

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Fabrication & Supply of Factory Finished Fabricated Structure of Boiler Ceiling Girder Structure, with associated beams, bracings and misc structures, up-to Project Site, with supply of Raw material based on input design & detailed drawing provided by BHEL as specified in scope / BOQ of Unit#1 & 2 for 2x800 MW DVC Koderma (Stage-II), Koderma, Dist-Koderma, Jharkhand, India.

BHARAT HEAVY ELECTRICALS LIMITED



TECHNICAL CONDITIONS OF CONTRACT (TCC)

Table of Content

S.No.	DESCRIPTION	CHAPTER
Volume-IA	Part-I: Contract specific details	
1	Project information	Chapter-I
2	Scope of works	Chapter-II
3	Time schedule	Chapter-III
4	Terms of payment	Chapter-IV
5	Welding, Radiography, NDT, PWHT	Chapter-V
6	Preservation & Protection of components	Chapter-VI
7	Exclusion	Chapter-VII
8	Price Bid and Modality of award	Chapter-VIII
9	Taxes and Duties	Chapter - IX

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Table of Content

LIST OF ABBREVIATIONS AND THEIR DESCRIPTION

SL. No.	ABBREVIATION	DESCRIPTION
1	PGMA	Product Group Main Assembly
2	DC	Delivery Challan
3	DR	Dimension Report
4	IR	Inspection Report
5	NS	Nature of Supply
6	DU	Despatch-able Unit
7	MPI	Magnetic Particle Inspection
8	LPI	Liquid Penetrant Inspection
9	QP	Quality Plan
10	QCP	Quality Control Procedure
11	QWI	Quality Work Instructions
12	DTS	Direct To Site
13	PMD	Product Material Directory
14	PO	Purchase Order
15	TC	Test Certificate
16	GST	Goods & Services Tax
17	CQP	Customer Quality Plan
18	TDC	Technical Delivery Condition
19	EPS	E-PROCUREMENT SYSTEM

Annexures

SI No	Description	Remarks
1	Tentative Requirement of Factory	Annexure-A
2	Price Variation Clause	Annexure-B
3	Format for Details of PO/WO Executed by Vendor	Annexure-1
4	Declaration by Bidder	Annexure-1A
5	Customer approved Vendor List E-60, clause 19.1 of Customer GCC and QA approved supplier - steel, List of approved suppliers – steel, paint, Fastener, etc.	Annexure-2A, 2B & 2C
6	Vendor's Proposal Cum Evaluation Report- P4F1R0	Annexure-3
7	Vendor Questionnaire- P4F2R0	Annexure-4
8	Sample Drawings & Tentative material weight break-up	Annexure-5
9	Detailed guidelines for trial assembly and surface matching	Annexure-6
10	Quality Document – MQP & Categorization List	Annexure-7
11	Painting Schedule	Annexure-8

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: Project Information

1. Project Information:

Sl. No.	Description	Details
1	Project Title	2x800MW KODERMA THERMAL POWER STATION (KTPS) Stage-II
2	Customer	Damodar Valley Corporation (DVC)
3	Location	<p>The Koderma Thermal Power Station project is located near Benjhidi Village of Koderma District in Jharkhand. National Highway NH-19, which is referred to Delhi-Kolkata highway is about 25 Km from the Site. The nearest National Highway NH- 20 is about 8 Km from the site.</p> <p>The Site is located at latitudes of 24°23'00" N and longitudes of 85°33'15" E respectively.</p> <p>The Site can be approached from District Head Quarters through National Highway NH-20 and thereafter the internal road of the town</p> <p>Town/City: Nearest Town Koderma- About 7 Km</p> <p>District Head Quarters Koderma Collectorate - About 16 Km</p> <p>Nearest Major Town Hazaribagh- About 60 Km</p> <p>Nearest Major City Gaya About 115 Km</p>
4	Nearest Airport	<p>The nearest airport is Gaya Airport at Bodh Gaya at about 108 Km from the project site.</p> <p>Other Important Commercial Airport is Birsa Munda International Airport Ranchi at about 170 Km from the project site.</p>
5	Access by Road/Major Cities	National Highway NH-19, which is referred to Delhi-Kolkata highway is about 25 Km from the Site. The nearest National Highway NH- 20 is about 8 Km from the project.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - I: Project Information

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/otherwise 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.								
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: <table><tr><td>Name:</td><td>Rikash Jyoti Dutta</td></tr><tr><td>Designation:</td><td>DGM</td></tr><tr><td>Email:</td><td>rijd@bhel.in</td></tr><tr><td>Contact no:</td><td>9831073012</td></tr></table>	Name:	Rikash Jyoti Dutta	Designation:	DGM	Email:	rijd@bhel.in	Contact no:	9831073012
Name:	Rikash Jyoti Dutta								
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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

2.0	Scope of Works:
2.1	<p>Fabrication and Supply of Factory Finished Fabricated Structure of Boiler Ceiling Girder Structure, with associated beams, bracings and miscellaneous structures, up-to Project Site, with supply of Raw material based on input design & detailed drawing provided by BHEL as specified in scope / BOQ of Unit#1 & 2 at 2x800 MW DVC Koderma (Stage-II) which includes procurement of material, Auto weld structures, fabrication of structure in a customer approved shop as per specification including painting as per applicable corrosivity class mentioned in specification.</p> <p>Vendor Scope:</p> <ol style="list-style-type: none"> Raw Material procurement. Fabrication. Heat Treatment, NDT Blasting and painting. All Consumables incl paint and electrode. Transportation of finished goods to project site from vendor works. <p>Material Specification: Raw materials and consumables required for fabrication shall be procured by Vendor. Procurement of Raw materials shall be as per raw material specifications given in drawings and applicable Technical Delivery Conditions (TDC)/Purchase Order (PO) & Quality Work Instructions (QWI) and quantities as per Drawings/GMS (Group Manufacture Specification) which shall be issued by BHEL during Execution of contract.</p> <p>Type of Structures: As mentioned in PGMA list.</p> <p>NOTE: Preparation of detailed drawing for fabrication is not in the scope of agency, in general and shall be provided by BHEL.</p>
2.2	<p>The entire quantum of work is covered under BOQ cum Rate Schedules (BOQ mentioned in tender).</p> <p>Procurement and Fabrication: Procure raw materials as per Technical Delivery Condition (TDC) and fabricate components in accordance with BHEL drawings, quality plans, work instructions, and paint specifications. Execute any special processes, such as heat treatment or non-destructive testing (NDT) techniques like ultrasonic testing (UT) and radiographic testing (RT). Offering Jobs to the BHEL Authorized Inspection Agency (AIA), BHEL Quality Control, or customers for inspection if applicable, accompanied by all necessary supporting documentation, as per the applicable quality plan. Fabrication of Ceiling Girders, Cross Girders, Welded Beams, Bracings, Structures, Sheets, Pins, Rods, etc. with procurement of material is in the scope of Vendor.</p> <p>Delivery requirement: The items covered in the tender is to be dispatch progressively to site within the PO(s) delivery schedule. Vendors shall follow the fabrication and delivery sequence as per trial assembly required for the job.</p>
2.3	<p>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</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

