

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Fabrication and Supply of Factory Finished Fabricated Structure of Power House, Common Control Room, Mill Bunker Structure (Columns, Bracings, Wall beams, Floor Beams, Trusses etc.) up-to Project Site, based on input design & detailed drawing provided by BHEL, and Supply of Raw Material as specified in scope / BOQ of Unit#1 and Unit#2. for 2x800 MW NTPC Singrauli (Stage-III), Shakti Nagar, Uttar Pradesh State India.

BHARAT HEAVY ELECTRICALS LIMITED



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Chapter - I: Projects Information

1. Project Information:

Sl. No.	Description	Details
1	Project Title	2X800MW SINGRAULI STPP (STAGE-III)
2	Customer	National Thermal Power Corporation Limited (NTPC Limited)
3	Location	Singrauli STPS is located in Sonebhadra district of Uttar Pradesh. The project is located at 118km towards South of District Head Quarters Robertsganj and is well connected by State Highway SH-5A..
4	Nearest Airport	The nearest airport is Lal Bahadur Shastri International Airport, Varanasi at a distance of about 220km from project site.
5	Access By Road/Major Cities	<p>Nearest National Highway NH-39 is at a distance of about 5km from the project.</p> <p>The nearest major town is Robertsganj, which is approx. 118km from the project. Nearest major city is Renukoot, located at a distance of 60km to the project.</p> <p>The nearest railway station is Shaktinagar at 3Km. Other nearby Important Stations are Renukoot Junction about 60 Km, Mirzapur Station about 198 Km, Mughal Sarai Junction About 196 Km and Varanasi Cantt About 202 Km.</p>

INSTRUCTIONS TO BIDDERS	
1.1	The Bidder shall visit project site and acquire full knowledge and information about conditions prevailing at site and in & around the plant premises, together with site conditions, transportation routes, various distances, all the statutory, obligatory, mandatory requirements of various authorities and all information that may be necessary for preparing the bid and entering into the Contract. All costs for and associated with site visits shall be borne by the bidder.
1.2	Other contractors would be working in this area and their structures are to be protected. The material brought and stacked for construction should not make hindrance to other contractors.
1.3	The information given herein is for general guidance and shall not be contractually binding on BHEL/Owner. All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder. All costs for and associated with site visits shall be borne by the bidder.
1.4	No claim will be entertained by BHEL on ground of lack of knowledge and the contractor's rates shall be deemed to have taken this into account.
1.5	Bidders may fix up their site visit in consultation with below mentioned contact person:

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Chapter - I: Projects Information

	Name:	Gaurav Jaiswal	
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Chapter - II: Scope of Work

2.0	Scope of Works:
2.1	<p>Scope of this tender covers Fabrication and Supply of Factory Finished Fabricated Structure to Project-Site, based on the Input Design & Detailed drawing Provided by BHEL for Power House Structure, Common Control Room and Mill Bunker Structure which includes fabrication of structure in a customer approved shop as per specification including painting as per applicable corrosivity class mentioned in specification), of Medium and High Tensile structural steel (Grade designation E350/E250 or higher unless stated otherwise) Quality B0 (Fully killed), conforming to IS 2062 pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. The fabrication can be with rolled section / built up section / combination of both conforming to IS:2062 in columns, beams, gantry girders, roof trusses, space frames, portals, laced purlins, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, assembly, edge preparation, preheating, post heating, testing of welders, inspection of welds, visual inspection, non-destructive and special testing, which shall cover the conductance of Radiography Testing, Ultra sonic Testing of welds, RT, UT, DPT and MPT of Plates as per ASTM A435, and/or on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete, rectification and correction of defective welding works, production test plate, inspection and testing, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures, assembly of the structures at factory for testing etc. of Unit#1 and Unit#2. BOQ as specified in scope for 2x800 MW NTPC Singrauli (Stage-III).</p> <p>The tender is divided into two Packages which shall be governed as per modality of award described in TCC.</p> <p>All the clauses shall be applicable on both the agencies separately (until otherwise explicitly mentioned).</p> <p>Package-A shall Consist of Power House Structures of Unit#2 along with CCR and Mill Bunker Structures of Unit#2 complete with all the items as per the attached BOQ.</p> <p>Package-B shall consist of Power House Structures of Unit#1 and Mill Bunker Structures of Unit#1 complete with all the items as per the attached BOQ.</p> <p>For the purpose of award of this tender, the tender has Two pricing modalities, based on separate BOQs, as mentioned hereunder:</p> <p>Mode 1: Supply of fabricated structure of Package-A complete with all the items as per the attached BOQ, where most of the raw material supply is in BHEL scope. BOQ as mentioned in Sl.no. 8.1.1.</p> <p>Mode 2: Supply of fabricated structure of Package-A complete with all the items as per the attached BOQ, where all raw materials supply is in bidder scope. BOQ as mentioned in Sl.no. 8.1.2.</p>

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	<p>The bidder can opt for quoting for 'Mode 1' or 'Mode 2' or both 'Mode 1 & Mode 2'. Bidder shall mandatorily declare the same in Annexure-D of TCC. Bidder shall quote their price separately for Mode 1 & Mode 2 and same shall be evaluated separately.</p> <p>Modality of award is described in Chapter VIII of TCC. Depending upon the selection of Mode, the tender/Packages shall be awarded. Only, related Terms and Condition shall be applicable for execution of award of work.</p> <p>NOTE: Preparation of detailed drawing for fabrication is not in the scope of agency, in general.</p>
2.2	<p>Supply of factory finished fabricated structure at site as per BOM/Drawings. After receipt of Purchase Order, Vendor shall discuss with Project Manager/Construction Manager of BHEL regarding starting of structural fabrication job. On receipt of approved detailed drawings, successful Vendor will start fabrication job in approved "FABRICATION WORKSHOP / FACTORY" in line with approved drawings, specifications and quality plan. Vendor shall mobilize further resources at workshop as per requirement to commence the job of fabrication, testing, shot blasting, painting etc. to match schedule of the project.</p>
2.3	<p>All incidental works, not specified but reasonably implied and necessary for completion of scope of work shall be in the scope of agency.</p>
2.4	<p>For Mode-1 BHEL will issue Raw material directly to vendor's work either from the BHEL Steel supplier or from any BHEL Source. LR receipt of BHEL Steel supplier shall counter verified and signed by Vendor and BHEL resident engineer. BHEL shall supply the material to the vendor's factory (single location only – BHEL/Customer approved) indicated by agency after issuance of Purchase order. Vendor shall receive & unload the raw material from suppliers' vehicles using their own T&P and manpower at Vendor's facilities/works/factory.</p> <p>There may be an instance where certain section may not be available to supply from BHEL. In such cases, based on prior approval / instructions of BHEL and in line with BOQ, Vendor shall make their own arrangement for procurement of raw material. In such cases, BHEL / NTPC shall clear the use of such materials. Vendor shall procure such material from approved source only.</p> <p>Vendor Shall submit the Provisional Monthly Material Reconciliation Statement to BHEL.</p> <p>Best efforts shall be made to use the off cut thus generated in the ongoing fabrication works. Also, vendor has to inform BHEL about the non-useful off cut generated from cutting plan for further utilization in Fabrication job of other factory through detailing by BHEL.</p> <p>Further, as per instruction of BHEL, Vendor shall load the excess fresh material, rejected material (for the reasons other than faulty workmanship of Vendor) and requisite balance off cut material on the trailer/trucks, arranged by BHEL for transportation.</p>
2.5	<p>Stacking, stock keeping, watch & ward of the Material at Vendor's factory shall be in the scope of Vendor. Material shall be stored properly in order to avoid any foreign defect. Proper watch and ward for the Raw material supplied at vendor place shall be in the scope of Vendor.</p>
2.6	<p>Vendor shall have in House weigh bridge facility or third party tie up with weight bridge (preferably) within the factory vicinity of 5 KM.</p>

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	<p>Such weighbridge capacity shall not be less than 40 MT. Weighment tolerance shall be 70 Kg for minimum truck load of 20 MT and above.</p> <p>For the material to be utilised for the subject work, Vendor must provide exclusive manpower for generation of Material Receipt Vouchers (MRVs). MRV format will be provided by BHEL during execution of the work. MRV will be duly verified by BHEL Resident engineer. Format printing shall be in vendor scope.</p>
2.7	<p>BHEL resident engineer shall duly verify the raw material received at Vendor's works. The record keeping of all the documents received along with BHEL supplied material shall be in the vendor scope.</p>
2.8	<p>The total quantity of steel required for the job will be calculated from the approved fabrication drawings including lugs. In case any such sectional weights are not available in the above documents/BOQ, the manufacturer recommendation/BHEL Engineer instruction/Indian Standard Code recommendation shall be binding. For the materials which are supplied by Vendor, BHEL reserves the right to reject any material not found satisfactory.</p>
2.9	<p>For the materials which are procured by vendor, Vendor shall produce all relevant documents such as Material test certificate, LR copy, Inspection reports etc. for the materials procured. In case vendor fails to correlate the supplied material with documents from approved source, vendor shall replace the material at no cost to BHEL. BHEL reserves the right to reject any material, if not found satisfactory.</p>
2.10	<p>BHEL shall post own employees at the vendor premises for whom a proper Office space with Desktop Computers/Laptop with Internet facility, drinking water, toilet facility etc. shall be provided to BHEL employees (02 Nos.) by successful Vendor for official use. Further, suitable transportation facility shall be arranged by vendor for the BHEL Resident engineer for "To and FRO" movement from residing Location from nearby city to Fabrication Location.</p>
2.11	<p>Fabrication, welding, destructive/non-destructive test and any other tests as per approved Quality plan and/or NTPC/BHEL requirement, shall be the liability of vendor.</p>
2.12	<p>Straightening, making cutting plan, cutting, bending, rolling, grinding, drilling, bolting, temporary pre assembly- full length column height (Trial assembly-tier wise), edge preparation, preheating (min preheat and interpass temperature of 20 degree C for welding over 20 mm and up to 40 mm & 66 degree C for welding over 40 mm and up to 63 mm & 110 degree C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non-destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing as per erection scheme shall be in scope of vendor.</p>
2.13	<p>All Materials shall be procured from the NTPC approved sources only as detailed in Annexure E. Clause 4.0 of Annexure E-59.</p>
2.14	<p>Surface preparation and painting as per BHEL/NTPC specifications.</p>
2.15	<p>Preassembly of columns (tier wise), Trial assembly of finished material at Vendor's works / factory as per BHEL instructions / approved drawings using Vendors T&P at his own cost. No separate cost will be paid for Trial Pre-assembly activity. Vendors may quote considering all such hidden activity as extra in their rate price. BHEL/ NTPC may visit Vendor's factory for inspecting the Trial Pre-assembly activity.</p> <p>Weight of the heaviest component is approx. 15 MT which may vary slightly upon finalization of the detailed drawings.</p>
2.16	<p>Delivering finished fabricated products from factory to Project site as per BOQ of rate schedule, specification, drawings and instructions of the Engineer. Fabrication as per approved BOM / detailed Drawings and Application of Paint as per specification and Transportation till site (FOR destination basis).</p> <p>Unloading of material at site, supplied by agency, shall be in the scope of BHEL.</p>

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	<p>BHEL shall unload the material within 48-72 hrs from the time of entry of trailer in the plant premises.</p> <p>In case the supplied material is not being unloaded within 72 hrs., for the reason not attributable to fabricator/transporter, agency shall be entitled for demurrage charges.</p> <p>a. Demurrage charges for Truck shall be Rs. 1000/days.</p> <p>b. Demurrage charges for all types of Trailers shall be Rs. 2000/days.</p>
2.18	Shop Works:
2.18.1	The steelwork shall be temporarily shop-erected complete or as directed by the Engineer so that accuracy of fit may be checked before dispatch. The parts shall be shop-erected with necessary arrangements to bring and keep the parts in place. In case of parts drilled or punched using steel jigs to make all similar parts interchangeable, the steelwork shall be shop erected in such a way as will facilitate the check of interchange ability.
2.18.2	Vendor must be possessing established fabrication work shop / factory equipped with all kinds of T&P's and other necessary requirement for supply of finished material as per specification at their own cost. Tentative requirement of Factory is stipulated in Annexure - A. All the equipment's, and T&Ps required for the supply of finished material as per the specifications/Drawings/Instructions of BHEL Engineer, shall be arranged by Vendor.
2.18.3	After award of work, BHEL at its discretion on mutually agreed terms may increase/decrease the quantum of work, depending upon the factors such as: Load on the vendor, Production capacity of the vendor, Project Requirements and rate of production/performance by the vendor etc. Contractor shall be bound to execute such works as desired and as directed by BHEL engineer. The item rates & contract conditions shall remain unchanged for such works.
2.18.4	The work under this contract shall be carried out as per BOQ Cum Rate Schedule and in compliance of tender conditions including technical specifications and approved drawings/documents.
2.19	Specifications for Fabrication and Supply Contract
2.19.1	<p>Mode-1: Raw steel will be supplied by BHEL against Bank Guarantee Equivalent to 25% of steel material value for rolling plan limit of supplied quantity (on pro rata Basis) as the work will be carried out at vendor's premises. Raw steel will be delivered to vendor's workshop/premises directly by BHEL.</p> <p>Rolling Plan for each package has been defined in Annexure-C (Bank Guarantee Clause) of TCC.</p> <p>Mode-2: Raw Material shall be procured in totality by bidder.</p>
2.19.2	Mode-1: In Case of Non-Supply of Certain Sections of the Steel could not be arranged by BHEL, Vendor shall procure the material/raw steel from NTPC/BHEL approved source only in adequate time. Delay in procurement of such material shall accounted for calculating the Liquidated damages.
2.19.3	Separate storage area shall be allotted by Vendor for BHEL Material. Separate engineer shall be allocated by vendor for BHEL Contract.
2.19.4	Items covered under this contract shall be subjected to Inspection / Testing and Quality Surveillance. The inspection agency shall at reasonable times, have access to vendor's works & Quality control records. All reasonable facilities required for carrying out the inspection and testing efficiently, shall be provided by the vendor, free of cost. The method of inspection shall be agreed upon in the Approved "Quality Plan" which shall form part of the contract. Wherever possible, standard quality plan, by way of minimum requirements, are included in the bid specification as a guideline.

