

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

Supply of Factory Finished Fabricated Structure of Boiler (Columns (Plus, Plus-I and Box etc.), Bracings, Wall beams, Floor Beams, Trusses etc.) up-to Project Site, based on input design & detailed drawing, Quality Work Instructions (QWIs) and Technical Specification as provided by BHEL for Unit#1 and Unit#2 of 2X800 MW CUSTOMER Koderma Project.





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S.No.	DESCRIPTION	CHAPTER
<b>Volume-IA</b>	<b>Part-I: Contract specific details</b>	
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**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**

Sl No	Description	Remarks
1	Format for Details of PO/WO Executed by Vendor	Annexure-1
2	Declaration by Bidder	Annexure-1A
3	NTPC 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
4	Sample Drawings & Tentative Size List	Annexure-3A & 3B
5	Vendor's Proposal Cum Evaluation Report- P4F1R0	Annexure-4
6	Vendor Questionnaire- P4F2R0	Annexure-5
7	VOID	Annexure 6
8	Quality Document - MQP & Categorization List	Annexure 7
9	Painting Schedule	Annexure 8
10	Tentative Requirement of Factory	Annexure-A
11	Price Variation Clause	Annexure-B



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**Chapter I - Projects Information**

**Project Information: 2X800MW DVC Koderma (Phase-II)**

Sl. No.	Description	Details
1	Project Title	2X800MW KODERMA THERMAL POWER STATION (KTPS) PHASE-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</p> <p>Nearest Town Koderma- About 7 Km District Head Quarters Koderma Collectorate -About 16 Km Nearest Major Town Hazaribagh- About 60 Km 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.

INSTRUCTIONS TO VENDORS	
1.1	The Vendor 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 Vendor.
1.2	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 Vendor. All costs for and associated with site visits shall be borne by the Vendor.
1.3	No claim will be entertained by BHEL on ground of lack of knowledge and the Vendor's rates shall be deemed to have taken this into account.



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**Chapter I – Project Information**

**1.4** Vendors may fix up their site visit in consultation with below mentioned contact person:

Name:	Rikash Jyoti Dutta
Designation:	DGM
Email:	rjd@bhel.in
Contact no:	9831073012



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**Chapter II – Scope of Work**

<b>2.0</b>	<b>Scope of Works:</b>
<b>2.1</b>	<p>Scope of this tender covers <b>Fabrication and Supply of Factory Finished Fabricated Structure to Project-Site, based on the Input Design &amp; Detailed drawing Quality Work Instructions (QWIs) and Technical Specification(s) Provided by BHEL for Boiler</b> which includes Columns (Box, Plus, Plus-I), Auto weld structures &amp; General Fabrication.</p> <p><b>Vendor Scope:</b></p> <ol style="list-style-type: none"> <li>Raw Material procurement.</li> <li>Fabrication.</li> <li>Blasting and painting.</li> <li>All Consumables incl paint and electrode.</li> <li>Transportation of finished goods to project site from vendor works.</li> </ol> <p><b>Material Specification:</b>  Medium and High Tensile structural steel (Grade designation E350/E250 or higher unless stated otherwise) Quality B0 (Fully killed), conforming to IS 2062 pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, ladders etc.</p> <p><b>Type of Structures:</b> As mentioned in PGMA list  The fabrication can be with rolled section / built up section / combination of both conforming to IS:2062 in Star Column, Main Columns, Auxiliary Columns, Middle Columns, Horizontal Beams, Bracing, Landing &amp; Connecting Platforms, stairs, gantry girders, roof trusses, laced purlins, hangers, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, seal plates, walkway platforms, ladders, stairs etc.</p> <p><b>Name of Project:</b>  2x800 MW DVC Koderma Project.</p> <p>The tender is divided into two Packages which shall be governed as per modality of award described in TCC. All the clauses shall be applicable on both the agencies separately (until otherwise explicitly mentioned).</p> <p><b>Package-A</b> shall Consist of Boiler Structure of Unit#1</p> <p><b>Package-B</b> shall consist of Boiler Structure of Unit#2</p> <p>Final PGMA list applicable for Koderma Project shall be provided during execution.</p>
<b>2.2</b>	<p>The entire quantum of work is covered under <b>BOQ cum Rate Schedules (BOQ mentioned in tender)</b>.</p> <p><b>Procurement and Fabrication:</b> 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</p>