	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.
2.4	All incidental works, not specified but reasonably implied and necessary for completion of scope of work shall be in the scope of agency.
2.5	Receipt, Unloading, 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.
2.6	Vendor shall have inhouse weigh bridge facility or third party tie up with weight bridge (preferably) within the factory vicinity of 5 KM. Such weighbridge capacity shall not be less than 100 MT. Weighment tolerance shall be 70 Kg for minimum truck load of 20 MT and above.
2.7	BHEL resident engineer shall duly verify the raw material received at Vendor’s works. The record keeping of all the documents related to raw/finished material shall be in the vendor scope.
2.8	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.
2.9	For all the materials which are procured by vendor, Vendor shall produce all relevant documents such as Material test certificate, LR copy, Inspection reports etc.. 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.
2.10	BHEL may post its own employees/representatives 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 by successful Vendor for official use. Further, suitable transportation facility shall be arranged by vendor for the BHEL employees/representatives for “To and FRO” movement from residing Location from nearby city to Fabrication Location.
2.11	Fabrication, welding, destructive/non-destructive test and any other tests as per approved Quality plan and/or CUSTOMER/BHEL requirement, shall be the liability of vendor.
2.12	Straightening, making cutting plan, cutting, bending, rolling, grinding, drilling, bolting, welding, alignment, temporary pre assembly- full length of Ceiling Girder (Trial assembly-piece wise), 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, DPT and MPT of Plates as applicable), rectification and correction of defective welding works, production of test plate, inspection and testing as per erection scheme shall be in scope of vendor.
2.13	All Materials shall be procured from the CUSTOMER approved sources only as detailed in Annexure-2A, 2B & 2C

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

2.14	<p>Preassembly, 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/ CUSTOMER may visit Vendor's factory for inspecting the Trial Pre-assembly activity. Vendor has to perform trial assembly and surface matching as per Annexure-6 (Detailed guidelines for trial assembly and surface matching)</p> <p>Weight of the heaviest component is approx. 70 MT which may vary slightly upon finalization of the detailed drawings.</p>
2.15	<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>
2.16	Shop Works:
2.16.1	<p>The fabricated item shall be temporarily shop-erected/shop assembled complete or as directed by the Engineer so that accuracy of fit may be checked before dispatch. The parts shall be shop-erected/shop assembled 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 fabricated item shall be shop-erected/shop assembled in such a way as will facilitate the check of interchange ability.</p>
2.16.2	<p>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.</p>
2.16.3	<p>After award of work, BHEL at its own discretion on mutually agreed terms 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. Vendor 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.</p>
2.16.4	<p>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.</p>
2.17	Inspection/Testing of Fabricated items
2.17.1	<p>Separate storage area shall be allotted by Vendor for BHEL Material. Separate engineer shall be allocated by vendor for BHEL Contract.</p>
2.17.2	<p>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 as per BHEL/Customer Approved "Quality Plan" which shall form part of the contract.</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

2.17.3	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.
2.17.4	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.
2.17.5	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.
2.17.6	Before sending written notice to the BHEL/CUSTOMER’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.
2.17.7	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.
2.17.8	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.
2.17.9	The vendor shall provide test pieces as required by Inspection agency to enable them 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.
2.17.10	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.
2.17.11	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.
2.17.12	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.
2.17.13	Unless the Inspection / Test is waived, the inspection agency shall attend the Inspection / Test within 7 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 to inspection agency. After successful completion of the Inspection / Test or receipt of Vendor’s Test reports mentioned above, the Inspection agency shall issue the acceptance certificate within 7 days.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

2.18	Quality Plan
2.18.1	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 manufacturing 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.
2.18.2	The Vendors shall furnish the Quality Plan for approval from BHEL/CUSTOMER. Standard Quality plans provided by BHEL as per Annexure-7 , the Vendor shall furnish his Quality Plan strictly in line with the same.
2.18.3	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.
2.18.4	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: <ul style="list-style-type: none"> a) All bought out items and incoming material checks carried out at sources and on receipt. 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.
2.18.5	Inspection of packages shall be carried out by agency as per below Inspection category of packages as mentioned in Annexure 7: <ul style="list-style-type: none"> a) Cat I: - Inspection shall be done jointly by CUSTOMER or its representative, 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. 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.
2.18.6	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/CUSTOMER. Welding consumables used shall be approved by the inspection agency.
2.18.7	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 vendor at no extra Cost to BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

2.18.8	Quality documents & Technical Delivery Condition (TDC)		
	DOC TYPE	DESCRIPTION	DOC REF (LATEST REVISIONS TO BE REFERRED)
	STANDARD QUALITY PROCEDURE (SQP)	BOLTED STRUCTURES	SQPNP27
		GENERAL STRUCTURES	SQPNP07
	QUALITY CONTROL PROCEDURE (QCP)	NON- PRESSURE PARTS	QCP002
	STANDARD INSPECTION PROCEDURE (SIP) & CIP	PROCEDURE FOR VISUAL INSPECTION OF NON-PRESSURE PARTS	SIPNP06
		WELDING/WELDER QUALIFICATION FOR STRUCTURAL APPLICATIONS	SIPNP07
		PROCEDURE FOR PWHT(LOCAL) AT BHEL VENDOR WORKS	SIPNP11
		REMOTE INSPECTION	SIPNP24
		TRIAL ASSY OF COLUMNS, CEILING GIRDERS, MONORAIL & RUNWAY BEAMS	SIPNP02
		TRIAL ASSY PROCEDURE FOR BOLTED STRUCTURE	SIPNP20
		PROCESS CONTROL OF WELDING OF COLUMNS & CEILING GIRDERS	CIP033
		STANDARD PAINTING SCHEME	SIPPP22 Rev 07
2.19	Material Dispatch Clearance Certificate (MDCC)		
2.19.1	When the tests have been satisfactorily completed at the vendor's works, the Inspection Agency shall issue a certificate to that effect within Seven (7) 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 Seven (7) days of the receipt of the test certificates by the Inspection Agency.		
2.19.2	Material Dispatch Clearance Certificate (MDCC) for Supply of Fabricated Structures shall be issued by Customer/BHEL before supply of finished material and it's the responsibility of vendor to arrange MDCC from BHEL/CUSTOMER. BHEL/CUSTOMER shall issue MDCC to the Vendor based on the QS Note/Report from the Inspection Agency.		
2.19.3	Vendor shall not dispatch any material before issue of MDCC by BHEL. Lorry Receipt (LR)/Goods Receipt (GR) posting will be done only on receipt of Material Dispatch		