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2.19.5	The Vendor shall abide fully by all the clauses of Shop inspection and tests covered in Technical Specification and as per the approved MQP. BHEL reserves the right to consider any stage of inspection / test as a “Hold Point”, beyond which work shall not proceed without acceptance of that stage.
2.19.6	The minimum Inspection / Testing requirements shall conform to relevant codes /standards as well as Statutory Regulations applicable, whether or not specifically mentioned in the specification, in addition to those normally carried out by the vendor.
2.19.7	Wherever Customer / Consultant “Hold Points” are indicated in the approved Quality Plan, an additional 10 days’ notice, in addition to above, shall be given for Inspection / Testing.
2.19.8	Before sending written notice to the BHEL/NTPC’s Inspection Agency for Inspection, the Vendor’s own inspection staff should have fully inspected / tested the item and should produce interim inspection report to BHEL Resident Engineer for verification. If the visit of the Inspection Agency proves to be futile on account of the item not being ready for inspection / Testing or the same being rejected due to the reasons which could otherwise, have been detected during Vendor’s own Inspection / Test, the cost incurred by Inspection Agency on such visits shall be borne by the vendor.
2.19.9	Approval or passing of Inspection / Test and thereby issue of the acceptance Certificates or waive of Inspection by the Inspection Agency shall not relieve the vendor of his responsibilities and obligations under the contract and also shall not bind BHEL to accept the item should it, on further tests after receipt at destination, erection / commissioning be found not complying with the BOQ/Drawings/BHEL Instructions/Contract.
2.19.10	All necessary documents such as test reports, test certificates, test curves, stress relieving charts, radio graphic films and other non-destructive tests, copies of the welding procedure, welder qualification certificates and other documents in support of adherence to Quality plan shall be furnished to the Inspection agency. The Quality Assurance document consisting of certified copies of all of the above complied sequentially by the vendor shall be sent to BHEL prior to dispatch.
2.19.11	The vendor shall provide test pieces as required by Inspection agency to enable him to determine the Quality of Material to be used under the contract. If any test piece fails to comply with the requirements the inspection agency may reject the whole material represented by the test piece.
2.19.12	In the event of inspection revealing poor quality of goods, BHEL shall be at liberty to specify additional Inspection / Test, required ascertaining Vendor’s compliance with the equipment specification.
2.19.13	All welding shall be carried out in accordance with applicable codes or approved equal. Prior to starting the welding of the component, Welding procedure and Welder’s qualification shall be approved by BHEL/NTPC. Welding consumables used shall be approved by the inspection agency.
2.19.14	Approved methods of radiographic, ultrasonic or other non-destructive testing as applicable shall be used for the NDT of the of components / assembly. The component shall be produced again for the inspection after rectification of the defect. All defects shall be rectified by the supplier at no extra Cost to BHEL.
2.19.15	If Considered necessary by BHEL Engineer or Engineer’s representative, multiple pre-assemblies shall be fully tested at Vendor’s work prior to packing and dispatch to site.

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2.19.16	All supplied fabricated structures shall be marked with clearly identifiable erection mark numbers (through hard punching with protective paint) as shown in the fabrication/ detailed drawings. This will be duly verified at site during material receipt based on which MRC shall be prepared.
2.19.17	All supplied fabricated structures shall be marked with clearly identifiable erection mark numbers (through hard punching with protective paint) as shown in the fabrication/ detailed drawings. This will be duly verified at site during material receipt based on which MRC shall be prepared.
2.19.18	To address any mismatch during erection stage, the successful Vendor shall arrange a technical person as per the instructions received from BHEL at site for proper co-ordination with various agencies so that problem is attended / rectified without any time gap. Vendor shall deploy adequate resources at site for coordination and rectification work (for the reason attributable to vendor) without any extra cost to BHEL.
2.19.19	Material Despatch Clearance Certificate (MDCC) for Supply of Fabricated Structures to be issued by Customer/BHEL before supply of finished material.
2.19.20	The affixing of Inspection Stamp on the item by the Inspection Agency is for the purpose of identification only and shall not be considered as a token of acceptance.
2.19.21	Unless the Inspection / Test is waived, the inspection agency shall attend the Inspection / Test within 15 days of the date of receipt of notice from the vendor, failing which the vendor may proceed with the Inspection / Test and shall forward duly certified copies of the Inspection / Test Reports. After successful completion of the Inspection / Test or receipt of Vendor's Test reports mentioned above, the Inspection agency shall issue within 15 days, the acceptance certificate.
2.19.22	If the tests were not witnessed by the Inspection Agency or his representative, the MDCC certificate would be issued within fifteen (15) days of the receipt of the test certificates by the Inspection Agency.
2.20	Quality Plan
2.20.1	The Quality Plan is a document, which presents in a tabular form the Quality control checks exercised by the vendor during the various stages of manufacture and dispatch in order to meet the requirements of this specification. This plan details, step by step, the operations, components and characteristics being controlled, method of exercising such controls, the importance (criticality) of the control (critical major or minor) with respect to the functioning of the item the extent to which the controls are exercised (100% samples, one per heat, etc.). Acceptance norms for the characteristics, method of maintaining records thereof as a proof of having exercised the control successfully, the agency responsible for performing and witnessing the checks and for verifying the records thereof.
2.20.2	The Vendors shall furnish the Quality Plan for approval from BHEL/NTPC. In case the Standard Quality plans provided by BHEL, the Vendor shall furnish his Quality Plan strictly in line with the same.
2.20.3	Copies of Vendor's/Vendor's Collaborators catalogues/ drawings/ standards/ specifications/ procedures etc. as mentioned in reference document of the Quality Plan shall be furnished for approval.
2.20.4	In the Quality Plan, the Vendor shall give in detail, the quality control checks exercised by him during the various stages of fabrication / manufacture such as: a) All bought out items and incoming material checks carried out at sources and on receipt.

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	<ul style="list-style-type: none"> b) Process of manufacture/Fabrication i.e. welding, heat treatment etc. c) Manufacture/fabrication of various components, sub-assemblies and assembly. d) Final Inspection and Testing including Performance Test at shop. e) Surface preparation and painting. f) Packing, Marking (through hard punching with protective paint) and Dispatch.
2.20.5	<p>Inspection of packages shall be carried out by agency as per below Inspection category of packages:</p> <ul style="list-style-type: none"> a) Cat I: - Inspection shall be done jointly by NTPC, BHEL & Successful Vendor. b) Cat-II: - Inspection shall be done by BHEL & Successful Vendor. c) Cat-III: - Certificate of Compliance shall be furnished by Successful Vendor. <p>Please note, for Cat I & II items BHEL reserve the right to carry inspection by themselves or through nominated third party. For Inspection agency for various items, vendor may refer to Quality Plan.</p>
2.21	Material Dispatch Clearance Certificate (MDCC)
2.21.1	When the tests have been satisfactorily completed at the vendor's works, the Inspection Agency shall issue a certificate to that effect within fifteen (15) days after completion of tests, but if the tests were not witnessed by the Inspection Agency or his representative, the certificate would be issued within fifteen (15) days of the receipt of the test certificates by the Inspection Agency.
2.21.2	BHEL/NTPC shall issue MDCC to the Vendor based on the QS Note/Report from the Inspection Agency.
2.21.3	Vendor shall not dispatch any material before issue of MDCC by BHEL.
2.21.4	<p>The satisfactory completion of these tests or the issue of MDCC, shall not bind BHEL to accept the supply/equipment, should it, on further tests after erection, be found not to comply with the contract provisions.</p> <ul style="list-style-type: none"> a) For Cat-I item, MDCC shall be issued by BHEL/NTPC and it's the responsibility of vendor to arrange MDCC from BHEL/NTPC. b) For Cat-II & Cat-III items, MDCC shall be issued by NTPC/BHEL.
2.22	GENERAL INSTRUCTION FOR DISPATCH
2.22.1	No equipment / material shall be dispatched without prior consent of BHEL. Vendor shall dispatch the equipment / material only after receipt of "Quality Report/ Quality Surveillance Note" and Material dispatch Clearance Certificate (MDCC) issued by BHEL/NTPC as per the categorization plan for the component.
2.22.2	Vendor shall notify in writing to site at least within 15 days in advance of shipment, the probable date, when the equipment /material shall be ready for dispatch.
2.22.3	<p>Immediately after the shipment is made, necessary shipping / transport documents shall be sent by the vendor in accordance with the instructions of BHEL. The shipping documents / transport documents shall comprise of the following:</p> <ul style="list-style-type: none"> a) Railway Receipt / Lorry Receipt as applicable b) Freight invoice c) FOR Invoice d) Packing List (No of copies as required) e) Certificate of origin f) Letter to Insurer g) Quality Report/Quality surveillance note

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2.22.4	<p>The distribution procedure for the above documents shall be as per the “dispatch instructions”.</p> <p>1) Consignee Address: Construction Manager / BHEL Site Office, BHEL 2X800MW SINGRAULI STPS (STAGE-III), NTPC Singrauli Project, P.O. SHAKTINAGAR, Dist. Sonebhadra Uttar Pradesh-231 222</p> <p>Note:</p> <ol style="list-style-type: none">1. Consignee address in LR should be strictly as per above.2. Seller / vendor to note that to effect “Sale in Transit”, BHEL shall issue “Delivery Note” to the Transporter for transferring the ownership from BHEL to customer (NTPC).3. Delivery note shall be carried by transporter along with other dispatch documents. <p>2) Road Permit Requirement: As per requirement.</p> <p>3) Mode of Dispatch: By Road Note: It is Seller / vendor responsibility to ensure availability of vehicle well in advance for dispatch of material to meet contractual delivery requirement and as per instruction of BHEL engineer.</p> <p>4) Transit Insurance: Transit insurance from supplier/Vendor's works/warehouse to BHEL site stores shall be arranged by BHEL. Prior dispatch of each consignment, intimation shall be issued to Insurance agency/underwriter of BHEL about the value of consignment, dispatch details, along with one set of documents consisting of LR/RR copy, packing list / Challan indicating the items dispatched (with their weights). A copy of above should be sent to BHEL Singrauli site office (address same as consignee address). Upon dispatch of material, supplier has to immediately intimate underwriter of BHEL, failing which transit loss if any, would be borne by supplier. Vendor shall obtain details of Insurance agency & policy documents from BHEL prior to dispatch of first consignment of Fabricated material to site.</p> <p>5) Packing:</p> <ol style="list-style-type: none">a. The packing shall be in conformity with specification and shall be such as to ensure prevention of damages, corrosion, deterioration, shortages, pilferage and loss in transit or storage.b. Packing list shall be submitted as per standard format along with advance set of documents for claiming payment which shall also indicate: -<ol style="list-style-type: none">i. Packing size.ii. Gross weight and net weight of each package.iii. Contents of the package with quantity of each item separately. <p>6) Transportation & Freight Charges:</p>
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	<ol style="list-style-type: none"> All road dispatches shall be through the carriers. Owing to any reason, in case the seller / vendor has to resort to a mode of transport other than what was contemplated, to keep up the delivery / completion schedule incurring extra expenditure, such extra expenditure shall be borne by the seller / vendor. Any charge against ODC consignment shall be borne by seller / vendor. For estimation purpose the ORC consignments may be considered as 5% of the total scope in MT defined in each package. Freight charges shall be borne by the seller / vendor. <p>Any charges related to the transportation of fabricated material till site is to be borne by the seller / vendor.</p>
2.22.5	<p>Dispatch Documents required (to be furnished by vendor):</p> <p>A: For customer billing, the vendor shall provide the following documents to BHEL in 4 sets:</p> <ol style="list-style-type: none"> Copy of vendor Invoice Copy of Packing List Indicating Quantity / Gross weight/Net Weight and NTPC approved BBU item no. wherever applicable against each item dispatched. MDCC (Original BHEL/NTPC MDCC, if applicable). Customer Hold Point (CHP) issued by BHEL/NTPC – Original (if applicable). Insurance intimation copy. Test certificate / Inspection Reports- Original. <p>B: For vendor payments, the following documents are required in 4 sets:</p> <ol style="list-style-type: none"> GST Compliance Invoice (1 Original + 2 copies). Copy of insurance intimation letter / e-mail. (Intimation to Insurance agency to be sent on the same day of dispatch). LR copy (consignee address shall be BHEL Singrauli site). Packing List indicating item description/quantity/Net Weight (Design Weight) against each item dispatched – wherever applicable. Copy of Material Dispatch Clearance Certificate (MDCC) issued by BHEL/BHEL's Customer. Guarantee Certificate – Original. Copy of Inspection report (IRs) – with relevant painting/protocols/SB remarks – Duly signed by BHEL QC inspector and fabricator with seal. Material test Certificate (MTC) (for raw material supplied by Vendor). Hold Point Clearance issued by BHEL/BHEL's Customer (if any). <p>In addition to the above, vendor may furnish mfg. clearance/drawing/documents approval date for the purpose of determining contractual delivery for expeditious processing of Invoices.</p>