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	<p>inspection if applicable, accompanied by all necessary supporting documentation, as per the applicable quality plan.</p> <p><b>Delivery requirement:</b> 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	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 shall start the fabrication activity in approved “FABRICATION WORKSHOP / FACTORY” in line with approved drawings, specifications and quality plan. Vendor shall mobilize further resources at workshop as per requirement to commence the job of fabrication, testing, shot blasting, painting etc. to match schedule of the project.
2.4	All incidental works, not specified but reasonably implied and necessary for completion of scope of work shall be in the scope of Vendor.
2.5	BHEL resident engineer shall duly verify the raw material received at Vendor’s works for BHEL work.
2.6	The total quantity of steel required for the job will be calculated from the approved fabrication drawings. 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.
2.7	Vendor shall produce all relevant documents such as Material test certificate, LR copy, Inspection reports etc. for the materials procured. In case vendor fails to correlate the supplied material with documents from approved source, vendor shall replace the material at no cost to BHEL. BHEL reserves the right to reject any material, if not found satisfactory.
2.8	BHEL may post own employees/representative 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 Resident engineer for “To and FRO” movement from residing Location from nearby city to Fabrication shop Location.
2.9	Straightening, making cutting plan, cutting, bending, rolling, grinding, drilling, welding, alignment, bolting, temporary pre-assembly full length column height (Trial assembly- tier 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 per ASTM A435), rectification and correction of defective welding works, production test plate, inspection and testing as per erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases shall be in scope of vendor.
2.10	<b>All Materials shall be procured from the CUSTOMER approved sources only as detailed in Annexure 2A, 2B &amp; 2C.</b>
2.11	Preassembly of columns (tier wise), Trial assembly of finished material at Vendor’s works / factory as per BHEL instructions / approved drawings using Vendors T&P at his own cost. No separate cost will be paid for Trial Pre-assembly activity. Vendors may quote considering all such hidden activity as extra in their rate price. BHEL/ CUSTOMER may visit Vendor’s factory for inspecting the Trial Pre-assembly activity. Weight of the heaviest component is approx. 40 MT which may vary upon finalization of the detailed drawings.
2.12	Separate storage area shall be allotted by Vendor for Material intended for BHEL project. Separate engineer shall be allocated by vendor for BHEL Contract.



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<b>2.13</b>	<b>Shop Works:</b>
<b>2.13.1</b>	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 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 in such a way as will facilitate the check of interchange ability.
<b>2.13.2</b>	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 <b>Annexure - A</b> . 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.
<b>2.13.3</b>	After award of work, BHEL at its discretion on mutually agreed terms may increase/decrease the quantum of work, depending upon the factors such as: Load on the vendor, Production capacity of the vendor, Project Requirements and rate of production/performance by the vendor etc. 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.
<b>2.13.4</b>	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.
<b>2.14</b>	<b>Inspection/Testing of Fabricated items</b>
<b>2.14.1</b>	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.
<b>2.14.2</b>	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.
<b>2.14.3</b>	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.
<b>2.14.4</b>	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.
<b>2.14.5</b>	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.
<b>2.14.6</b>	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





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	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.
<b>2.14.7</b>	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.
<b>2.14.8</b>	The vendor shall provide test pieces as required by Inspection agency to enable him to determine the Quality of Material to be used under the contract. If any test piece fails to comply with the requirements the inspection agency may reject the whole material represented by the test piece.
<b>2.14.9</b>	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.
<b>2.14.10</b>	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.
<b>2.14.11</b>	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.
<b>2.14.12</b>	Unless the Inspection / Test is waived, the inspection agency shall attend the Inspection / Test within 15 days of the date of receipt of notice from the vendor, failing which the vendor may proceed with the Inspection / Test and shall forward duly certified copies of the Inspection / Test Reports. After successful completion of the Inspection / Test or receipt of Vendor's Test reports mentioned above, the Inspection agency shall issue within 15 days, the acceptance certificate.
<b>2.15</b>	<b>Quality Plan</b>
<b>2.15.1</b>	The Quality Plan is a document, which presents in a tabular form the Quality control checks exercised by the vendor during the various stages of manufacture and dispatch in order to meet the requirements of this specification. This plan details, step by step, the operations, components and characteristics being controlled, method of exercising such controls, the importance (criticality) of the control (critical major or minor) with respect to the functioning of the item the extent to which the controls are exercised (100% samples, one per heat, etc.). Acceptance norms for the characteristics, method of maintaining records thereof as a proof of having exercised the control successfully, the Vendor responsible for performing and witnessing the checks and for verifying the records thereof.
<b>2.15.2</b>	The Vendors shall furnish the Quality Plan for approval from BHEL/CUSTOMER. Standard Quality plans provided by BHEL as per <b>Annexure 7</b> , the Vendor shall furnish his Quality Plan strictly in line with the same.
<b>2.15.3</b>	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.
<b>2.15.4</b>	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:



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	<div>a) All bought out items and incoming material checks carried out at sources and on receipt.</div> <div>b) Process of manufacture/Fabrication i.e. welding, heat treatment etc.</div> <div>c) Manufacture/fabrication of various components, sub-assemblies and assembly.</div> <div>d) Final Inspection and Testing including Performance Test at shop.</div> <div>e) Surface preparation and painting.</div> <div>f) Packing, Marking (through hard punching with protective paint) and Dispatch.</div>																									
2.15.5	<div><b>Inspection of packages shall be carried out by agency as per below Inspection category of packages as mentioned in <u>Annexure 7</u>:</b></div> <div>a) Cat I: - Inspection shall be done jointly by CUSTOMER or its representative, BHEL &amp; Successful Vendor.</div> <div>b) Cat-II: - Inspection shall be done by BHEL &amp; Successful Vendor.</div> <div>c) Cat-III: - Certificate of Compliance shall be furnished by Successful Vendor.</div> <div><b>Please note, for Cat I &amp; 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.</b></div>																									
2.15.6	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.																									
2.15.7	<div>Approved methods of radiographic, ultrasonic or other non-destructive testing as applicable shall be used for the NDT of the of components / assembly.</div> <div><b>The component shall be produced again for the inspection after rectification of the defect. All defects shall be rectified by the supplier at no extra Cost to BHEL.</b></div>																									
2.15.8	<table><tr><th colspan="3">Quality documents &amp; Technical Delivery Condition (TDC)</th></tr><tr><th>DOC TYPE</th><th>DESCRIPTION</th><th>DOC REF (LATEST REVISIONS TO BE REFERRED)</th></tr><tr><td rowspan="2">STANDARD QUALITY PROCEDURE (SQP)</td><td>BOLTED STRUCTURES</td><td>SQPNP27</td></tr><tr><td>GENERAL STRUCTURES</td><td>SQPNP07</td></tr><tr><td>QUALITY CONTROL PROCEDURE (QCP)</td><td>NON- PRESSURE PARTS</td><td>QCP002</td></tr><tr><td rowspan="5">STANDARD INSPECTION PROCEDURE (SIP) &amp; CIP</td><td>PROCEDURE FOR VISUAL INSPECTION OF NON-PRESSURE PARTS</td><td>SIPNP06</td></tr><tr><td>WELDING/WELDER QUALIFICATION FOR STRUCTURAL APPLICATIONS</td><td>SIPNP07</td></tr><tr><td>PROCEDURE FOR PWHT(LOCAL) AT BHEL VENDOR WORKS</td><td>SIPNP11</td></tr><tr><td>REMOTE INSPECTION</td><td>SIPNP24</td></tr><tr><td>TRIAL ASSY OF COLUMNS, CEILING GIRDERS, MONORAIL &amp; RUNWAY BEAMS</td><td>SIPNP02</td></tr></table>	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
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		TRIAL ASSY PROCEDURE FOR BOLTED STRUCTURE	SIPNP20
		STANDARD PAINTING SCHEME	SIPPP22 Rev 07
<b>2.16</b>	<b>Material Dispatch Clearance Certificate (MDCC)</b>		
<b>2.16.1</b>	When the tests have been satisfactorily completed at the vendor's works, the Inspection Agency shall issue a certificate to that effect within fifteen (15) days after completion of tests, but if the tests were not witnessed by the Inspection Agency or his representative, the certificate would be issued within fifteen (15) days of the receipt of the test certificates by the Inspection Agency.		
<b>2.16.2</b>	Material Dispatch Clearance Certificate (MDCC) for Supply of Fabricated Structures to be issued by Customer/BHEL before supply of finished material. BHEL/CUSTOMER shall issue MDCC to the Vendor based on the QS Note/Report from the Inspection Agency.		
<b>2.16.3</b>	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 Clearance Certificate (MDCC). Wherever required, Vendors shall co-ordinate with the concerned official for MDCC.		
<b>2.16.4</b>	<p>The satisfactory completion of these tests or the issue of MDCC, shall not bind BHEL to accept the supply/equipment, should it, on further tests after erection, be found not to comply with the contract provisions.</p> <p><b>a) For Cat-I item, MDCC shall be issued by BHEL/CUSTOMER and it's the responsibility of vendor to arrange MDCC from BHEL/CUSTOMER.</b></p> <p><b>b) For Cat-II &amp; Cat-III items, MDCC shall be issued by BHEL/Customer.</b></p>		
<b>2.17</b>	<b>GENERAL INSTRUCTION FOR DISPATCH – Refer. provision of GPS tag for ODC consignment / fixing of QR code as per DC.</b>		
<b>2.17.1</b>	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.		
<b>2.17.2</b>	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.		
<b>2.17.3</b>	<p><b>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:</b></p> <ul style="list-style-type: none"> <li>a) Railway Receipt / Lorry Receipt as applicable</li> <li>b) Freight invoice</li> <li>c) FOR Invoice</li> <li>d) Packing List (No of copies as required)</li> <li>e) Certificate of origin</li> <li>f) Letter to Insurer</li> <li>g) Quality Report/Quality surveillance note</li> </ul>		
<b>2.17.4</b>	<p>The distribution procedure for the above documents shall be as per the "dispatch instructions".</p> <p>1) Consignee Address:</p>		