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

	Clearance Certificate (MDCC). Wherever required, Vendors shall co-ordinate with the concerned official for MDCC.
2.19.4	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.
2.20	GENERAL INSTRUCTION FOR DISPATCH
2.20.1	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/CUSTOMER as per the categorization plan for the component.
2.20.2	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.
2.20.3	<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> <ol style="list-style-type: none"> Railway Receipt / Lorry Receipt as applicable Freight invoice FOR Invoice Packing List (No. of copies as required) Certificate of origin Letter to Insurer Quality Report/Quality surveillance note
2.20.4	<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 Korderma project, DVC Koderma Project, Near Benjhidi Village, Koderma District, Jharkhand PIN - 825421</p> <p>Note:</p> <ol style="list-style-type: none"> Consignee address in LR should be strictly as per above. 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 (DVC). Delivery note shall be carried by transporter along with other dispatch documents. <p>2) Road Permit Requirement: As per requirement. To be arranged by vendor.</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's works/warehouse to</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

	<p>BHEL site stores shall be arranged by BHEL.</p> <p>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 Koderma site office (address same as consignee address).</p> <p>Upon dispatch of material, supplier has to immediately intimate insurance underwriter of BHEL, failing which transit loss if any, would be borne by supplier.</p> <p>Vendor shall obtain details of Insurance agency & policy documents from BHEL prior to dispatch of first consignment of Fabricated material to site.</p> <p>Any shortages or damages during transit or transportation to site shall be made good/replenish by the Seller/Vendor at his costs, to meet the project schedule.</p> <p>In case of any transit damage to materials, the Vendor shall carry out the rectification/replenishment, and the amount realized from the insurance company shall be paid to Vendor. Vendor shall be liable to provide all documents to claim the damage from the insurance company.</p> <p>5) Packing:</p> <ol style="list-style-type: none">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.Loose pieces should be sent only by crate of appropriate size which is in the scope of Vendor. Dispatches of loose items i.e. up to 3m in Length and Individual weight less than 30kgs, should be packed in Crate and dispatch.Adequate packing shall be made by the Vendor to avoid any transit damages. The quoted rate shall be inclusive of this packing.Packing list shall be submitted as per standard format along with advance set of documents for claiming payment which shall also indicate:<ul 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> <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
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TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

	<p>expenditure shall be borne by the seller / vendor.</p> <p>c. Freight charges shall be borne by the seller / vendor.</p> <p>Any charges related to the transportation of fabricated material till site is to be borne by the seller / vendor.</p>
2.20.5	<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"> 1. Copy of vendor Invoice 2. Copy of Packing List Indicating Quantity / Gross weight/Net Weight and CUSTOMER approved BBU item no. wherever applicable against each item dispatched. 3. MDCC (Original BHEL/CUSTOMER MDCC, if applicable). 4. Customer Hold Point (CHP) issued by BHEL/CUSTOMER – Original (if applicable). 5. Insurance intimation copy. 6. Test certificate / Inspection Reports- Original. <p>B: For vendor payments, the following documents are required in 4 sets (1 original + 3 Copies):</p> <ol style="list-style-type: none"> 1. GST Compliance Invoice (1 Original + 2 copies). 2. Copy of insurance intimation letter / e-mail. (Intimation to Insurance agency to be sent on the same day of dispatch). 3. LR copy (consignee address shall be BHEL Project site). 4. Packing List indicating item description/quantity/Net Weight (Design Weight) against each item dispatched – wherever applicable. 5. Original Material Dispatch Clearance Certificate (MDCC) issued by BHEL/BHEL's Customer. 6. Guarantee Certificate – Original. 7. Material Receipt certificate by BHEL/site. 8. Original Inspection report (IRs) – with relevant painting/protocols/SB remarks – Duly signed by BHEL QC inspector and fabricator with seal. 9. Material test Certificate (MTC) (for raw material supplied by Vendor). 10. 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> <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> <ol style="list-style-type: none"> a) Invoice – duly signed by Vendor with seal. b) Invoice Annexures - duly signed by Vendor with seal. c) GST Invoice – Original for buyer and Duplicate for transporter copies d) Original Inspection Reports (IRs) – with relevant painting/SB remarks and

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

	ODC details (if applicable) - duly signed by BHEL QC inspector and Vendor with sign & seal.
2.21	MATERIAL RECEIPT CERTIFICATE (MRC): BHEL shall issue MRC (duly signed by the BHEL/CUSTOMER Site Engineer) after receipt of the material and its physical verification at site generally within 7 days. Vendor shall take alternate action for rectification in case of any non-conformity observed during physical verification.
2.22	SHORTAGES/DAMAGES: Any shortages or damages during transit or transportation to site shall be made good/replenish by the Seller/Vendor at his costs within 60 days from the date of intimation, 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 within 60 days from the date of intimation to enable the equipment to be put in service. In case of any transit damage to materials, the Vendor shall carry out the rectification/replenishment, and the amount realized from the insurance company shall be paid to Vendor. Vendor shall cooperate and provide all documents to claim the damage from the insurance company.
2.23	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 Twelve 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 within 60 days from the date of intimation. Alternatively, the rework/replacement charges shall be recovered from any payables to vendor, if necessary repair/rework or replacement of defective items are not done within reasonable time specified by BHEL and has been carried out by BHEL.
2.24	RAW MATERIAL PROCUREMENT
2.24.1	Vendors shall procure consumables such as Paints, welding electrodes etc. from BHEL approved sources (Refer Annexure 2A, 2B & 2C). Raw materials and consumables required for fabrication shall be procured by Vendor. Procurement of Raw materials shall be as per raw material specifications given in drawings and applicable Technical Delivery Conditions (TDC) & Quality Work Instructions (QWI) and quantities as per Drawings which shall be issued by BHEL during execution. Vendor to always refer the updated Annexure 2A, 2B & 2C .
2.24.2	STEEL Specifications: 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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

	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
	7.	IS2062 E250GRA/250BR/ E350BR/ E350B0	Steel Structure
	8.	IS513D/IS513 P1CR2/ IS513 Gr.CR2/ IS1079D	Sheets
	9.	ASTMA36	Plate high thickness
	10.	IS:1363(P-1)/IS:1363(P-3)	Bolt & nut
	11.	IS:2016	Washer
2.24.3	Raw materials and paints are to be procured with relevant Test Certificate (TC)/reports and these have to be submitted/produced in original during inspection. Any test both destructive and non-destructive if required will have to be carried out by the Vendor at their own cost. Vendor also shall verify the materials & Test Certificate (TC) to comply with the applicable quality plan (QP). Vendor should refer the updated list of approved suppliers for raw material and consumables before procurement.		
2.24.4	Raw material invoice, Test certificate (TC) and Day Book entry (DB) should be submitted to BHEL PSER on weekly basis.		
2.24.5	Required equipment's for handling of raw materials/Work in Progress (WIP) & finished goods should be available at Vendor works.		
2.24.6	The system for storing and issuing materials shall be available with vendor for easy traceability.		
2.24.7	Raw materials are to be identified by its work order (W.O) number / Material code / Specification / grade by painting through stencilling / engraving.		
2.24.8	Periodic audit of system of purchasing, storing and issue, etc. will have to be carried out by the vendors. BHEL at its discretion shall audit the same.		