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	<p>C: Checklist for submission of Bills: Vendor should ensure that the following documents are submitted for bill processing to avoid any delay in processing of payment:</p> <p>a) Invoice – duly signed by Vendor with seal.</p> <p>b) Invoice Annexures - duly signed by Vendor with seal.</p> <p>c) GST Invoice – Original for buyer and Duplicate for transporter copies</p> <p>d) Original Inspection Reports (IRs) – with relevant painting/SB remarks and ODC details (if applicable) - duly signed by BHEL QC inspector and Vendor with sign & seal.</p>																					
2.22.6	<p>STEEL Specifications:</p> <p>Agency has to procure the Structural Steel as per below technical specification basis: The total quantity of steel required for the work will be calculated from the approved, fabrication drawings, lugs etc. The measurement for payment as well as for accounting shall be based on the sectional weights as indicated in the following IS/BS/EN specifications.</p> <table><tr><th>S.N.</th><th>Name of Standard</th><th>Name of Section</th></tr><tr><td>1.</td><td>IS: 808-1964</td><td>Beams, Channels and Angles</td></tr><tr><td>2.</td><td>IS: 1730-1961</td><td>Plates, Sheets and Strips/Flats</td></tr><tr><td>3.</td><td>BS4-1: 1993</td><td>UB/UC sections</td></tr><tr><td>4.</td><td>IS: 12778/equivalence with EN-19-57</td><td>For NPB sections</td></tr><tr><td>5.</td><td>IS: 12778/equivalence with EN-53-62</td><td>For HE/WPB sections</td></tr><tr><td>6.</td><td>IS: 1786 or grade -1 of IS432 (Part-I)</td><td>Rounds including deformed high yield strength bars</td></tr></table>	S.N.	Name of Standard	Name of Section	1.	IS: 808-1964	Beams, Channels and Angles	2.	IS: 1730-1961	Plates, Sheets and Strips/Flats	3.	BS4-1: 1993	UB/UC sections	4.	IS: 12778/equivalence with EN-19-57	For NPB sections	5.	IS: 12778/equivalence with EN-53-62	For HE/WPB sections	6.	IS: 1786 or grade -1 of IS432 (Part-I)	Rounds including deformed high yield strength bars
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2.23	<p>MATERIAL RECEIPT CERTIFICATE:</p> <p>The Seller/vendor shall arrange Material Receipt Certificate (MRC) at project site, duly signed by the BHEL/NTPC Site Engineer, after receipt of the material at site and its physical verification.</p>																					
2.24	<p>SHORTAGES/DAMAGES:</p> <p>Any shortages or damages during transit or transportation to site shall be made good by the Seller/Vendor at his costs, to meet the project schedule. In case of faults/discrepancies in any material, component, sub-assembly, assembly, etc., the same shall be supplied/replenished free of cost to enable the equipment to be put in service. Shortages during transit shall also be replenished by Vendor.</p> <p>Mode-1: For free issue Materials, BHEL has an Insurance Policy with Fabricators which mainly covers storage risks. The claim settlement under the said policy is subject to certain conditions and warranties which shall be complied by the Vendor. If during claim settlement any lapses found on the part of vendor, costs incurred towards the same shall be borne by vendor at his costs. Details of the policy along with the warranty conditions will be shared with the successful bidder.</p>																					

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	<p>The Vendor will have to intimate any incident to BHEL/Insurance Company on immediate basis to support in claim submission and documentation, if so required.</p> <p>Poor workmanship is not covered under any of the Insurance policies. As such, to recover any loss due to poor workmanship and rejections of material due to incorrect operations or rejection of insurance claims, vendor shall make good all the damages at his costs.</p> <p>Settlement/Rejection of Claims shall be intimated to bidder appropriately.</p>
2.25	<p>For Mode-1</p> <p>Raw Material issue and its Accountability:</p> <p>The Vendor shall ensure Material Accounting within 365 days from date of issue of materials. This is a statutory requirement and must be strictly complied with (refer relevant provisions of GST Law related to Job work). In case of delay in Material Accounting beyond 365 days from the date of issue of raw material due to vendor's default, any tax liability payable by BHEL to Government, along with interest and penalty (if any) will be recovered from the Vendor. The recovery will be calculated separately for each material gate pass wherever the period crosses 365 days under a purchase order/ contract.</p>
2.26	Mode 1-Reconciliation of steel issued by BHEL (free of cost)
2.26.1	All steel like structural steel as specified in relevant BOQ shall be issued free of cost by BHEL unless specified otherwise in BOQ for use in the work covered in this contract from BHEL stores/storage yard/BHEL direct issue up to Vendor shop. The Vendor shall collect these materials from BHEL at vendors work at his own cost and store the same at the work site or in his stores as per standard norms.
2.26.2	BHEL reserves the right to recover from the Vendor any loss arising out of damage/theft or any other causes or during verification/stacking or at any time under the custody of the vendor.
2.26.3	Vendor shall maintain separate record for material supplied by BHEL and material procured by Vendor, for billing and reconciliation purpose.
2.26.4	The Vendor shall in no case be entitled for any compensation on account of any delay in supply or non-supply thereof for all or any such materials. However, in case of non-availability of any specific drawing(s)/section(s) which delays the completion of work, such cases shall be recorded separately and shall be considered for time extension of contract.
2.26.5	Vendor will have to make his own arrangement at his own cost for procurement of any other materials except as mentioned above, as required for the works and of such quality as acceptable to BHEL.
2.26.6	The Vendor shall maintain proper store account for all the BHEL issued materials and shall give Three (03) copies of monthly-computerized reconciliation statement of such account showing total receipt, consumption and balance (section/Size details) at Vendor works to the BHEL. BHEL Engineer's certification for the reconciliation of steel shall be final. The detailed reconciliation (Size Wise or as required) shall be done at least once in every three months (03) or before submission of final bill which comes earlier.
2.26.7	Vendor shall also carryout in complete association with BHEL, the material management functions and execution like day-to-day update of materials, issued to vendor, accounting for surplus/scrap material returned etc. These functions shall also

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	be carried out through computerized system utilizing suitable software. Vendor shall engage experienced software personnel to associate on dedicated basis for efficient discharge of the same in time.
2.26.8	The Vendor shall solely be responsible for the safety & security of material after it is supplied to Vendor by the BHEL.
2.26.9	The Vendor shall satisfy himself of the quality and quantity of the materials at the time of taking delivery from BHEL deployed trucks. No claims whatsoever will be entertained by BHEL because of quality or quantity after the materials are taken by the Vendor from BHEL deployed trucks.
2.26.10	Vendor during his indenting should specify the required dimension in order to minimize the scrap generation and utilizing the standard available sizes.
2.26.11	Following shall be limit for the quantity of BHEL issue materials that would be with the Vendor at any point of time when work is in progress (excluding what has already been incorporated in the works). APPROX. QUANTITY IN VENDOR'S STORE: Three Months of steel requirement. Vendor shall project the steel quantity required for the fabrication which will last for not less than 3 months of fabrication works or as per the 3 months rolling plan provided by BHEL to the vendor.
2.26.12	The weights of P.O. items as per Specification/Drawing shall be the basis for accounting of the raw materials issued.
2.26.13	The material rejected as PDO (Part Disposition Order) due to faulty workmanship of Vendor shall entail recovery of the cost of prime material as per relevant penal clause. In addition, conversion and service charges shall also be recovered in case of part-processed item.
2.26.14	The material rejected as PDO (Part Disposition Order) due to reasons other than faulty workmanship of Vendor shall be returned to BHEL for which the transportation shall be arranged by BHEL, failing which recovery shall be made as per relevant penal clause.
2.26.15	The Vendor should properly utilize materials issued by BHEL as per the drawings/QWIs (Quality Work Instructions) in order to meet design and quality requirements of the product.
2.26.16	After material issue, the Vendor should submit optimum cutting plan within 15 days from the date of material issue.
2.26.17	However, in working out such economic cutting plans, it is to be ensured that the details as prescribed in each QWIs are adhered to. All final cutting plans shall be retained at vendor's premises for a minimum period of 3 years from date of preparation. They should be made available whenever required by BHEL officials or representatives of BHEL.
2.26.18	Whenever fabrication is done without proper cutting plans, the excess issue over and above the net weight shall attract recovery as prime material as per relevant penal clause.
2.26.19	In case joint is specified in the cutting plan, necessary quality requirements such as WPS should be adhered to by the Vendor
2.26.20	Failure to return the prime / offcut material shall entail recovery of the value of material as fixed by BHEL. In addition, statutory taxes, duties and levies as applicable shall also be recovered.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

2.26.21	Normally, all the indirect materials, falling within the scope of the Vendor for doing the job, is to be taken care of by the Vendor themselves.						
2.26.22	<p>Provisional Material accounting method: -</p> <p>(i) Agency shall submit with the Provisional monthly reconciliation statement along with applicable MDCC, MRC, Detailed BOM for receipt of material at vendor works, detail of finished goods supplies and resident engineer certified material under work in progress and serviceable off cut material. In case of deviation from the reconciliation statement, amount any discrepancy such as weight mismatches etc shall be settled in before final bill.</p> <p>(ii) Recovery towards unreturned balance material as per FMAS (Final Material Accounting Statement) shall be done as per BHEL norms along with applicable statutory levies from the vendor. Hence, any correction after the generation of the FMAS shall not be entertained. After the issue of FMAS, the purchase order shall be treated as closed in all respects; therefore, requests toward refund of recovery shall not be entertained.</p> <p>(iii) The Vendor shall be responsible for prompt material accounting. Repeated occurrence of inordinate delay in returning and settling the material accounts shall entitle BHEL the right to terminate the contract forthwith or to impose a temporary suspension on further loading at the discretion of BHEL.</p>						
2.27	<p>Mode-1</p> <p>RETURN OF MATERIALS</p> <p>Return Structural Steel including Scrap: All surplus steel will be taken back on weightment basis. Surplus, unused and untampered steel shall be sorted section-wise and returned separately which will be returned by vendor. As regard to the scrap generated will be the property of Vendor & the amount for same will be recovered from the Vendor at the rate as per BHEL scrap recovery rate policy as mentioned at clause 2.28.</p>						
2.28	<p>Mode-1</p> <p>SCRAP RECOVERY RATES:</p> <p>For all the categories of scrap recovery, the recovery shall be made from monthly RA Bills as per following penal rates along with GST and other statutory levies, if any, where material Supply is in BHEL SCOPE.</p> <table><tr><th>S N</th><th>Item</th><th>Penal rate (Rs)</th></tr><tr><td>P-1</td><td>MS Plates, beams, channel, angles etc.</td><td>65,000 per MT</td></tr></table>	S N	Item	Penal rate (Rs)	P-1	MS Plates, beams, channel, angles etc.	65,000 per MT
S N	Item	Penal rate (Rs)					
P-1	MS Plates, beams, channel, angles etc.	65,000 per MT					
2.29	<p>Mode-1</p> <p>Recovery of Materials (Penal Rates):</p> <p>If wastage exceeds the specified limit in Special Condition of Contract SCC, the recovery of excess wastage shall be made from monthly RA Bills as per following penal rates along with GST and other statutory levies, if any, where material Supply is in BHEL SCOPE.</p> <table><tr><th>S N</th><th>Item</th><th>Penal rate (Rs)</th></tr><tr><td>P-1</td><td>MS Plates, beams, channel, angles etc.</td><td>65,000 per MT</td></tr></table> <p>NOTE: Please note penal rate will be the ‘actual market price to BHEL + 5% overheads’ or ‘rates mentioned above’, whichever is higher.</p>	S N	Item	Penal rate (Rs)	P-1	MS Plates, beams, channel, angles etc.	65,000 per MT
S N	Item	Penal rate (Rs)					
P-1	MS Plates, beams, channel, angles etc.	65,000 per MT					