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**Construction Manager / BHEL Site Office,  
BHEL 2X800MW Korderma project,  
DVC Koderma Project,  
Near Benjhidi Village, Koderma District, Jharkhand PIN - 825421**

**Note:**

- a. Consignee address in LR should be strictly as per above.
- b. 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 (CUSTOMER).
- c. Delivery note shall be carried by transporter along with other dispatch documents.

2) **Road Permit Requirement:** As per requirement. To be arranged by vendor.

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.**

4) **Transit Insurance:** Transit insurance from supplier's works/warehouse to BHEL site stores shall be arranged by BHEL.

**Prior to dispatch of each consignment, intimation shall be issued by Vendor 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 site office (address same as consignee address).**

Upon dispatch of material, supplier has to immediately intimate underwriter of BHEL, failing which transit loss if any, would be borne by supplier.

Vendor shall obtain details of Insurance agency & policy documents from BHEL prior to dispatch of first consignment of Fabricated material to site.

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.

In case of any transit damage to materials, the Vendor shall carry out the rectification, 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.

5) **Packing:**

- a. The packing shall be in conformity with specification and shall be such as to ensure prevention of damages, corrosion, deterioration, shortages, pilferage and loss in transit or storage.
- b. 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.
- c. Adequate packing shall be made by the Vendor to avoid any transit damages. The quoted rate shall be inclusive of this packing.



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	<p>d. Packing list shall be submitted as per standard format along with advance set of documents for claiming payment which shall also indicate:</p> <p style="text-align: center;">-</p> <ul style="list-style-type: none"> <li>i. Packing size.</li> <li>ii. Gross weight and net weight of each package.</li> <li>iii. Contents of the package with quantity of each item separately.</li> </ul> <p>6) Transportation &amp; Freight Charges:</p> <ul style="list-style-type: none"> <li>a. All road dispatches shall be through the carriers.</li> <li>b. Owing to any reason, in case the seller / vendor has to resort to a mode of transport other than what was contemplated, to keep up the delivery / completion schedule incurring extra expenditure, such extra expenditure shall be borne by the seller / vendor.</li> <li>c. Freight charges shall be borne by the seller / vendor.</li> </ul> <p><b>Any charges related to the transportation of fabricated material till site is to be borne by the seller / vendor (until unless explicitly mention in the tender).</b></p>
2.17.5	<p><b>Dispatch Documents required (to be furnished by vendor):</b></p> <p><b>A: For customer billing</b>, the vendor shall provide the following documents to BHEL in 4 sets:</p> <ul style="list-style-type: none"> <li>1. Copy of vendor Invoice</li> <li>2. Copy of Packing List Indicating Quantity / Gross weight/Net Weight and CUSTOMER approved BBU item no. wherever applicable against each item dispatched.</li> <li>3. MDCC (Original BHEL/CUSTOMER MDCC, if applicable).</li> <li>4. Customer Hold Point (CHP) issued by BHEL/CUSTOMER – Original (if applicable).</li> <li>5. Insurance intimation copy.</li> <li>6. Test certificate / Inspection Reports- Original.</li> </ul> <p><b>B: For vendor payments</b>, the following documents are required in 4 sets (1 original + 3 Copies):</p> <ul style="list-style-type: none"> <li>a) GST Compliance Invoice (1 Original + 2 copies)</li> <li>b) Copy of insurance intimation letter / e-mail. (Intimation to Insurance agency to be sent on the same day of dispatch.)</li> <li>c) LR copy (consignee address shall be BHEL Project site)</li> <li>d) Packing List indicating item description/quantity/Net Weight (Design Weight) against each item dispatched – wherever applicable.</li> <li>e) Original Material Dispatch Clearance Certificate issued by BHEL/BHEL's Customer.</li> <li>f) Guarantee Certificate – Original</li> <li>g) Material Receipt certificate by BHEL/site.</li> <li>h) Original Inspection report (IRs) – with relevant painting/protocols/SB remarks – Duly signed by BHEL QC inspector and fabricator with seal.</li> <li>i) Material Test Certificate (MTC) (for raw material supplied by Vendor)</li> <li>j) Hold Point Clearance issued by BHEL/BHEL's Customer (if any).</li> </ul>