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

2.24.9	For raw material substitutions requested by Vendor, changes in the weight due to material substitution will be carried out by temporary Design Change Notification (DCN), if deemed fit by BHEL. Payment shall be made based on actual weight.
2.24.10	In case of non-procurement of materials within stipulated time period or in case if any Vendor refuses or fails to execute within the PO delivery or within mutually accepted / extended delivery date, PO will be cancelled by BHEL and shall be executed by BHEL (by alternate action) and Clause related to <u>BREACH OF CONTRACT AND TERMINATION OF CONTRACT</u> shall be applicable.
2.24.11	Raw Material is to be procured within 45 days from date of availability of drawings and fabrication is to be done within next 45 days. Duly accepted, Final Inspection report of a fabricated material shall be considered completion of fabrication activity. Fabrication of a material Vendor has to submit 03 months rolling plan, for procurement of raw materials, in advance to BHEL. Depending on the availability of drawings, asking rate of fabrication is assumed to be minimum of 500 MT/month.
2.25	FABRICATION:
2.25.1	Fabrication of components shall be as per BHEL's Drawings to be issued during Execution of work. However, to understand the nature, type & quantum of work content, a set of indicative drawings and Tentative Size Details is attached as Annexure 5 . It is to be noted that the work content as per the actual drawings may vary.
2.25.2	Fabrication of components shall also be according to the BHEL drawings, BHEL quality documents, customer approved quality plan, Technical Delivery Conditions (TDC). However, Vendor shall refer the latest version of Quality documents to be issued during execution of work.
2.25.3	Welding to be carried out by Qualified Welder and as per BHEL's approved Welding Procedure Specification (WPS).
2.25.4	Successful Vendor will have to submit the WPS for approval by BHEL (QC/WTC). Approval of WPS by BHEL will take 02 weeks from the date of submission of complete documents.
2.25.5	Vendor shall use Jigs & fixtures, Core Cutting Machine/ Magnetic Horizontal drilling machine to ensure hole to hole matching during assembly and Erection.
2.25.6	All consumables for welding as stipulated in the Drawings/QWIs/Welding procedures & any indirect materials required for fabrication is in Vendor's scope of work.
2.25.7	All the electrodes are to be procured using Welding Consumable Procurement Instruction (WCPI) which shall be provided during execution. Electrodes to be procured and used for fabrication shall be as per BHEL's approved WPS.
2.25.8	Proper sequence of welding shall be adopted to minimize distortion. The distortion of the finished jobs, if any, may be corrected by mechanical means / hot correction.
2.25.9	The surface of the welds shall be free from coarse ripples, overlaps, undercuts and abrupt ridges to avoid stress raisers.
2.25.10	Conducting MPI/LPI, other NDT & heat treatment wherever called for in the Drawings/ Quality Plans is in the scope of Vendor.
2.25.11	The requirement of NDE, extent and type of examination shall be as per respective product QP, if applicable.
2.25.12	The Ultrasonic Testing, Radiographic Testing, Furnace Heat Treatment (HT) and Stress Relieving as called for in the Drawings/QWI/PO/QCP are to be carried out by the Vendor.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

2.25.13	All handling charges and other incidental charges till completion of fabrication & dispatch up to destination is in Vendor's scope.												
2.25.14	Trial Assembly as called for in the Drawings / Quality plans / PO or by the Inspecting Authorities, is in Vendor's scope of work.												
2.25.15	Ensure completeness of all final machining operations is in vendor's scope.												
2.25.16	Providing the necessary facilities, gauges, instruments, etc. for carrying out the testing & inspection including customer/BHEL/BHEL nominated agency as per BHEL's QP/PO/Drawings and customer CHP, till obtaining of MDCC (wherever applicable).												
2.25.17	Mechanical testing, if any, can be done at any of the NABL approved laboratory in case Vendor do not have their own facilities.												
2.25.18	BHEL Drawings and Quality procedures to be followed and referred for marking & identification of interconnecting members to the satisfaction of BHEL inspectors, dismantling, related handling and movements of components as necessary.												
2.25.19	Assembly is to be carried out on a level surface. If required, Assembly items are to be dispatched with adequate bolts which is in the scope of the Vendor. Assembly has to be carried out as per BHEL Quality Plan/Customer Quality Plan (CQP) (as applicable). Any other item(s) required for safe dispatch / packing materials required for the completion and the dispatch of the jobs is in the scope of Vendors.												
2.26	QUALITY REQUIREMENTS												
2.26.1	Supply of the components should strictly conform to dimensions and tolerances indicated in the Drawings, Quality Plan. Care must be taken to strictly adhere to the 'NOTE' given in the drawings. Vendor must ensure that dimensional deviations, if any, are recorded properly in the Dimension Record books and the same shall be made available to BHEL's Officials or their authorized agencies. All the Quality records are to be uploaded/provided by vendor. Any correction or revisions as advised by BHEL at post PO stages, shall be carried out by the Vendor, based on the revised drawings or interim inspection from BHEL extra cost implications, if any, shall be informed to BHEL before carrying out the job.												
2.26.2	Only the right kind of electrodes shall be used as called for in the Drawings.												
2.26.3	Any other work carried out other than the requirements of Drawings/QWIs shall have the prior written approval of BHEL.												
2.26.4	Adequate facilities like welding equipment(s), baking oven, handling facilities and measuring instruments duly calibrated as called for by BHEL must be available with the Vendor for the manufacture/fabrication of boiler components. All the above basic fabrication equipment must be in working condition, and the same shall be made available for verification by BHEL officials or authorized agents of BHEL.												
2.26.5	Only Class 1 measuring tapes shall be used. The instruments / gauges are to be calibrated at BHEL approved Lab or any NABL periodically as follows: <div>Table-1<table><tr><th>SL. No.</th><th>Type</th><th>Periodicity</th></tr><tr><td>01</td><td>Measuring instruments/gauges</td><td>One Year</td></tr><tr><td>02</td><td>Limit gauges (E.g. Plug/ring)</td><td>One Year</td></tr><tr><td>03</td><td>Temperature, pressure gauges</td><td>6 Months</td></tr></table></div>	SL. No.	Type	Periodicity	01	Measuring instruments/gauges	One Year	02	Limit gauges (E.g. Plug/ring)	One Year	03	Temperature, pressure gauges	6 Months
SL. No.	Type	Periodicity											
01	Measuring instruments/gauges	One Year											
02	Limit gauges (E.g. Plug/ring)	One Year											
03	Temperature, pressure gauges	6 Months											