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2.30	Mode-1 Custody of materials issued by BHEL to Vendor:
2.30.1	The raw material issued to the Vendor in connection with the fabrication contract shall remain the property of BHEL. The Vendor shall use the above materials only for the execution of BHEL's POs for which the materials have been issued, and for no other purpose whatsoever. The Vendor shall be responsible for the full value thereof to be assessed by BHEL, whose decision shall be binding on the Vendor.
2.30.2	The Vendor shall be liable for the loss or damage to such property from whatever the cause may be while such property is in the possession or under the control of the Vendor, their employees, workmen or agents or any other person connected with the Vendor. All the materials of BHEL shall under no circumstance be sold/hypothecated to any bank or to any lending institution or to any party whomsoever. Such materials should not be shown as the Vendor's assets in any of the statements of the Vendor to any party.
2.30.3	The Vendor shall produce the materials supplied by BHEL in the form of raw material, semi-finished structure to BHEL officials visiting the Vendor's unit for verification purposes.
2.30.4	Inventory statement has to be submitted every month by the Vendor for the materials issued. If the Vendor fails to produce or properly account the materials so issued, BHEL shall have the right to take further action as deemed fit including recovery of the value of the materials along with the respective administrative charges and statutory levies from the running bills of the Vendor and/or temporary suspension of load and/or termination of contract and/or de-listing.
2.30.5	Any act of Vendor resulting in dishonest misappropriation or conversion of the materials so issued for his own use shall constitute the offence of Civil / Criminal Breach of Trust under Indian Penal Code and/or such other offences under any other provisions of law and the Contractee (BHEL) shall have every right to proceed against the Vendor under Civil/Criminal Law in order to ensure proper punishment to such perpetrator(s) for the said offence(s). In such cases, BHEL shall take all necessary steps to recover the material available with those firms.
2.30.6	Wherever availability of material becomes critical for certain work orders, BHEL shall transfer the balance material available with the Vendor including the scrap sizes from one Vendor to the other. For this, necessary credit shall be given during material accounting. The material transfer emanating from BHEL is to be honoured immediately or otherwise, recovery shall be made at the prime material cost. Any difficulty for affecting such transfer shall be brought to the knowledge of BHEL officials immediately
2.31	GUARANTEE FOR THE FINISHED GOODS* (Defect Liability of the fabricated material) The Vendor shall warrant that the fabrications comply fully with the drawings and other technical conditions specified by BHEL. If the fabrications are found defective owing to faulty workmanship/incomplete work within a period of Six months from the date of dispatch of last consignment, the Vendor shall do the necessary repair/rework or replace the defective items free of cost. Alternatively, the rework/replacement charges shall be recovered, if the same has been carried out by BHEL as per tender condition.

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Chapter - III: Time Schedule

3.1 TIME SCHEDULE

3.1.1 After receipt of Purchase Order, Contractor shall discuss with Construction Manager/ Project Manager regarding initial start of the work and shall submit a detailed plan for execution of work within the Contractual schedule.

3.1.2 Contractor shall deploy adequate resources as per requirement to commence the work of fabrication, testing, shot blasting, painting and dispatch to Project site etc. to match schedule of the project.

3.1.3 The contractor shall complete all the works in the scope of this contract within the contract period. Pending points identified by the customer/BHEL, are to be liquidated during the contract period itself.

3.1.4 Based on the project requirement and availability of inputs, contractor may have to advance the start of fabrication activity of other area after getting clearance from Project Manager/Construction Manager.

3.1.5 Zero date and tentative schedule: -

For Mode 1: 'Date of receipt of first structural steel (free issue material) consignment of material at vendor works' and 'receipt of first detailed drawing' whichever is later, shall be reckoned as the zero date of the contract. Vendor must start preparatory action on receipt of Purchase Order.

For Mode 2: Date of the establishment of the first LC or receipt of first detailed drawing by vendor whichever is later + addl. 45 days (for the procurement of the Raw Materials) shall be taken as the Zero Date of the contract. Vendor must start preparatory action on receipt of Purchase Order.

3.1.6 The vendor has to subsequently augment his resources in such a manner that the entire work is completed within contractual schedule. Fabrication of entire structures as per scope including surface preparation and application of finish paint shall be completed within the contractual schedule as mentioned hereunder, from the date of start of work/Zero date.

S.No.	Package	Contractual Schedule (Month)
1.	Package A: Power House Structures of Unit#2 along with Main CCR and Mill Bunker Structures of Unit#2 complete with all the items as per the attached BOQ.	26 Months
2.	Package B: Power House Structures of Unit#1 and Mill Bunker Structures of Unit#1 complete with all the items as per the attached BOQ.	24 Months

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Chapter - III: Time Schedule

3.1.7 Priority Schedule of important Structures:

Sl No	Name of Structural Building/System Package A	Tentative supply completion schedule
1	Main Power House Columns of A, B, C Row of Grid No 20 to 25 along with all horizontal tie beams and vertical cross bracings (TG Deck Columns)	3 rd Month
2	Main Power House Columns of A, B, C Row of Grid No 15 to 19 and 26 to 27 along with all horizontal tie beams and vertical cross bracings	6 th Month
3	Complete structure for (+) 3.4 mts Floor	13 th Month
4	Complete structure for (+) 9 mts Floor	14 th Month
5	Complete structure for (+) 13 mts Floor	15 th Month
6	Complete structure for (+) 17 mts Floor	7 th Month
7	Complete structure for (+) 28.5 mts Floor	17 th Month
8	Complete B-C Bay 34.5 Mts Floor.	18 th Month
9	AB Bay Roof Structure (complete with Roof Truss and Purlins and Cross Bracings) for TG Deck Columns	8 th Month
10	A-B Bay Roof Structure (complete with Roof Truss and Purlins and Cross Bracings) for balance Columns	10 th Month
11	A-B EOT Gantry Girders.	9 th Month
12	B-C Bay Gantry Girders.	20 th Month
13	CCR Structures.	11 th Month
14	Mill Bunker Structure	12 th Month
15	Staircase Structures *Vendor to ensure the availability of Staircase structure before the supply of any level floor structure so as to ensure the accessibility of floors through stairs	Start of staircase structures by 7 th month and complete supply by 22 nd Month
16	Balance Structures as per the drawings/BOQ.	26 th Month

Sl No	Name of Structural Building/System Package B	Tentative supply completion schedule
1	Main Power House Columns of A, B, C Row of Grid No 06 to 11 along with all horizontal tie beams and vertical cross bracings (TG Deck Columns)	3 rd Month
2	Main Power House Columns of A, B, C Row of Grid No 1 to 5 and 12 to 14a along with all horizontal tie beams and vertical cross bracings	6 th Month
3	Complete structure for (+) 3.4 mts Floor	13 th Month
4	Complete structure for (+) 9 mts Floor	14 th Month
5	Complete structure for (+) 13 mts Floor	15 th Month
6	Complete structure for (+) 17 mts Floor	7 th Month
7	Complete structure for (+) 28.5 mts Floor	17 th Month
8	Complete B-C Bay 34.5 Mts Floor.	18 th Month

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Sl No	Name of Structural Building/System Package B	Tentative supply completion schedule
9	AB Bay Roof Structure (complete with Roof Truss and Purlins and Cross Bracings) for TG Deck Columns	8 th Month
10	A-B Bay Roof Structure (complete with Roof Truss and Purlins and Cross Bracings) for balance Columns	10 th Month
11	A-B EOT Gantry Girders.	9 th Month
12	B-C Bay Gantry Girders.	20 th Month
13	Mill Bunker Structure	12 th Month
14	Staircase Structures *Vendor to ensure the availability of Staircase structure before the supply of any level floor structure so as to ensure the accessibility of floors through stairs	Start of staircase structures by 7 th month and complete supply by 22 nd Month
15	Balance Structures as per the drawings/BOQ.	24 th Month

3.1.8 Inputs for fabrication work such as Drawings/materials, shall be provided progressively.

3.1.9 Vendor has to engage adequate resources to meet BHEL's commitments to their customer as indicated from time to time. In the event the Vendor fails to respond to these requirements, BHEL shall take appropriate actions to meet customer's commitments in line with the provisions of General Conditions of Contract.

3.1.10 BHEL at its discretion may increase/decrease the quantum of work depending upon the factors such as: 'Load on the vendor', 'Production capacity of the vendor' and 'rate of production/performance by the vendor' etc. Accordingly, time schedule shall be adjusted on pro rata basis.

3.2 Package wise Bill of Quantities:

Item No	Description BOQ FOR CIVIL WORKS (Mode 1)	UOM	Quantity Package-A	Quantity Package-B
2300	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.			
A2301	Fabrication (shop fabricated in customer approved shop as per specification including painting as per applicable corrosivity class mentioned in specification), of Medium and High Tensile structural steel (Grade designation E350/E250 or higher unless stated otherwise) Quality B0 (Fully killed), conforming to IS 2062. Plates beyond 12mm thickness and up to 40mm thickness shall be normalized rolled. Plates beyond 40mm thickness shall be vacuum degassed & furnace normalised and shall also be 100% ultrasonically tested as per ASTM -A578 level BS2. The fabrication can be with rolled section / built up section /			

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Item No	Description BOQ FOR CIVIL WORKS (Mode 1)	UOM	Quantity Package-A	Quantity Package-B
	combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, assembly, edge preparation, preheating (min preheat and interpass temperature of 200 C for welding over 20 mm and upto 40 mm & 660 C for welding over 40 mm and upto 63 mm & 1100 C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non-destructive and special testing which shall cover the conductance of Radiography Testing, Ultra sonic Testing of welds, RT, UT, DPT and MPT of Plates as per ASTM A435, and/or on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete, rectification and correction of defective welding works, production test plate, inspection and testing, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures, assembly of the structures at factory for testing etc. and Unit#2.			
A2301 a	Grade of Steel: E250 Sections (Material shall be in BHEL scope)	MT	8,913	7,330
A2301 b	Grade of Steel: E350 Sections (Material shall be in BHEL scope)	MT	5,948	4,880
A2301 c	Grade of Steel: E250 Sections (Material shall be in Vendor scope)	MT	1,000	800
A2301 d	Grade of Steel: E350 Sections (Material shall be in Vendor scope)	MT	660	540
A2302	Extra over ST NO. A2301 for blast cleaning of steel structures to near white metal surface (Sa 2 1/2) and applying coat of two component moisture curing zinc (ethyl) Silicate primer (solid by volume Minimum 60+/-2% & zinc dust % on dry film minimum 80 %). Zinc dust composition and properties shall be Type-II as per ASTM D520-00. Primer of minimum 70-micron DFT shall be applied over shot blast cleaned surface including touch-up painting etc all complete. Primer coat shall be applied in Shop immediately after blast cleaning by airless spray technique.	MT	16,521	13,550

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Item No	Description BOQ FOR CIVIL WORKS (Mode 1)	UOM	Quantity Package-A	Quantity Package-B
A2305	Providing and applying (with airless spray technique) intermediate coat of two component polyamide cured epoxy with MIO Content (containing lamellar MIO minimum 30% on pigment, solid by volume minimum 80% \pm 2%) of minimum 100-micron DFT to be applied after an interval of minimum 24 hours (from the application of primer coat by airless spray technique.) and of approved make including protection and cleaning, scaffolding etc. all complete as per specification for all structures.	MT	16,521	13,550
B2305	Providing and applying Finish coat of two-pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% \pm 2%) with Gloss retention (SSPC Paint Spec No 36, ASTM D 4587, D 2244, D 523) of Level 2 (after minimum 1000 hours exposure, Gloss loss less than 30 and colour change less than 2.0 Δ E) and minimum 70 micron DFT shall be applied after an interval of minimum 10 hours (from the application of sealer coat), Colour and shade of the coat shall be as approved by the Employer) over steel sections already having intermediate coats including protection and cleaning, scaffolding etc. all complete as per specification for all structures .	MT	16,521	13,550

BOQ for Mode 2:

Item No	Description BOQ FOR CIVIL WORKS (Mode 2)	UOM	Quantity Package-A	Quantity Package-B
2300	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.			
A2301	Fabrication (shop fabricated in customer approved shop as per specification including painting as per applicable corrosivity class mentioned in specification), of Medium and High Tensile structural steel (Grade designation E350/E250 or higher unless stated otherwise) Quality B0 (Fully killed), conforming to IS 2062. Plates beyond 12mm thickness and up to 40mm thickness shall be normalized rolled. Plates beyond 40mm thickness shall be vacuum degassed & furnace normalised and shall also be 100% ultrasonically tested as per ASTM -A578 level BS2. The fabrication can be with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false			

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Item No	Description BOQ FOR CIVIL WORKS (Mode 2)	UOM	Quantity Package-A	Quantity Package-B
	ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm & 66o C for welding over 40 mm and upto 63 mm & 110o C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non-destructive and special testing which shall cover the conductance of Radiography Testing, Ultra sonic Testing of welds, RT, UT, DPT and MPT of Plates as per ASTM A435, and/or on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete, rectification and correction of defective welding works, production test plate, inspection and testing, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures, assembly of the structures at factory for testing etc. of Unit#2.			
A2301 a	Grade of Steel: E250 Sections (Material shall be in Vendor scope)	MT	9,913	8,130
A2301 b	Grade of Steel: E350 Sections (Material shall be in Vendor scope)	MT	6,608	5,420
A2302	Extra over ST NO. A2301 for blast cleaning of steel structures to near white metal surface (Sa 2 1/2) and applying coat of two component moisture curing zinc (ethyl) Silicate primer (solid by volume Minimum 60+/-2% & zinc dust % on dry film minimum 80 %). Zinc dust composition and properties shall be Type-II as per ASTM D520-00. Primer of minimum 70-micron DFT shall be applied over shot blast cleaned surface including touch-up painting etc all complete. Primer coat shall be applied in Shop immediately after blast cleaning by airless spray technique.	MT	16,521	13,550
A2305	Providing and applying (with airless spray technique) intermediate coat of two component polyamide cured epoxy with MIO Content (containing lamellar MIO minimum 30% on pigment, solid by volume minimum 80% ±2%) of minimum 100-micron DFT to be applied after an interval of minimum 24 hours (from the application of primer coat by airless spray technique.) and of approved make including protection and cleaning, scaffolding etc. all complete as per specification for all structures.	MT	16,521	13,550
B2305	Providing and applying Finish coat of two-pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% ±2%) with Gloss retention (SSPC Paint Spec No 36, ASTM D 4587, D 2244, D 523) of Level 2 (after minimum 1000 hours exposure, Gloss loss less than 30 and colour change less than 2.0 ΔE) and minimum 70 micron DFT shall be applied after an interval of minimum 10 hours (from the application of sealer	MT	16,521	13,550

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - III: Time Schedule

Item No	Description BOQ FOR CIVIL WORKS (Mode 2)	UOM	Quantity Package-A	Quantity Package-B
	coat), Colour and shade of the coat shall be as approved by the Employer) over steel sections already having intermediate coats including protection and cleaning, scaffolding etc. all complete as per specification for all structures .			

Note:

1. The above quantities are tentative and may vary, BHEL reserves the right for allocation of tonnage to the agencies as per requirements.
2. Quantity Variation limit: $\pm 30\%$ of awarded quantities.
3. No compensation shall be given to the Fabricator; in case the executed work is below 30% of awarded quantities.
4. Tentative quantity for each package is mentioned hereunder:

S.No.	Package	Tentative Quantity (MT)
1	Package A: Power House Structures of Unit#2 along with CCR and Mill Bunker Structures of Unit#2 complete with all the items as per the attached BOQ.	16,521 MT
2	Package B: Power House Structures of Unit#1 and Mill Bunker Structures of Unit#1 complete with all the items as per the attached BOQ.	13,550 MT

Detailed L-2 Schedule, including inputs requirement dates from BHEL, shall be prepared and submitted by Vendor for approval of BHEL.

In order to meet above schedule in general, and any other intermediate targets set, to meet customer/project schedule requirements, vendor shall arrange & augment all necessary resources from time to time on the instructions of BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IV: Terms of Payment

4.1 Terms of Payment for Mode-1: -

The progressive payment for supply on accepted price of contract value will be released as per the break up given hereinafter: -

Stages of progressive pro-rata payments

Payment shall be released as mentioned below after submission of following documents:

- 1) 100% payment (excluding GST) against RA Bill as per Billing schedule/Price Bid shall be released within 45 days after receipt & acceptance of material at site and submission of following documents.
 - a) GST Compliance Invoice (1 Original + 2 copies)
 - b) Copy of insurance intimation letter / e-mail. (Intimation to Insurance agency to be sent on the same day of dispatch.)
 - c) LR copy (consignee address shall be BHEL Singrauli site)
 - d) Packing List indicating item description/quantity/Net Weight (Design Weight) against each item dispatched – wherever applicable.
 - e) Original Material Dispatch Clearance Certificate issued by BHEL/BHEL's Customer.
 - f) Guarantee Certificate - Original
 - g) Material Receipt certificate by BHEL/site.
 - h) Original Inspection report (IRs) – with relevant painting/protocols/SB remarks – Duly signed by BHEL QC inspector and fabricator with seal.
 - i) Material test Certificate (MTC) (for raw material supplied by Vendor)
 - j) Hold Point Clearance issued by BHEL/BHEL's Customer (if any).
 - k) Material Reconciliation (Applicable for Mode 1).

4.2 Terms of Payment for Mode-2: -

The progressive payment for supply on accepted price of contract value will be released through Letter of Credit for BOQ as per the breakup given hereinafter: -

- 1) 100% payment against RA Bill as per Billing schedule/Price Bid shall be shall be paid through irrevocable Usance Letter of Credit at 45 days starting from the date of receipt of the complete documents as listed below at the beneficiary bank: -
 - a) GST Compliance Invoice (1 Original + 2 copies)
 - b) Copy of insurance intimation letter for the raw materials procured by bidder / e-mail. (Intimation to Insurance agency to be sent on the same day of dispatch.) / copy of policy depending on Incoterms (for the raw materials procured by bidder).
 - c) LR copy (consignee address shall be BHEL Singrauli site)
 - d) Packing List indicating item description/quantity/Net Weight (Design Weight) against each item dispatched – wherever applicable.
 - e) Original Material Dispatch Clearance Certificate issued by BHEL/BHEL's Customer.
 - f) Guarantee Certificate – Original
 - g) Material Receipt certificate by BHEL/site.
 - h) Original Inspection report (IRs) – with relevant painting/protocols/SB remarks – Duly signed by BHEL QC inspector and fabricator with seal.
 - i) Material test Certificate (MTC) (for raw material supplied by Vendor)
 - j) Hold Point Clearance issued by BHEL/BHEL's Customer (if any).

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IV: Terms of Payment

- 2) The Charges against the LC shall be borne by bidder and the same shall be considered in the price while quoting.

4.3 Retention amount:

- 4.3.1 Retention Amount shall be 5% of contract value and shall be furnished before the first RA Bill becomes due for payment. In case of increase in contract value, additional 5% of differential amount shall be submitted by Consultant before payment of next RA Bill due.

The Retention amount of 5% of the contract value may be accepted in the following forms:

- i. Cash (as permissible under the extant Income Tax Act).
- ii. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL.
- iii. Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Consultant furnishing the security and duly endorsed/ hypothecated / pledged, as applicable, in favour of BHEL).
- iv. Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act and in line with clause 1.12 of GCC. The Bank Guarantee format for Retention Amount shall be in the prescribed formats. The validity of BG shall be initially for the contract period & shall be extended up to acceptance of final bill if the final bill is not settled during the contract period.
- v. Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Consultant, a/c BHEL).
- vi. Insurance Surety Bonds.

- 4.3.2 **For Mode-1**, on successful bidder's request, the Retention Amount can also be recovered at the rate of 10% of the gross amount, progressively, from each of the running bills of the Consultant till the total amount of the required retention amount is collected.

In case, Consultant opts cash deduction from RA bills in the beginning & subsequently submit 5% of the Contract Value as Retention amount in any form as mentioned above, then refund of deducted retention amount may be permitted to Consultant.

Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

4.3.3 Refund of Retention Amount shall be as follows:

Retention amount shall be released after successful completion of supply and along with last RA Bill. Retention amount shall be released after deduction all expenses/ other amounts due to BHEL under the contract/ other contracts entered into with them (Consultant) by BHEL.

- 4.4 Paying Authority shall be **Construction Manager, BHEL 2X800 MW, NTPC Singrauli Project, Dist. Sonbhadra Uttar Pradesh.**

4.5 Performance Security Clause:

- a) Performance Security shall be 5% of Contract value.
- b) In case of increase in contract value, additional 5% of differential/increased amount shall be submitted by Contractor before payment of next RA Bill due.
- c) Performance Security may be accepted in the following forms: -

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IV: Terms of Payment

- i. Cash (as permissible under the extant Income Tax Act).
 - ii. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL.
 - iii. Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated / pledged, as applicable, in favour of BHEL).
 - iv. Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format for Performance Security Amount shall be in the prescribed formats. The validity of BG shall be initially for the contract period (Including Extended Period) + Performance guarantee period of 6 months. The BG shall be extended up to completion of Performance guarantee period from the date of supply of last consignment.
 - v. Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL).
 - vi. Insurance Surety Bonds.
- d) BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.
- e) Refund of Performance Security amount shall be released after completion of Performance Guarantee period and after deduction of all expenses/ other amounts due to BHEL under the contract/ other contracts entered into with them (contractor) by BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - V: Welding & Radiography

5.0 WELDING, RADIOGRAPHY AND OTHER NON-DESTRUCTIVE TESTING, POST WELD HEAT TREATMENT

5.1 Welding:

- 5.1.1 Installation of equipment involves good quality welding, NDE checks, Post Weld Heat Treatment etc. Contractor's personnel engaged should have adequate qualification on the above works.
- 5.1.2 The method of welding will be indicated in the detailed drawing/documents. BHEL engineer will have the option of changing the method of welding as per site/customer requirement.
- 5.1.3 Before any welder is engaged on work, he shall be tested and qualified by BHEL/ Customer, though they may possess the previous certificate. BHEL reserves the right to reject any welder without assigning any reason. All the expenditure in testing/qualification of the contractor's welder shall be borne by contractor.
- 5.1.4 Unsatisfactory and continuous poor performance may result in discontinuation of concerned welder.
- 5.1.5 The welded surface shall be cleaned of slag and painted with primer paint to prevent rusting, corrosion. For these consumables like paint /primer etc. will be in the contractor's scope.
- 5.1.6 Welding electrodes have to be stored in enclosures having temperature and humidity control arrangements. This enclosure shall meet BHEL specifications.
- 5.1.7 Welding electrodes, prior to their use, call for baking for specified period and will have to be held at specified temperature for specified period. Also, during execution, the welding electrodes have to be carried in portable ovens.

5.2 Non-Destructive Examination:

- 5.3.1 Contractor shall provide all resources and make all arrangements for the Radiographic Examination of welds for this work. For reasons of safety, invariably the radiography work will be carried out after the normal working hours and close of other site activities only. In this regard, the contractor has to adhere to the safety rules / regulations laid by BARC authorities from time to time.
- 5.3.2 Radiography inspection of welds shall be performed in accordance with requirements and recommendation of BHEL engineer. The minimum quantum of radiographic inspection shall be as per provision of BHEL'S documents. They may, however be increased depending upon the performance of the individual welder at the discretion of BHEL engineer/boiler inspecting authority. Vendor shall also arrange the Ultrasonic Testing (UT) equipment with recording facility at his own cost. UT shall be done as per requirement of BHEL / client. Records of UT shall be produced & submitted to as per site requirement.
- 5.3.3 All X-Ray / Gamma Ray films of weld joints shall be preserved properly and be handed over to BHEL.
- 5.3.4 The field welded joints shall be subjected to Dye-Penetrant/MPT/RT/ other Non-Destructive

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - V: Welding & Radiography

Examination as specified in the respective engineering documents/ as instructed by BHEL.

- 5.3.5 Where required, surface preparation, like smooth grinding of welded area, prior to RT/UT etc. shall be done. It may also become necessary to adopt inter-layer Radiography/MPT/UT depending upon the site/ technical requirement necessitating interruptions in continuity of the work and making necessary arrangements for carrying out the above work. The contractor shall take all this into account in his offer. The required NDT method/procedure will be decided by BHEL engineer at site.
- 5.3.6 For carrying out Ultrasonic Testing of welding joints of large size, it will be necessary to prepare surface by grinding and buffing a smooth finish and contour as necessary. The contractor's scope of work includes such preparation as incidental to work.
- 5.3.7 No separate payment for any NDE activities is envisaged. Accordingly, the offered rate shall be inclusive of cost of all NDE.

