. Based on the quantities of individual item and the amount arrived in Sl. No: 6 above, unit rate of individual items shall be derived. This unit rate shall be rounded off to four decimal places.
8. Bidders to note that this is an item rate contract. Payment shall be made for the actual quantities of work executed as certified by BHEL Engineer.

# Part C : Bill of Quantities

## Tender Specification for Geotechnical investigation for 3 x 800 MW NLC Talabira Thermal Power Project (NTTPP)

## at 3X800 MW NLC Talabira TPP

| Ref.No. | Description | Unit of Measurement | Qty. | Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount |
|---|---|---|---|---|
| 1.0 | Mobilisation of necessary equipments, men and materials to the project site for carrying out geotechnical investigation etc. all complete as per specification, drawings and as directed by the engineer-in-charge. (Minimum 5 no.of rigs)<br>Note - Payment for this item shall be made against mobilisation as mentioned above including mobilisation of 5 rigs. However, addl. rigs required further to the above quantity in order to meet the schedule, the same is in the scope of Contractor scope without any addl. cost. Also, demobilisation of all the resources shall be done by Contractor after completion of all the field works. | LS | 1 | .1088121 |
| 2.0 | Making 150mm nominal diameter bore hole up to a maximum depth of 20 m below ground level at various locations in all types of soil including laterite using suitable approved method of boring including chiselling, cleaning, providing casing pipes as required or as directed; performing standard penetration test at every 1.0m interval alternate to collection of undisturbed soil samples up to 10 m depth below ground level and at every 1.5m interval alternate to collection of undisturbed soil samples beyond 10 m depth, at change of strata and at depths wherever undisturbed soil samples could not be collected; collection of undisturbed sample (UDS) at every 1.0m interval alternate to conducting standard penetration test up to 10 m depth below ground level and at every 1.5m interval alternate to conducting standard penetration test beyond 10 m depth; collection of disturbed soil samples and water samples, sealing and packing of samples, observation such as ground water table etc; transportation of all the collected samples to the laboratory and back filling of boreholes with sand on completion of the same etc all complete as per specification and as directed by the engineer-in-charge. | RM | 360 | .3357622 |
| 3.0 | Core drilling (Nx size) in rock using hydraulic feed rotary drill and double tube core barrel with diamond bit including collection of core samples, performing SPT at locations where core recovery is less than 20%, maintaining continuous record of core recovery and RQD, keeping the cores in wooden core boxes, transporting the cores to laboratory, back filling the holes with 1 part of cement : 3 part of sand grout on completion of the same etc all complete as per specification, drawings and as directed by the engineer-in-charge. | RM | 300 | .4384494 |



**SIGNATURE OF BIDDER WITH SEAL**

## Part C : Bill of Quantities

## Tender Specification for Geotechnical investigation for 3 x 800 MW NLC Talabira Thermal Power Project (NTTPP)

## at 3X800 MW NLC Talabira TPP

| Ref.No. | Description | Unit of Measurement | Qty. | Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount |
|---|---|---|---|---|
| 4.0 | Conducting laboratory test on soil samples at an approved laboratory including preparation of soil samples to determine the following properties etc all complete as per specification. | -- | | |
| a. | Bulk density and moisture content | Each | 50 | .0073914 |
| b. | Sieve analysis | Each | 70 | .0109029 |
| c. | Hydrometer analysis | Each | 15 | .0033856 |
| d. | Liquid limit and plastic limit | Each | 70 | .0130574 |
| e. | Shrinkage limit | Each | 10 | .0014783 |
| f. | Specific gravity | Each | 10 | .0014783 |
| g. | Free swell index | Each | 5 | .0006995 |
| i. | Unconfined compressive strength | Each | 5 | .0010119 |
| k. | Unconsolidated undrained triaxial shear test | Each | 5 | .0016718 |
| l. | One dimensional consolidation test | Each | 5 | .0014386 |
| n. | Chemical analysis | Each | 3 | .0006296 |
| o. | Swell pressure | Each | 5 | .0014386 |
| 5.0 | Conducting laboratory test on rock samples including preparation of the samples to determine the following properties etc all complete as per specification. | -- | | |
| a. | Moisture content, porosity & density | Each | 36 | .0056072 |
| b. | Specific gravity | Each | 25 | .0042786 |
| c. | Slake durability index | Each | 15 | .0036164 |



SIGNATURE OF BIDDER WITH SEAL

## Part C : Bill of Quantities

## Tender Specification for Geotechnical investigation for 3 x 800 MW NLC Talabira Thermal Power Project (NTTPP)

## at 3X800 MW NLC Talabira TPP

| Ref.No. | Description | Unit of Measurement | Qty. | Weightage for amount of each item (Nearest to the 7 decimal points) w.r.t the total amount |
|---|---|---|---|---|
| d. | Unconfined compressive strength (both at saturated and inâ¿¿situ water content) | Each | 36 | .0083941 |
| e. | Point load strength | Each | 25 | .0050597 |
| f. | Hardness | Each | 15 | .0029169 |
| g. | Soundness | Each | 15 | .0046657 |
| h. | Deformability (both at saturated and inâ¿¿situ water content) | Each | 10 | .0028773 |
| 6.0 | Conducting chemical test on water samples to determine the carbonate, sulphate, chloride and nitrate contents, pH value, turbidity, organic matter and any other chemicals harmful to foundation material etc all complete as per specification. | Each | 3 | .0011668 |
| 7.0 | Submitting Preparation and submission of draft report in 2 copies and final report in 3 hard copies and 2 soft copies on compact discs after the approval of draft report including all field records, laboratory test results, graphs, analysis of test results, photographs showing details of field tests/soil/rock samples/trail pits and recommendation etc. all complete as per specification. | LS | 1 | .0338094 |
| **TOTAL Weightage** | | | | 1.0 |



**SIGNATURE OF BIDDER WITH SEAL**