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

	04	Measuring Steel tapes	Once
2.26.6	The calibration status shall be displayed at the Vendor's works in a conspicuous location. Calibration can be performed at either BHEL approved labs or at any NABL approved labs, traceable to national standards.		
2.26.7	Manufacturing, handling and testing facilities' requirement as specified by BHEL from time to time shall be made available by the Vendor.		
2.27	TRANSPORTATION		
2.27.1	The rates finalized shall include cost of transporting finished products from Vendor's Works to 2x800 MW DVC Koderma site.		
2.27.2	Vendor has to arrange for dispatch of the finished goods either in Trucks or Trailer/ Hydraulic axles for safe delivery of the goods to respective project sites through their transport carriers. In case of any Deviation/ discrepancy of the materials received at project site Vendor is responsible for correction or replacement activity. If the same is not rectified/replaced by the concerned Vendor within reasonable time as instructed by BHEL, then the same will be rectified /replaced by BHEL at the cost of default Vendor.		
2.27.3	The transportation should be done using appropriate Vehicle/Trailer with all valid Documents complying to all the applicable rules and regulations.		
2.27.4	Loading of finished goods on to the Truck / Trailer is in Vendor's scope.		
2.27.5	Vendor should ensure sufficient Wooden Logs/Reapers are placed between jobs and trailer. Proper lashing of Jobs is to be done avoiding direct contact between the lashing chain and jobs.		
2.27.6	After loading is completed as above, a photograph of loading is to be taken from multiple angles. The photographs as and when demanded by BHEL (concerned expeditor) is to be sent to BHEL (concerned expeditor) before dispatch of the vehicle.		
2.27.7	In case, after reaching the destination/Project site, if any non-conformance is noticed by the way of improper loading/ashing of finished Goods, BHEL reserve the right to reject the material. Vendor should correct the non-conformances at his own cost.		
2.27.8	In addition, BHEL may recover from the Vendor, the default amount arising due to improper loading of finished goods on vehicles as specified by BHEL officials at Unloading point.		
2.27.9	Due to the unpredictable site condition at times, the loaded consignment dispatched by Vendor may have to wait for unloading for about 3-4 days (on an average) at site. The Vendor may keep this in mind while quoting. Unloading of consignment at project site, supplied by vendor, shall be in the scope of BHEL.		
2.27.10	<p>Unloading of material at the site, supplied by the Vendor, shall be in the scope of BHEL. BHEL shall complete the unloading within 48 to 72 hours from the time of trailer entry into the plant premises. If the material is not unloaded within 72 hours due to reasons not attributable to the Fabricator/Transporter, the Vendor shall be entitled to demurrage charges as follows:</p> <p>a. Demurrage charges for Trucks: ₹1,000 per day.</p> <p>b. Demurrage charges for all types of Trailers: ₹2,000 per day.</p>		

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

	<p>Demurrage shall be applicable only if the delay exceeds 24 hours beyond the free period. Any delay of less than 24 hours beyond the free period shall not attract demurrage.</p> <p>Example: If a vehicle enters the site on March 2, 2025, at 10:00 AM, the free period (72 hours) lasts until March 5, 2025, at 10:00 AM.</p> <ul style="list-style-type: none"> • If the vehicle exits at 4:00 PM on March 5, 2025 (6 hours late) → No demurrage will be charged. • If the vehicle exits at 11:30 PM on March 5, 2025 (13.5 hours late) → No demurrage will be charged. <p>If the vehicle exits at 10:30 AM on March 6, 2025 (24 hours + 30 minutes late) → Demurrage for one full day (March 6) will be charged.</p>
2.27.11	If the reporting period happened to be Sundays & Holidays, then the next working day at 9:00am will be considered as the date of reporting of vehicle.
2.27.12	Demurrage shall be paid based on the Gate Entry at Site / certification by BHEL site personnel – with signature & official seal.
2.27.13	As soon as the dispatches are made, Vendor have to upload/provide scanned copy of DC and GST Invoice in BHEL system.
2.27.14	At the time of dispatch to site, original BHEL Project site acknowledgement along with IR, DC, GST invoice and system generated online invoice along with other annexures have to be furnished for processing the invoice at BHEL.
2.28	SURFACE PREPARATION, PAINTING AND STENCILLING
2.28.1	Surface preparation & Painting shall be as per the quality documents and painting scheme with paints procured from BHEL approved paint Suppliers list. Applicable painting scheme is attached as Annexure-8 . Vendor shall refer the latest version of Painting scheme and applicable quality documents during execution. Blasting, wherever required (as per Drawings/ Quality plans), is to be carried out by Vendor. Surface preparation and painting is to be done as per BHEL/Customer specifications.
2.28.2	Identification of Structures shall be hand punched and stencilled.
2.28.3	The Project name, Work Order No., Number off, DU Number, Weight, and Erection mark number shall be legibly stencilled for identification and dispatch as may be advised. Work Order & DU number shall be punched using letter punch and bordered suitably for identification. Machined surfaces shall be protected with rust preventive oil. Weldable areas are to be applied with weldable primer.
2.28.4	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.
2.28.5	After painting and stencilling, suitable crating should be made, according to the job size, as applicable. Loose pieces should be sent only by crate of appropriate size which is in the scope of Vendor. Dispatches of loose items i.e. up to 3m in Length and Individual weight less than 30kgs, should be packed in Crate and dispatched.
2.28.6	If any complaint is received from site regarding poor quality of product including painting issues, the concerned Vendor shall be asked to rectify it within a reasonable time or else BHEL may arrange rectification through alternate agencies at the cost of the

Chapter - II: Scope of Work

Page 21 of 46

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

	1	ODRS1	Single ODC Freight Rate, if Length is more than 12.2 m upto 15 m or width ODC (more than 2.4 m up to 4m) or height ODC (more than 2.2 m up to 3m)	Rs 1170 / MT
	2	ODRS2	Combination ODC Freight Rate, i.e combination of any 2 or 3 dimensions falling under ODC's Length above 12.2M up to 15M/ Width ODC (more than 2.4 m up to 4m) /Height ODC (more than 2.2 m up to 3m)	Rs 1620 / MT
	3	ODRS3	Length ODC Freight Rate / MT over & above ODRS1 or ODRS2 for each meter increment and part thereof in the length above 15 M till 24 M Width ODC Freight Rate / MT over & above ODRS1 or ODRS2 for each 0.5 meter increment and part thereof in the width above 4 M. Height ODC Freight Rate / MT over & above ODRS1 or ODRS2 for each 0.5 meter increment and part thereof in the Height above 3 M.	Rs 360 / MT
2.29.11	Extra works, if any, carried out as per drawings / Quality plan / PO requirement shall qualify for extra payment, subject to approval of BHEL. Any other work not covered under extra Rate Schedule, but incidental to the completion of fabrication of job till handing over to BHEL's project site, shall be deemed to be Vendor's scope of work.			
2.30	PROGRESS REPORT			
2.30.1	The Vendor shall E-mail their completion plan and progress report from time to time as and when required by BHEL. Vendor has to submit 03 months rolling plan, for procurement of raw materials, in advance to BHEL.			
2.30.2	The submission, receipt and acceptance of such reports shall not prejudice the rights of BHEL, under the contract nor shall operate as estoppels against BHEL, merely by reason of the fact that they have not taken notice of or objected to any information contained in such reports. Action as deemed fit would be taken if the progress of work is not satisfactory.			
2.30.3	In the event of non-submission of completion plan and progress report, suitable action deemed fit shall be taken against such defaulting Vendor(s).			
2.31	ACTION AND COMPENSATION IN CASE OF BAD WORKMANSHIP			
2.31.1	If any work has been executed with unsound, imperfect or bad workmanship or with materials of inferior quality, the Vendor shall on demand, in writing from BHEL specifying the work, materials/articles complained of, notwithstanding that the same may have been passed, certified and paid for, forthwith, rectify the work, so specified in whole or in part as the case may require, at their own cost. In the event of the Vendor's failure to do so within reasonable period, BHEL shall rectify or remove and re-execute the work at the cost of the default vendor.			
2.31.2	BHEL will have general supervision and direction over the work. BHEL has the authority to stop the work, whenever such stoppage may be necessary to ensure the proper execution of the contract.			