5.3 Heat Treatment:

- 5.3.8 For the purpose of temperature recording of stress relieving process, thermocouples have to be attached to the weld joint. The number of temperatures measuring points and locations shall be as per the standards of BHEL. Thermocouples have to be attached using capacitor discharge type portable thermocouple attachment unit. Contractor shall arrange sufficient number of thermocouple attachment units.
- 5.3.9 Contractor should provide temperature indicator/temperature recorder for measuring temperature during pre-heating for welding or for controlling temperature of metal for hot correction etc. The temperature recorders should be preferably of solid-state type.
- 5.3.10 Heat treatment may require to be carried out at any time (day or night) to ensure the continuity of the process. The contractor shall make all necessary arrangements including labourer required for the same as per directions of BHEL.
- 5.3.11 In certain cases, only, the Pre-Heating of weld joints may be called for.
- 5.3.12 For weld joints of heavy structural sections, if heat treatment is required, the same shall be carried out as part of the work.
- 5.3.13 Checking effectiveness of stress relieving by hardness tests (by digital hardness tester or other approved test methods as per BHEL engineer's instruction) including necessary testing equipment's is within the scope of the work / specification.
- 5.3.14 Preheating, Inter-Pass Heating, Post Weld Heating and Stress Relieving after welding (as applicable) shall be performed by the contractor in accordance with BHEL Engineer's instructions. Where the electric resistance heating method is adopted contractor shall make all arrangement including heating equipment with automatic recording devices, all heating elements, thermocouples and attachment units, graph sheets, thermal chinks, & insulating materials like mineral wool, asbestos cloth, ceramic beads, asbestos ropes etc, required for all heating and stress relieving works.

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Chapter - V: Welding & Radiography

- 5.3.15 All the recorded graphs for heat treatment shall be handed over to BHEL/ IBR authorities and due clearances obtained.
- 5.3.16 Results of these processes shall be verified/ validated as per requirements of BHEL / client.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VI: Preservation & Protection of Materials and Components

6.0 Preservation & Protection of Materials and Components

- 6.1 At all stages of work, Equipment's/Materials in the custody of Vendor will have to be preserved as per the instructions of BHEL. Necessary preservation agents including the primer & paint, for the above work shall be provided by the Vendor.
- 6.2 The Vendor shall make suitable security arrangements including employment of security personnel and ensure protection of all materials/ equipment in their custody and installed equipment's from theft/fire/pilferage and any other damages and losses.
- 6.3 Vendor shall be solely responsible for preservation and safety of material at their works. Vendor shall refurbish the material in case of any loss of material, without any cost to BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VII: Exclusion

7.0 Exclusion in the scope of work

- 7.1 Supply of Permanent Erection Bolts.
- 7.2 Supply and fabrication of Electro Forged GI Gratings
- 7.3 Supply and fabrication of Stainless-Steel Items
- 7.4 Supply and fabrication of Handrail, Deck sheet & Cladding sheet.
- 7.5 Fabrication of Mill Bunker shell, hopper and ring beam.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VIII: Price Bid and Modality of Award

8.1 Price Bid Clause:

Bidder has to quote for 'Package A of Mode 1' and / or 'Package A of Mode 2' in price Bid.

8.1.1 BOQ along with weightage for Package A of Mode-1 is mentioned hereunder:

ST NO	Item Description for Package-A	Unit	Quantity	Weightage
2300	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.			
A2301	Fabrication (shop fabricated in customer approved shop as per specification including painting as per applicable corrosivity class mentioned in specification), of Medium and High Tensile structural steel (Grade designation E350/E250 or higher unless stated otherwise) Quality B0 (Fully killed), conforming to IS 2062. Plates beyond 12mm thickness and up to 40mm thickness shall be normalized rolled. Plates beyond 40mm thickness shall be vacuum degassed & furnace normalised and shall also be 100% ultrasonically tested as per ASTM -A578 level BS2. The fabrication can be with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm & 66o C for welding over 40 mm and upto 63 mm & 110o C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non-destructive and special testing which shall cover the conductance of Radiography Testing, Ultra sonic Testing of welds, RT, UT, DPT and MPT of Plates as per ASTM A435, and/or on welds wherever specified including equipments, measuring devices, gauges, test report etc. all			

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VIII: Price Bid and Modality of Award

ST NO	Item Description for Package-A	Unit	Quantity	Weightage
	complete, rectification and correction of defective welding works, production test plate, inspection and testing, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures, assembly of the structures at factory for testing etc. of Unit#2.			
A2301 a	Grade of Steel: E250 Sections (Material shall be in BHEL scope)	MT	8,913	0.3415759733
A2301 b	Grade of Steel: E350 Sections (Material shall be in BHEL scope)	MT	5,948	0.2279472556
A2301 c	Grade of Steel: E250 Sections (Material shall be in Vendor scope)	MT	1,000	0.1461711478
A2301 d	Grade of Steel: E350 Sections (Material shall be in Vendor scope)	MT	660	0.0986653695
A2302	Extra over ST NO. A2301 for blast cleaning of steel structures to near white metal surface(Sa 2 1/2) and applying coat of two component moisture curing zinc (ethyl) Silicate primer (solid by volume Minimum 60+/-2% & zinc dust % on dry film minimum 80 %). Zinc dust composition and properties shall be Type-II as per ASTM D520-00. Primer of minimum 70 micron DFT shall be applied over shot blast cleaned surface including touch-up painting etc all complete. Primer coat shall be applied in Shop immediately after blast cleaning by airless spray technique.	MT	16,521	0.0825982121
A2305	Providing and applying (with airless spray technique) intermediate coat of two component polyamide cured epoxy with MIO Content (containing lamellar MIO minimum 30% on pigment, solid by volume minimum 80% ±2%) of minimum 100 micron DFT to be applied after an interval of minimum 24 hours (from the application of primer coat by airless spray technique.) and of approved make including protection and cleaning, scaffolding etc. all complete as per specification for all structures .	MT	16,521	0.0513151652
B2305	Providing and applying Finish coat of two-pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% ±2%) with Gloss retention (SSPC Paint Spec No 36, ASTM D 4587, D 2244, D 523) of Level 2 (after minimum 1000 hours exposure, Gloss loss less than 30 and colour change	MT	16,521	0.0517268765

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VIII: Price Bid and Modality of Award

ST NO	Item Description for Package-A	Unit	Quantity	Weightage
	less than 2.0 ΔE) and minimum 70 micron DFT shall be applied after an interval of minimum 10 hours (from the application of sealer coat), Colour and shade of the coat shall be as approved by the Employer) over steel sections already having intermediate coats including protection and cleaning, scaffolding etc. all complete as per specification for all structures .			

8.1.2 BOQ along with weightage for Package A of Mode-2 is mentioned hereunder:

ST NO	Item Description for Package-A	Unit	Quantity	Weightage
2300	STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge.			
A2301	Fabrication (shop fabricated in customer approved shop as per specification including painting as per applicable corrosivity class mentioned in specification), of Medium and High Tensile structural steel (Grade designation E350/E250 or higher unless stated otherwise) Quality B0 (Fully killed), conforming to IS 2062. Plates beyond 12mm thickness and up to 40mm thickness shall be normalized rolled. Plates beyond 40mm thickness shall be vacuum degassed & furnace normalised and shall also be 100% ultrasonically tested as per ASTM –A578 level BS2. The fabrication can be with rolled section / built up section / combination of both conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, stringers, treads, landings, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, assembly, edge preparation, preheating (min preheat and interpass temperature of 20o C for welding over 20 mm and upto 40 mm & 66o C for welding over 40 mm and upto 63 mm & 110o C			

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VIII: Price Bid and Modality of Award

ST NO	Item Description for Package-A	Unit	Quantity	Weightage
	for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non-destructive and special testing which shall cover the conductance of Radiography Testing, Ultra sonic Testing of welds, RT, UT, DPT and MPT of Plates as per ASTM A435, and/or on welds wherever specified including equipments, measuring devices, gauges, test report etc. all complete, rectification and correction of defective welding works, production test plate, inspection and testing, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, rectification, dismantling and removal of all temporary structures, assembly of the structures at factory for testing etc. of Unit#2.			
A2301 a	Grade of Steel: E250 Sections (Material shall be in Vendor scope)	MT	9,913	0.5525048467
A2301 b	Grade of Steel: E350 Sections (Material shall be in Vendor scope)	MT	6,608	0.3767072569
A2302	Extra over ST NO. A2301 for blast cleaning of steel structures to near white metal surface (Sa 2 1/2) and applying coat of two component moisture curing zinc (ethyl) Silicate primer (solid by volume Minimum 60+/-2% & zinc dust % on dry film minimum 80 %). Zinc dust composition and properties shall be Type-II as per ASTM D520-00. Primer of minimum 70-micron DFT shall be applied over shot blast cleaned surface including touch-up painting etc all complete. Primer coat shall be applied in Shop immediately after blast cleaning by airless spray technique.	MT	16,521	0.0314961522
A2305	Providing and applying (with airless spray technique) intermediate coat of two component polyamide cured epoxy with MIO Content (containing lamellar MIO minimum 30% on pigment, solid by volume minimum 80% ±2%) of minimum 100-micron DFT to be applied after an interval of minimum 24 hours (from the application of primer coat by airless spray technique.) and of approved make including protection and cleaning, scaffolding etc. all complete as per specification for all structures.	MT	16,521	0.0195673757
B2305	Providing and applying Finish coat of two-pack aliphatic Isocyanate cured acrylic finish paint (solid by volume minimum 55% ±2%) with Gloss retention (SSPC Paint Spec No 36, ASTM D 4587, D 2244, D 523) of Level 2 (after minimum 1000 hours	MT	16,521	0.0197243685

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Chapter - VIII: Price Bid and Modality of Award

ST NO	Item Description for Package-A	Unit	Quantity	Weightage
	exposure, Gloss loss less than 30 and colour change less than 2.0 ΔE) and minimum 70 micron DFT shall be applied after an interval of minimum 10 hours (from the application of sealer coat), Colour and shade of the coat shall be as approved by the Employer) over steel sections already having intermediate coats including protection and cleaning, scaffolding etc. all complete as per specification for all structures .			

8.2 Modality of award

- i. The total scope of work is being divided into Two (02) packages. Each package shall be awarded to two different Agencies on price matching philosophy, as mentioned hereunder.
- ii. **The subject tender shall be awarded in the following mode, w.r.t. extant policy/ guideline and statutory rules.**
 - a. Subject tender has two Modes for award of packages,
 - **Mode 1:** Supply of Fabricated steel as per BOQ where majority of steel supply is in BHEL scope.
 - **Mode 2:** Supply of Fabricated steel as per BOQ where all steel supply is in contractor scope.
 - b. Bidders shall quote “Total Price” (excluding GST) for ‘Package-A of Mode 1’ and/or ‘Package-A of Mode 2’
 - c. Bidders shall quote in Rupees in VOL-II-Price-Bid at BHEL E-procurement Portal. Any other entry elsewhere in the offer of the bidder shall be treated as Null and Void.
 - d. Subject to qualification of bidder against **respective PQR** for Mode 1/Mode 2 and in line with declaration by Bidder (Annexure-D of TCC), price bid shall be opened.
 - e. Price bids of qualified bidders shall be evaluated separately for **‘Package-A of Mode 1’** and **‘Package-A of Mode 2’**. Based on the “Total Price (exclusive of GST)” all qualified Bidders shall be aligned in order of Price Competitiveness (i.e. L-1, L-2, L-3 and henceforth).
 - f. In order to select a Mode (i.e., Mode 1 or Mode 2), BHEL shall compare the L1 rates for ‘Package-A of Mode 1’ and ‘Package-A of Mode 2’. BHEL shall load the Material cost (including all expenses) **@Rs. 60,557.78/MT in item no A2301 (a) of Package A of Mode-1 and @Rs. 62426.85/MT in item no A2301 (b) for comparison with rates of Package A of Mode-2.**
 - g. Based on Cost benefit analysis to BHEL, BHEL shall select a Mode (i.e., Mode 1 or Mode 2) for award of Packages. In case, the price to BHEL for Mode 1 and Mode 2 for Package A is equal, then BHEL shall opt for Mode 2 for award of all Packages.
 - h. Packages A & Package B shall be awarded as per following steps:

Step-1: Package A shall be awarded to L-1 Bidder, with acceptable L-1 rates to BHEL.

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Chapter - VIII: Price Bid and Modality of Award

Step-2: For the award of Packages B:

Finalized L-1 rates shall be counter offered to the other bidders in the order of Price Competitiveness (i.e. L-2, L-3 and henceforth). The bidder accepting the L1 rates shall be considered for awarding of Package B. The unit rates of Package A as derived from L-1 rates shall be applicable for unit rates of Package B and accordingly Total awarded value of Package B shall be calculated.

Step – 3: In case, none of the bidders agrees to match the finalized L-1 rates for Package-B, then BHEL, at its discretion reserves the right to 'not to award the Package-B' or 'award Package B to L-1 Bidder (to whom Package A is awarded) subject to the fulfilment of "annual production capacity" criteria for the execution of the package.

- i. For this procurement, purchase preference to MSE-MII shall be in line with Office Order No. F. No. DPE/3(3)/10-Fin dated 29.05.2023 forwarded by Department of Public Enterprises against Department of Expenditure O M No. F.1/4/2021-PPD dated 18.05.2023. In case of subsequent orders issued by the nodal ministry, changing the definition of MSE, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.

8.3 Instructions to the bidders

- I. BHEL has pre-fixed the Weightage/Factor as detailed above in this chapter for deriving the Unit Rates. By multiplying BHEL pre-fixed Weightages / Factor and the total quoted prices; Total amount of individual items shall be derived. Unit Rate/Item Rate shall be arrived upon dividing the total amount of individual items and the weight of the individual item.
Unit Rate/Item Rate thus arrived shall be rounded off to two decimal places.
- II. Bidders to note that the subject tender is an item rate contract. Payment shall be made for the actual quantities of work executed at the unit rate arrived above.
- III. For the convenience of bidders, BHEL has issued an excel sheet with all the requisite formulae as described above. However, the referred excel sheet shall not form part of contract document. Further, this sheet should not be uploaded at the e-Portal.
- IV. Delivery Terms: Suppliers shall quote on F.O.R. Destination basis (including Freight, Packaging and Forwarding charges). Offers other than F.O.R. Destination Basis will not be accepted by BHEL.

- V. **Liquidated Damages**, wherever referred under this Tender/Agreement, shall mean and refer to the damages, not in the nature of penalty, which the contractor agrees to pay in the event of delay in delivery of supplies, breach of contract etc. as the case may be.

Liquidated Damages leviable upon the Supplier/Vendor is a sum which is agreed by the parties as a reasonable and genuine pre-estimate of damages which will be suffered by BHEL on account of delay/breach on the part of the Supplier/Vendor.

If the Seller/Service Provider fails to deliver any or all of the Goods/Services within the original/re-fixed delivery period(s) specified in the contract/PO, the Buyer/BHEL will be entitled to deduct/recover the Liquidated Damages for the delay, unless covered under Force Majeure conditions aforesaid, @ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of delayed quantity without any controversy/dispute of any sort whatsoever.

- VI. Short Closure: BHEL may short close the contract at any stage of the contract/extended period without assigning any reasons to the bidder.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VIII: Price Bid and Modality of Award

- VII. Bidder shall necessarily submit the following details, along with bid document, in the given formats:
- a. Duly Filled Vendor's Proposal and Evaluation Report. Format - P4F1R0.
 - b. Duly Filled Vendor Questionnaire. Format - P4F2R0.
 - c. Valid Factory Registration certificate.
 - d. Overall Organization Chart with Manpower details (Design, Manufacturing, Quality etc.).
 - e. Supply reference list indicating similar product supply order reference no., customer name, rating of product, date /year of supply, date / year of commissioning.
 - f. Source of Raw Material.
 - g. List of Qualifies Welder and NDT personals with Vendor.
 - h. List of Manufacturing Equipment available with vendor.
 - i. List of Testing Equipment available with vendor.
 - j. Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any.
 - k. Details of Outsourced Manufacturing Processes, if any.
 - l. Quality control exercised during receipt, in-process & final inspection.
 - m. Product Satisfactory performance feedback letter/End user Certificate.
 - n. Copy of ISO 9001 Certificate.
 - o. Compliance of Statutory requirements (As applicable).
 - p. The factory of the bidders shall be inspected by BHEL in line with the TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL STRUTURES provided under Annexure-A. The bidders complying to all the necessary requirements as mentioned in the Annexure only shall be considered for the final inspection by BHEL and NTPC.
 - q. After inspection of the Factory by BHEL, a team of members comprising of BHEL & NTPC may visit fabrication shop for checking eligibility/competency of shop. Approval from BHEL/NTPC is required before start the fabrication job. In any discrepancy Vendor shall be complied as per BHEL/NTPC requirement at any stage of job.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IX: Taxes and Duties

9.0	TAXES & DUTIES
9.1	<p>The Supplier/Vendor shall pay all (save the specific exclusions as enumerated in this clause) taxes, fees, license, charges, deposits, duties, tools, royalty, commissions, other charges, etc. which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes/duties, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit along with the applicable overheads @5% and interest on the total value (i.e. amount paid by BHEL + overhead).</p> <p>However, provisions regarding GST on output supply (goods/service) and TDS/TCS as per Income Tax Act shall be as per following clauses.</p>
9.2	GST (Goods and Services Tax)
9.2.1	GST as applicable on output supply (goods/services) are excluded from Supplier/Vendor's scope; therefore, contractor's price/rates shall be exclusive of GST. Reimbursement of GST is subject to compliance of following terms and conditions. BHEL shall have the right to deny payment of GST and to recover any loss to BHEL on account of tax, interest, penalty etc. for non-compliance of any of the following condition.
9.2.2	The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL & its Supplier/Vendor . BHEL shall not consider GST on any transaction other than the direct transaction between BHEL & its Supplier/Vendor .
9.2.3	Supplier/Vendor shall obtain prior written consent of BHEL before billing the amount towards such taxes. Where the GST laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL shall have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Supplier/Vendor .
9.2.4	Supplier/Vendor has to submit GST registration certificate of the concerned state. Supplier/Vendor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.
9.2.5	Supplier/Vendor has to issue Invoice/Debit Note/Credit Note indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder.
9.2.6	Supplier/Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, vendor has to provide scan copy of invoice & GR/LR/RR to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions.
9.2.7	Supplier/Vendor has to ensure that invoice in respect of such services which have been provided/completed on or before end of the month should not bear the date later than last working day of the month in which services are performed.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IX: Taxes and Duties

9.2.8	<p>Subject to other provisions of the contract, GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Supplier/Vendor: -</p> <ol style="list-style-type: none"> Supply of goods and/or services have been received by BHEL. Original Tax Invoice has been submitted to BHEL. Supplier/Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order. In cases where e-invoicing provision is applicable, Supplier/Vendor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder. Supplier/Vendor has filed all the relevant GST return (e.g. GSTR-1, GSTR-3B, etc.) pertaining to the invoice submitted and submit the proof of such return along with immediate subsequent invoice. In case of final invoice/ bill, contractor has to submit proof of such return within fifteen days from the due date of relevant return. Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice and in GSTR-2B of the month in which such invoices has been reported by the contractor along with status of ITC availability as "YES" in GSTR-2B. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the Supplier/Vendor. Supplier/Vendor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.
9.2.9	Any financial loss arises to BHEL on account of failure or delay in submission of any document as per contract/purchase order/work order at the time of submission of Tax invoice to BHEL, shall be deducted from Supplier/Vendor's bill or otherwise as deemed fit.
9.2.10	TDS as applicable under GST law shall be deducted from Supplier/Vendor's bill.
9.2.11	Supplier/Vendor shall comply with the provisions of e-way bill wherever applicable. Further wherever provisions of GST Act permit, all the e-way bills, road permits etc. required for transportation of goods needs to be arranged by the Supplier/Vendor .
9.2.12	Supplier/Vendor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any other liability on account of failure of Supplier/Vendor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder.
9.2.13	In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/alterd/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Supplier/Vendor's due payment.
9.2.14	Any denial of input credit to BHEL or arising of any tax liability on BHEL due to non-compliance of GST Law by the Contractor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Supplier/Vendor .

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IX: Taxes and Duties

9.2.15	In the event of any ambiguity in GST law with respect to availability of input credit of GST charged on the invoice raised by the Supplier/Vendor or with respect to any other matter having impact on BHEL, BHEL's decision shall be final and binding on the Supplier/Vendor .																															
9.2.16	<p><u>Variation in Taxes & Duties:</u></p> <p>Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability.</p> <p>In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its contractor only and within the contractual delivery period only.</p> <p>In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/ Supplier/Vendor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.</p>																															
9.3	<p><u>Income Tax:</u></p> <p>TDS/TCS as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from Supplier/Vendor's bill.</p>																															
9.4	<p><u>List of state wise GSTIN Nos. of BHEL is as follows:</u></p> <table border="1"> <thead> <tr> <th>Sl. No</th><th>Projects under state</th><th>GSTIN</th></tr> </thead> <tbody> <tr> <td>1</td><td>Andhra Pradesh</td><td>37AAACB4146P7Z8</td></tr> <tr> <td>2</td><td>Bihar</td><td>10AAACB4146P1ZU</td></tr> <tr> <td>3</td><td>Chhattisgarh</td><td>22AAACB4146P1ZP</td></tr> <tr> <td>4</td><td>Gujarat</td><td>24AAACB4146P1ZL</td></tr> <tr> <td>5</td><td>Jharkhand</td><td>20AAACB4146P5ZP</td></tr> <tr> <td>6</td><td>Madhya Pradesh</td><td>23AAACB4146P1ZN</td></tr> <tr> <td>7</td><td>Maharashtra</td><td>27AAACB4146P1ZF</td></tr> <tr> <td>8</td><td>Orissa</td><td>21AAACB4146P1ZR</td></tr> <tr> <td>9</td><td>Telangana</td><td>36AAACB4146P1ZG</td></tr> </tbody> </table>		Sl. No	Projects under state	GSTIN	1	Andhra Pradesh	37AAACB4146P7Z8	2	Bihar	10AAACB4146P1ZU	3	Chhattisgarh	22AAACB4146P1ZP	4	Gujarat	24AAACB4146P1ZL	5	Jharkhand	20AAACB4146P5ZP	6	Madhya Pradesh	23AAACB4146P1ZN	7	Maharashtra	27AAACB4146P1ZF	8	Orissa	21AAACB4146P1ZR	9	Telangana	36AAACB4146P1ZG
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ANNEXURE - A

TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL STRUTURES			
Sr. No	Characteristic		Check List
1	License	a	Availability of factory registration license, GST Registration and other statutory licenses/permissions etc.
2	Quality management	a	Availability of work instruction/procedures for critical activities & its implementations.
		b	ISO 9001:2008 or equivalent valid certification.
		c	Availability of Effective System of Internal Audit.
3	Raw Material control	a	Incoming raw material acceptance -MTC review records available
		b	Availability of material correlation/identification procedures & its implementations by hard punching with protective coating/by record keeping/painting etc.*
		c	Storage/stacking of raw material-in organized manner or elevated platform with proper identification.
4	Material handling	a	Availability of EOT crane/ Gantry Crane of required capacity to handle maximum Load required for movement.
		b	Availability of gantry cranes/Hydra/other handling equipment's capable to handle proposed heaviest component (if required other than EOT crane)
5	Handling of weld consumables	a	Availability of calibrated baking oven, holding oven & portable ovens (in sufficient quantities)
		b	Proper storage of weld consumables or racks & other controlled conditions.
		c	Weld consumables handling: Issue/return of electrodes from store properly documented/recorded.
6	Welding qualification	a	Availability of qualified WPS & PQR.
		b	Availability of sufficient no of qualified welders.
		c	Availability of welder performance monitoring/defect rate monitoring systems.
7	Quality Records	a	Randomly on verification of documents for one or two order executed, availability of proper quality related documents.
8	Machinery	a	Availability of sufficient no of SAW welding machines.
		b	Availability of sufficient number of GTAW welding machines.
		c	Availability of sufficient number of welding machinery-SMAW/GTAW/FCAE etc.
		d	Availability of CNC plasma/torchy cutting machines/profile cutting machines.

ANNEXURE - A

TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL STRUTURES			
Sr. No	Characteristic		Check List
		e	Availability of PUG/Gas cutting machines
		f	Availability of radial drilling machine, lath Machine & rolling machine-capacity matching to proposed thickness & size of component.
		g	Availability of weld edge preparation/bevel end cutting machines
		h	Availability of CNC multi axis drilling machine-at least two axis drilling simultaneously and end milling machine-capacity matching to proposed size/thickness of component.
9	Spare/Inspection n Area	a	Availability of said levelled floor for trail assembly adequate for proposed size of components with required material handling capacity
		b	Availability of sufficient size of covered shed with concrete platform for fabrication activities.
9	NDT/HEAT treatment/hydro/ leak test facility	a	Availability of Heat Treatment /Stress Relieving facility-outsourced to other agency/In house facility.
		b	Availability of Beam straightening machine
		c	Availability of DPT/MPI facility-in house /outsourced to other agency
		d	Availability of RT facility-in house/outsourced (as applicable)
		e	Availability of UT facility-in house/outsourced (however done inside vendors own works)
		f	Availability of RT film viewer/dark room, densitometer, reference photograph etc. if RT is done
10	Professional qualification/quality manpower	a	Availability of qualified & experience manpower for quality.
		b	Availability of qualified welding inspectors.
		c	Availability of DP/MPT Level II qualified personal.
		d	Availability of RT level II qualified personal if applicable.
		e	Availability of UT level II qualified personal if required.
11	Testing facility	a	Availability of In house/outsourced testing facilities for chemical testing by Spectro/PMI.
		b	Availability of In house/outsourced testing facilities like UTS% elongation/ben/impact testing /hardens etc.