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - II: Scope of Work

2.31.3	BHEL shall also have the authority to reject all the work, which does not conform to the specification, to direct the application of forces to any portion of the work as, in their judgement is required, and order the force increased or diminished and to decide on matters which arise in the execution of the work.
2.31.4	BHEL reserves the right to suspend the work or part thereof at any time and no claim whatsoever on this account will be entertained. In case of any dispute, the fabricator may appeal to BHEL whose decision shall be final and binding.
2.31.5	Finished components supplied by Vendor shall be erected at site. Vendor shall be responsible for mismatch of components supplied by them, if any, noticed at site during erection. Any rework shall be carried out by Vendor at their cost, including transport, if necessary. In the event of the Vendor's failure to do so within the reasonable period, BHEL shall rectify or remove and re-execute the work at the cost of the default vendor.
2.31.6	To address any mismatches during erection stage, the Vendor shall arrange a technical person as per the instructions received from BHEL at erection site for proper co-ordination with various agencies so that problem is attended / rectified without any time gap. Vendor shall deploy adequate resources at erection site for coordination and rectification work (for the reason attributable to vendor) without any extra cost to BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - III: Time Schedule

3.1 TIME SCHEDULE

- 3.1.1 After receipt of Purchase Order, Vendor 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 Vendor 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 Vendor 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:** - 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 Ceiling girder structure, main and cross girders along with respective cross beams and members, 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 (Days)
1.	Package-A: - Boiler Ceiling Girder, with associated beams and bracings, of Unit#1	150
2.	Package-B: - Boiler Ceiling Girder, with associated beams and bracings, of Unit#2	240

3.1.7 **Priority Schedule of important Structures:**

Girder	Delivery days from zero date (Unit#1)	Delivery days from zero date (Unit#2)
First Girder	75	165
Next 2 Girders	105	195
Next 2 Girders	135	225
Next 2 Girders & All Structures	150	240

- 3.1.8 Connecting members are also to be dispatched along with the Girders as per the above

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - III: Time Schedule

schedule.

- 3.1.9 Inputs for fabrication work such as Drawings/materials, shall be provided progressively.
- 3.1.10 Timely delivery is the essence of the Contract. Vendor shall ensure on-time procurement of raw material. At least 50% of raw material is to be procured by vendor, within 45 days from the date of receipt of detailed drawings. Any deliberate delay in raw material procurement would be treated as breach of Contract. In case of such delay, BHEL shall be entitled for taking any of the following actions, at its discretion.
- Diversion of part scope to another agency. Cost difference, if any shall be recovered from the defaulting vendor.
 - Supply of raw material to vendor work. Cost towards raw material with 10% overheads shall be recovered from the agency.
 - Short closure/ Termination of contract in line with breach of contract clause.
- 3.1.11 Vendor shall get their clarifications (w.r.t. Engg. drawings, Material substitutions, quality procedural clarifications) resolved within 7 days from the date of such notification to BHEL. Any delays in raising query shall not be considered for delay analysis.
- 3.1.12 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.
- 3.1.13 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:

Total quantity for fabrication for both the units shall be appx 3888 MT. Fabrication quantity for Boiler Ceiling Girder in each unit, with associated beams and bracings, is appx 1944 MT.

RS	RS DESCRIPTION	JOB	BHEL REF PGMA	Ceiling Girder Piece/JOB Type	Tentative JOB Description	Wt (MT)	
						Pkg A	Pkg B
RS02	CEILING GIRDER PACKAGE- 1630 MT per Boiler, 2x800 MW DVC Koderma	MAIN & CROSS GIRDERS	35-211 35-212	Main Girders- {2 End pieces & 1 Middle piece}- End piece – Max Wt- 63 MT Min Wt- 44 MT Middle piece- Max Wt- 70 MT Min WT-48 MT & Cross Girders	Multiple DUs -7 girders of 3 Pieces each (bolted connection between all 3 pieces) and 6 Cross Girders	1335	1335

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - III: Time Schedule

RS	RS DESCRIPTION	JOB	BHEL REF PGMA	Ceiling Girder Piece/JOB Type	Tentative JOB Description	Wt (MT)	
						Pkg A	Pkg B
		WELDED BEAMS	35-213 35-214	CROSS BEAMS - PLATE FORMED WELDED BEAMS	Multiple <u>DU</u> s - Approx. <u>DU</u> count 100+	357	357
		Vertical Bracings, etc	35-221 35-222 35-390 35-190	PLATE FORMED BEAMS WELDED DOUBLE CHANNELS ANGLES etc.	Multiple <u>DU</u> s - Approx. <u>DU</u> count 500+	252	252
TOTAL		35-211, 35-212, 35- 213, 35-214, 35- 221, 35-222, 35- 390, 35-190		CEILING GIRDER WITH CROSS BEAMS, MEMBERS, PINS	FULL ASSEMBLY	1944	1944

S NO	BOQ Description	UoM	Qty Pkg-A	Qty Pkg-B
STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, Fabrication (shop fabricated), blasting, Painting, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge. (all material procurement shall be in Vendor scope).				
1	Supply and Fabrication of Boiler Ceiling girder, with associated beams, bracings, Sheets, Pins, structure, etc using E250 or equivalent grade material	MT	394	394
2	Supply and Fabrication of Boiler Ceiling girder, with associated beams, bracings, pin rods, structure, etc using E350 or higher-grade material	MT	1550	1550
3	Blast cleaning of steel structures to near white metal surface (Sa 2-1/2) conforming to ISO 8501-1 with surface profile 40-60 µm and applying coat of one component Inorganic Ethyl Zinc Silicate Primer of minimum 70-micron DFT.	MT	1944	1944
4	Providing and applying intermediate coat of one component polyamide cured epoxy with MIO Content of minimum 100-micron DFT	MT	1944	1944
5	Providing and applying Finish coat of one-pack aliphatic Isocyanate cured acrylic finish paint minimum 70-micron DFT.	MT	1944	1944
6	HSFG Bolt, Nut & Washer Grade 4.6 (For transportation purpose only if required)	MT	12	12

Note:

1. The above PGMA, quantities are tentative and may vary, BHEL reserves the right for allocation of tonnage to the agencies as per requirements.
2. Quantity Variation limit: Limited to ±30% of Awarded Contract Value.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - III: Time Schedule

3. No compensation shall be given to the Fabricator; in case of quantity variation to any extent.
4. Tentative quantity for each package is mentioned hereunder:

S.No.	Package	Tentative Quantity (MT)
1	Package-A: - Boiler Ceiling Girder, with associated beams and bracings, of Unit#1	1944 MT
	Package A: HSFG Bolt, Nut & Washer Grade 4.6	12 MT
2	Package-B: - Boiler Ceiling Girder, with associated beams and bracings, of Unit#2	1944 MT
	Package B: HSFG Bolt, Nut & Washer Grade 4.6	12 MT

Detailed L-2 Schedule, including inputs requirement dates from BHEL, shall be prepared and submitted by Vendor for approval of BHEL within 15 days from the date of Purchase Order.