ANNEXURE - A

TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL STRUTURES			
Sr. No	Characteristic		Check List
		c	Availability of calibrated tape/laser beam instruments to measure long column length for proto /assembly
		d	Availability of calibrated weld gauge, Vernier, micrometer & measuring instruments
		e	Availability of calibration status of major equipments and measuring instruments.
12	Surface cleaning & painting	a	Availability of covered shot/grit blasting facility with air compressor, mechanism to segregate fine shot (Sieves) shots/grits re-collection mechanism, surface compactor/surface roughness meter etc.
		b	Availability of in-house painting facility (separate covered area) airless gun for painting etc.
		c	Availability of in-house testing facility, paint thickness & paint adhesion.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Annexure-B

2.17 PRICE VARIATION COMPENSATION

PVC shall be applicable for entire contract period and extended period if any. For balance items the awarded rates mentioned therein shall remain firm for entire contract period/extended period if any.

2.17.1 In order to take care of variation in cost of execution of work on either side, due to variation in the index of LABOUR, HIGH SPEED DIESEL OIL, WELDING ROD, CEMENT, STEEL, PAINT MATERIALS, Price Variation Formula as described herein shall be applicable

2.17.2 85% component of Contract Value shall be considered for PVC calculations and remaining 15% shall be treated as fixed component. The basis for calculation of price variation in each category, their component, Base Index, shall be as under:

SL NO.	CATEGORY	INDEX/ AVERAGE MINIMUM WAGE	PERCENTAGE COMPONENT ('K')		
			FABRICATION Material in BHEL scope	FABRICATION Material in Agency scope	For Paint and Blasting Paint and Consumable are in Agency scope.
i)	LABOUR (ALL CATEGORIES)	'MONTHLY ALL-INDIA AVERAGE CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS' published by Labour Bureau, Ministry of Labour and Employment, Government of India. (Website: labourbureau.nic.in)	65	18	65
ii)	WELDING ROD	Name of Commodity: MANUFACTURE OF BASIC METALS Commodity Code: 1314000000	15	5	5
iii)	HIGH SPEED DIESEL	Name of Commodity: HSD Commodity Code: 1202000005	5	2	0
iv)	STEEL (Structural)	Name of Commodity: MILD STEEL: LONG PRODUCTS	0	60	0

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Annexure-B

		Commodity Code: 1314040000			
V)	PAINT	Name of Commodity: PAINT Commodity Code: 1310050000	0	0	15

2.17.3 As per the 'MONTHLY WHOLE SALE PRICE INDEX' for the respective Commodity and Type, published by Office of Economic Adviser, Ministry of Commerce and Industry, Government of India. (Website: eaindustry.nic.in). Revisions in the index or commodity will be re-adjusted accordingly.

2.17.4 Payment/recovery due to variation in index shall be determined on the basis of the following notional formula in respect of the identified COMPONENT ('K') viz LABOUR, HIGH SPEED DIESEL OIL, WELDING ROD, CEMENT, STEEL, PAINT, MATERIALS.HSD

$$P = K \times R \times \frac{(X_N - X_o)}{X_o}$$

X_o

Where,

P = Amount to be paid/recovered due to variation in the Index for Labour, High Speed Diesel Oil, Welding Rod, Paint, Cement, Steel and Materials

K = Percentage COMPONENT ('K') applicable for Labour, High Speed Diesel Oil, Welding Rod, Paint, Cement, Steel and Materials

R = Value of work done for the billing month (Excluding Taxes and Duties if payable extra)

X_N = Revised Index for Labour, Revised Average Minimum Wages for Labour, Revised Index for High Speed Diesel Oil, Welding Rod, Paint, Cement, Steel and Materials for the billing month under consideration

X_o = Index for Labour, Average Minimum Wages for Labour, Index for High Speed Diesel Oil, Welding Rod, Paint Cement, Steel and Materials as on the Base date

2.17.5 PVC shall not be payable for Supplementary/Additional Items, Extra works. However, PVC will be payable for items executed under quantity variation of BOQ items under originally awarded contract.

2.17.6 Base date shall be the calendar month of the 'last date of bid submission'.

2.17.7 The contractor shall furnish necessary monthly bulletins in support of the requisite indices from the relevant websites along with his Bills.

2.17.8 The contractor will be required to raise the bills for price variation payments on a monthly basis along with the running bills irrespective of the fact whether any increase/decrease in the index for relevant categories has taken place or not. In case there is delay in publication of bulletins (final figure), the provisional values as published can be considered for payments and arrears shall be paid/recovered on getting the final values.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Annexure-B

2.17.9 PVC shall be applicable for the entire original contract period plus the extended period, i.e. for the complete execution period, as follows:

For PVC computation of the n^{th} month:

Let the cumulative delay attributable to the Contractor is D_n in the n^{th} month as per Form-14.

Considering R_n as the billing value for the n^{th} month, PVC for the n^{th} month shall be calculated as follows:

- a) PVC for the portion of R_n for an amount of $D_{(n-1)}$ shall be payable as per indices for the $(n-1)^{\text{th}}$ month.
- b) PVC for the balance portion of R_n shall be payable as per indices for the n^{th} month

In case $D_{(n-1)}$ is greater than R_n , then entire R_n shall be payable as per indices for the $(n-1)^{\text{th}}$ month and the balance portion of $D_{(n-1)}$ shall be adjusted from $R_{(n+1)}$ of the $(n+1)^{\text{th}}$ month and will be payable as per indices for the $(n-1)^{\text{th}}$ month. The above process shall be continued for subsequent month(s) also till full $D_{(n-1)}$ is consumed.

- i) For milestones mentioned in the contract, PVC shall be applicable as per average of the indices from the month of base date till the month of execution of milestone.
- ii) PVC shall not be applicable for time extension provided for the delays solely attributable to the contractor. No PVC is payable during the period of Provisional Time Extension till grant of final time extension. Applicability of PVC will be decided at the time of grant of final time extension.
- iii) The total amount of PVC shall not exceed 15% of the cumulatively executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works except items due to quantity variation.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Annexure-C

SECURITY FOR FREE ISSUE MATERIAL CLAUSE: For Mode 1 only

1.0 SECURITY FOR FREE ISSUE OF BHEL'S MATERIAL

Successful bidder shall submit the security for free issue material to BHEL in the following forms:

- i. Cash (as permissible under the extant Income Tax Act).
- ii. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL.
- iii. Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Consultant furnishing the security and duly endorsed/ hypothecated / pledged, as applicable, in favour of BHEL).
- iv. Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format for Security Amount shall be in the prescribed formats. The validity of BG shall be initially for the contract period. The BG shall be extended up to completion of Work (in case of extension if any).
- v. Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Consultant, a/c BHEL).
- vi. Insurance Surety Bonds.

Such security shall be provided by successful bidder/Fabricator for 25% raw steel material value, identified to be issued to the Fabricator against Purchase Order (PO). The value of raw steel materials (including all expenses) shall be decided by BHEL Singrauli Site/Region and shall be intimated to the bidder before every quarter. Tentative Rolling plan for supply of Raw Steel is 2000 MT each for both the packages.

The Security required for execution of the Purchase Order (PO) should be submitted in following Stages: -

Stage 1 Security:

a) Stage 1 Security equivalent to the 25% of Raw steel material value of 1000 MT approx. for execution of the Purchase Order (PO) should be submitted within a period of 15 days from the date of intimation by BHEL PS Region to Fabricator for submission of Stage 1 Security'. This Security must be kept valid till completion of supply of all finished goods as per contract.

Stage 2 Security:

b) Stage 2 Security/s equivalent to the 25% of Raw steel material value for material beyond 1000 MT for execution of the Purchase Order (PO) should be submitted within a period of '15 days from the date of intimation by BHEL PS Region to Fabricator for submission of Stage 2 Security/s for material quantity to be supplied. This Security/s must be kept valid till completion of supply of all finished goods as per contract.

Important Note:

1. BHEL will supply raw steel material after receipt of Security from fabricator. Supply of Raw Steel Material will start after receipt of Stage-1 Security. At any point of time, BHEL shall not supply Raw Steel without any Security.
2. If the successful fabricator decides to provide the Security cited in Stage 1 & 2 as a single Security or combination of 2 Securities, they may do so without affecting other aspects of the contract/PO.
3. BG shall have a claim period of 3 months in addition to the contract or termination of contract whichever is later.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Annexure-C

2.1 BHEL PS Region shall intimate the agency for submission of Bank Guarantee. On intimation to the Fabricator regarding submission of required Security (which includes Stage – 1 and 2) and if the Fabricator does not submit the required Security within timeline stipulated in above clauses, BHEL shall take appropriate contractual action.

2.2 Bank Guarantee to the specified value for the safe custody of the materials issued by BHEL is to be executed by any one of the banks in the List of Consortium of Banks or Nationalized banks on behalf of the Fabricator. Also, the above bank guarantee shall be executed on a non-judicial stamp paper of value Rs.100/- as per BHEL's bank guarantee format attached in Annexure Bank Guarantee.

2.3 BHEL reserves the right to recover any cost arise for the reason attributable to Vendor from RA Bills, Security against free issue material and against Performance Guarantee. If the recovery amount is more than the pending bills, the difference amount should be settled immediately by Vendor by submitting Demand Draft(s)/Cheque amounting to balance amount, in favour of BHEL/ PS Region.

2.4 Necessary Bank Guarantee (BG) / Fixed Deposit Receipt (FDR)/ Insurance surety bond should be furnished and renewed in time. In case, contractor fails to extend the BG/FDR, BHEL shall be entitled to encash the BG/FDR.

2.5 Diversion/Cancellation of P.O.: In case of delay in delivery beyond PO delivery / mutually agreed delivery, or Fabricator fails /refuses to complete the PO as per terms, or insufficient facilities at Fabricator's works to execute a PO, BHEL has the right to get the items ordered elsewhere with notice to the Fabricator; and the additional expenditure / difference in cost, if any, including consequential cost shall be recovered from the defaulted Fabricator. Also, in such case of withdrawal of orders, Fabricator shall return full material in condition as issued to them by BHEL for executing the job; otherwise, BHEL shall recover full material cost and conversion cost (in case of part processed items) from Fabricator by adjusting against amount due to Fabricator and/or by invoking the Securities and/or by any other suitable means as decided by BHEL. In addition, BHEL shall be taken action as per latest revision of BHEL Guidelines for Suspension of Business dealings with Suppliers / Contractors. Fabricators are requested to visit http://www.bhel.com/vender_registration/pdf/Suspension_guidelines_adbridged.pdf for details of BHEL Guidelines for Suspension of Business dealings with Suppliers / Contractors.

2.7 All the materials of BHEL shall under no circumstance be sold/hypothecated to any bank or to any lending institution or to any party whomsoever. Such materials should not be shown as the Subcontractor's assets in any of the statements of the Fabricator to any party.

2.8 The default Fabricator shall be liable for any loss, which BHEL may sustain, in addition to liquidated damages as mentioned above.

2.9 No compensation shall be given to the Fabricator, in case of cancellation/diversion of PO(s) even if the jobs have been processed partly.

ANNEXURE – D

DECLARATION BY BIDDERS (Selection of Mode)

Job Description:	Fabrication and Supply of Factory Finished Fabricated Structure of Power House, Common Control Room, Mill Bunker Structure (Columns, Bracings, Wall beams, Floor Beams, Trusses etc.) up-to Project Site, based on input design & detailed drawing provided by BHEL and where most of the raw material supply is in BHEL scope, and as specified in scope / BOQ of Unit#1 and Unit#2. for 2x800 MW NTPC Singrauli (Stage-III), Shakti Nagar, Uttar Pradesh State India.	
MODES AS PER TCC CLAUSE NO. 2.1	Bidders to mandatorily mention: (YES / NO)	
Quoted for MODE-1 Package-A	
Quoted for MODE-2 Package-A	

Note:

1. Price Bids of only those bidders shall be opened, who stands qualified after compliance of criteria detailed under PQR.
2. Price Bid(s) submitted by bidder for Mode-1 and / or Mode-2 shall be opened based on the declaration by the bidder(s).
3. **Mode against which Bidders have mentioned “No”, those price bid shall not be opened and bidders shall be disqualified for those mode.**

(Signature, Date & Seal of Bidder)