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: -

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: -

For Non MSME Suppliers: 100% payment of net payable (after setting of recoveries, if any) against RA Bill as per Billing schedule/Price Bid 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. LC shall normally be opened within 21-30 days from the date of PO and negotiation period will be 14 days.

For MSME suppliers: 100% payment of net payable (after setting of recoveries, if any) against RA Bill as per Billing schedule/Price Bid shall be paid through TReDS such as Receivable Exchange of India Limited (RXIL), M1 Exchange, Invoice art etc. as per extant guidelines. Vendor to submit complete documents, as listed below:

- 1) List of Documents to be submitted by bidder to BHEL.
 - a) GST Compliance Invoice (1 Original/e-invoice + 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 Project 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).

2) In case of LC Payment, List of Documents to be submitted by bidder in Bank are mentioned hereunder:

- a) GST Compliance Invoice (1 original/ e-invoice + 2 photocopies).
- b) Photocopy of LR (consignee address shall be BHEL Project site).
- c) Photocopy of Material Dispatch Clearance Certificate issued by BHEL/BHEL's Customer.
- d) Photocopy of insurance intimation letter / e-mail. (Intimation to Insurance agency to be sent on the same day of dispatch).

Note:

- a. Material Receipt certificate by BHEL/site shall be the final document required for acceptance of the RA Bills.
- b. The Charges against opening of LC/ its extension/amendment (if any) shall be borne by Vendor and Vendor to quote their price accordingly.

4.2 Retention amount:

4.2.1 Retention Amount shall be 5% of contract value and shall be furnished before the first RA

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IV: Terms of Payment

Bill becomes due for payment. In case of increase in contract value, additional 5% of differential amount shall be submitted by Vendor 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 (FDR) issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Vendor, a/c BHEL).
- vi. Insurance Surety Bonds.

- 4.2.2 On successful Vendor'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 Vendor till the total amount of the required retention amount is collected.

In case, Vendor 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 Vendor.

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.

4.2.3 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 (Vendor) by BHEL.

- 4.3** Paying Authority shall be **Construction Manager, BHEL 2x800 MW, DVC Koderma Project, District – Koderma, Jharkhand.**

4.4 Performance Security Clause:

- a) Performance Security shall be 5% of Contract value within 15 days from the date of issuance of Purchase order.
- 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: -**
 - i. Cash (as permissible under the extant Income Tax Act).
 - ii. Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IV: Terms of Payment

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 12 months + 3 months claim period.** The BG shall be extended up to completion of Performance guarantee period from the date of supply of last consignment.
 - v. Fixed Deposit Receipt (FDR) issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Vendor, 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 (Vendor) 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. Vendor'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 Vendor'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:

- 5.2.1 Vendor 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 Vendor has to adhere to the safety rules / regulations laid by BARC authorities from time to time.
- 5.2.2 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/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 / Customer. Records of UT shall be produced & submitted to as per BHEL requirement.
- 5.2.3 All X-Ray / Gamma Ray films of weld joints shall be preserved properly and be handed over to BHEL.
- 5.2.4 The field welded joints shall be subjected to Dye-Penetrant/MPT/RT/ other Non-Destructive Examination as specified in the respective engineering documents/ as instructed by BHEL.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - V: Welding & Radiography

- 5.2.5 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 Vendor shall take all this into account in his offer. The required NDT method/procedure will be decided by BHEL engineer.
- 5.2.6 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 Vendor's scope of work includes such preparation as incidental to work.
- 5.2.7 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:

- 5.3.1 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. Vendor shall arrange sufficient number of thermocouple attachment units.
- 5.3.2 Vendor 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.
- 5.3.3 Heat treatment may require to be carried out at any time (day or night) to ensure the continuity of the process. The Vendor shall make all necessary arrangements including labourer required for the same as per directions of BHEL.
- 5.3.4 In certain cases, only, the Pre-Heating of weld joints may be called for. Vendor has to comply the requirement as part of the work.
- 5.3.5 For weld joints of heavy structural sections, if heat treatment is required, the same shall be carried out as part of the work.
- 5.3.6 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.
- 5.3.7 Preheating, Inter-Pass Heating, Post Weld Heating and Stress Relieving after welding (as applicable) shall be performed by the Vendor in accordance with BHEL Engineer's instructions. Where the electric resistance heating method is adopted Vendor 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.
- 5.3.8 All the recorded graphs for heat treatment shall be handed over to BHEL/ IBR /Inspection

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - V: Welding & Radiography

authorities and due clearances shall have to be obtained.

5.3.9 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/replenish 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, MS Gratings.
- 7.3 Supply and fabrication of Stainless-Steel Items
- 7.4 Supply and fabrication of Handrail, Deck sheet & Cladding sheet.
- 7.5 Supply and fabrication of Mill Bunker shell, Silo, hopper and ring beam.
- 7.6 Supply and fabrication of Space frames.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VIII: Price Bid and Modality of Award

8.1 Price Bid Clause:

Vendor has to quote for 'Package A & B' both in price Bid.

8.1.1 BOQ along with weightage is mentioned hereunder:

S NO	Item Description for Package-A & B	UoM	Qty	Wtg.
STRUCTURAL WORKS: Structural steel works including all labour, material (unless otherwise specified in BOQ/contract specification), equipments unless otherwise specified, Fabrication (shop fabricated), blasting, Painting, transportation, handling etc. at all level as per specification, drawings and as directed by engineer - in - charge. (all material procurement shall be in Vendor scope).				
1	Supply and Fabrication of Boiler Ceiling girder, with associated beams, bracings, Sheets, Pins, structure, etc using E250 or equivalent grade material	MT	788	0.1769594034
2	Supply and Fabrication of Boiler Ceiling girder, with associated beams, bracings, pin rods, structure, etc using E350 or higher-grade material	MT	3100	0.7238552349
3	Blast cleaning of steel structures to near white metal surface (Sa 2-1/2) conforming to ISO 8501-1 with surface profile 40-60 µm and applying coat of one component Inorganic Ethyl Zinc Silicate Primer of minimum 70-micron DFT.	MT	3888	0.0363916686
4	Providing and applying intermediate coat of one component polyamide cured epoxy with MIO Content of minimum 100-micron DFT	MT	3888	0.0292676387
5	Providing and applying Finish coat of one-pack aliphatic Isocyanate cured acrylic finish paint minimum 70-micron DFT.	MT	3888	0.0281754879
6	HSFG Bolt, Nut & Washer Grade 4.6 (For transportation purpose only)	MT	24	0.0053505665

8.2 Modality of award

- The total scope of work is being divided into Two (02) equal packages, i.e. Package A & Package B (which are further indivisible). Each package shall be awarded as mentioned hereunder.
- The subject tender shall be awarded in the following mode, w.r.t. extant policy/ guideline and statutory rules.**
 - Bidders shall quote "Total Price" (excluding GST)** for 'Package-A & B' 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.
 - Price bids of qualified bidders shall be evaluated. 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).

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VIII: Price Bid and Modality of Award

c. **Package-A & Package-B shall be awarded as per following steps:**

Step-1: Based on the L-1 bidder's price, unit rates shall be derived.

Step-2: Package A will be awarded to L-1 Bidder (irrespective of whether L1 bidder is MSE or Non MSE), with acceptable L-1 rates to BHEL.

Step-2: For the award of **Package B**:

- **Case: I – L-1 Bidder is MSE.**

Package B shall be awarded to the L-1 bidder (to whom **Package A** is awarded).

- **Case: II – L-1 Bidder is non -MSE.**

(i) Purchase preference shall be given to MSE-MII bidders falling within 15% margin of purchase preference in the order of price competitiveness, 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.

(ii) If **none of the eligible MSE-MII bidders** within the 15% price margin agree to match the L-1 rate, **Package B** shall award to the L-1 bidder.

(iii) If **no MSE-MII bidder qualifies within the 15% margin**, **Package B** shall be awarded to the L-1 bidder.

(iv) 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.

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/Penalty:** For the extension of contract, LD shall be 0.5% of basic value of the undelivered / delayed portion per week of delay or part thereof subject to a maximum of 10% of the total contract value (i.e. excluding elements of taxes). For this purpose, the period of delay shall be the delay attributable to the Fabricator for the completion of work as per

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - VIII: Price Bid and Modality of Award

contract. Contract Value for this purpose, shall be the total Purchase order value inclusive of Quantity Variation and exclusive of Extra Works, Supplementary/Additional Items & PVC, if any.

- VI. **Short Closure:** BHEL may short close the contract at any stage of the contract/extended period without assigning any reasons to the bidder.
- 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 – Annexure-3.
 - b. Duly Filled Vendor Questionnaire. Format - P4F2R0 – Annexure-4.
 - 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 as applicable.
 - f. Source of Raw Material.
 - g. List of Qualified Welder and NDT personnel 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 STRUCTURES** 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 CUSTOMER.
 - q. After inspection of the Factory by BHEL, a team of members comprising of BHEL & CUSTOMER may visit fabrication shop for checking eligibility/competency of shop. Approval from BHEL/CUSTOMER is required before start the fabrication job. In case of any discrepancy, Vendor shall comply as per BHEL/CUSTOMER requirement at any stage of job.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IX: Taxes and Duties

9.0	TAXES & DUTIES
9.1	<p>The contractor 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.</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	<p>GST as applicable on output supply (goods/services) are excluded from contractor'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.</p>
9.2.2	<p>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 Contractor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL & its Contractor.</p>
9.2.3	<p>Contractor 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 Contractor.</p>
9.2.4	<p>Contractor has to submit GST registration certificate of the concerned state. Contractor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.</p>
9.2.5	<p>Contractor/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.</p>
9.2.6	<p>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.</p>

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IX: Taxes and Duties

9.2.7	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.
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 Contractor: -</p> <ul style="list-style-type: none">a. Supply of goods and/or services have been received by BHEL.b. Original Tax Invoice has been submitted to BHEL.c. Contractor/ Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order.d. In cases where e-invoicing provision is applicable, vendor/contractor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder.e. Contractor 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.f. 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 contractor.g. Contractor 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 contractor's bill or otherwise as deemed fit.
9.2.10	TDS as applicable under GST law shall be deducted from contractor's bill.
9.2.11	Contractor 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 contractor.
9.2.12	Contractor 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 contractor 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 Contactor's due payment.

TECHNICAL CONDITIONS OF CONTRACT (TCC)

Chapter - IX: Taxes and Duties

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 Contactor.																														
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 contractor or with respect to any other matter having impact on BHEL, BHEL’s decision shall be final and binding on the contractor.																														
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 contactor 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/Contractor 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 contractor’s bill.</p>																														
9.4	<p><u>List of state wise GSTIN Nos. of BHEL is as follows:</u></p> <table><tr><th>Sl. No</th><th>Projects under state</th><th>GSTIN</th></tr><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></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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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																													

TECHNICAL CONDITIONS OF CONTRACT (TCC)
ANNEXURE – A : Tentative Requirement for Factory

TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL STRUCTURES			
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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
ANNEXURE – A : Tentative Requirement for Factory

TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL STRUCTURES		
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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)
ANNEXURE – A : Tentative Requirement for Factory

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 (Sievers) 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 : PRICE VARIATION COMPENSATION

B.0 PRICE VARIATION COMPENSATION (PVC)

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.

- B.1.1** 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
- B.1.2** 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 Vendor 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)	17
ii)	WELDING ROD	Name of Commodity: MANUFACTURE OF BASIC METALS Commodity Code: 1314000000	5
iii)	HIGH SPEED DIESEL	Name of Commodity: HSD Commodity Code: 1202000005	2
iv)	STEEL (Structural)	Name of Commodity: MILD STEEL: LONG PRODUCTS Commodity Code: 1314040000	57
v)	PAINT	Name of Commodity: PAINT Commodity Code: 1310050000	4

- B.1.3** 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.

- B.1.4** 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

$$P = K \times R \times \frac{(X_N - X_0)}{X_0}$$

TECHNICAL CONDITIONS OF CONTRACT (TCC)

ANNEXURE – B : PRICE VARIATION COMPENSATION

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

- B.1.5 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.
- B.1.6 Base date shall be the calendar month of the '**last date of bid submission**'.
- B.1.7 The Vendor shall furnish necessary monthly bulletins in support of the requisite indices from the relevant websites along with his Bills.
- B.1.8 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.
- B.1.9 PVC shall be applicable for the entire original contract period plus the extended period, i.e. for the complete execution period, as follows:
- i) 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.
 - ii) **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.
 - iii) Raw material procurement cycle is assumed to be **45 days** from the date of availability of drawings, with fabrication to be completed within the next **45 days**, i.e., a total of **90 days** from the availability of drawings. The vendor has to submit a **three-month rolling plan** for procurement of raw materials in advance to BHEL.