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**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.**

**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:

- 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 ODC details (if applicable) - duly signed by BHEL QC inspector and Vendor with sign & seal.

**2.17.6**

**STEEL Specifications:**

Vendor 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.

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





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<b>2.18</b>	<b>MATERIAL RECEIPT CERTIFICATE (MRC):</b> 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 in case of any non-conformity observed during physical verification.
<b>2.19</b>	<b>GUARANTEE FOR THE FINISHED GOODS* (Defect Liability of the fabricated material)</b> 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 <b>Twelve months</b> from the date of dispatch of last consignment, the Vendor shall do the necessary repair/rework or replace the defective items free of cost. Alternatively, the rework/replacement charges shall be recovered 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.
<b>2.20</b>	<b><u>RAW MATERIAL PROCUREMENT</u></b>
<b>2.20.1</b>	Vendors shall procure consumables such as Paints, welding electrodes etc. from BHEL approved sources (Refer <b>Annexure 2A, 2B &amp; 2C</b> ). 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 <b>Annexure 2A, 2B &amp; 2C</b> .
<b>2.20.2</b>	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.
<b>2.20.3</b>	Raw material invoice, Test certificate (TC) and Day Book entry (DB) should be submitted to BHEL PSER on weekly basis.
<b>2.20.4</b>	Required equipment's for handling of raw materials/Work in Progress (WIP) & finished goods should be available at Vendor works.
<b>2.20.5</b>	The system for storing and issuing materials shall be available with vendor for easy traceability.
<b>2.20.6</b>	Raw materials are to be identified by its work order (W.O) number / Material code / Specification / grade by painting through stenciling / engraving.
<b>2.20.7</b>	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.
<b>2.20.8</b>	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.
<b>2.20.9</b>	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 <b><u>BREACH OF CONTRACT AND TERMINATION OF CONTRACT</u></b> shall be applicable.
<b>2.21</b>	<b>FABRICATION:</b>



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<b>2.21.1</b>	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 actual/indicative drawings and Tentative Size Details is attached as <b>Annexure 3A &amp; 3B</b> . It is to be noted that the work content as per the actual drawings may vary.
<b>2.21.2</b>	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.
<b>2.21.3</b>	Welding to be carried out by Qualified Welder and as per BHEL's approved Welding Procedure Specification (WPS).
<b>2.21.4</b>	Successful Vendor will have to submit the WPS for approval by BHEL (QC/WTC). Approval of WPS by BHEL will take 2 weeks from the date of submission of complete documents.
<b>2.21.5</b>	Vendor shall use Jigs & fixtures, Core Cutting Machine/ Magnetic Horizontal drilling machine to ensure hole to hole matching during assembly and Erection.
<b>2.21.6</b>	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.
<b>2.21.7</b>	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.
<b>2.21.8</b>	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.
<b>2.21.9</b>	The surface of the welds shall be free from coarse ripples, overlaps, undercuts and abrupt ridges to avoid stress raisers.
<b>2.21.10</b>	Conducting MPI/LPI, other NDT & heat treatment wherever called for in the Drawings/ Quality Plans is in the scope of Vendor.
<b>2.21.11</b>	The requirement of NDE, extent and type of examination shall be as per respective product QP, if applicable.
<b>2.21.12</b>	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.
<b>2.21.13</b>	All handling charges and other incidental charges till completion of fabrication & dispatch up to destination is in Vendor's scope.
<b>2.21.14</b>	Trial Assembly as called for in the Drawings / Quality plans / PO or by the Inspecting Authorities, is in Vendor's scope of work.
<b>2.21.15</b>	Ensure completeness of all final machining operations is in vendor's scope.
<b>2.21.16</b>	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).
<b>2.21.17</b>	Mechanical testing, if any, can be done at any of the NABL approved laboratory in case Vendor do not have their own facilities.
<b>2.21.18</b>	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.
<b>2.21.19</b>	Assembly is to be carried out on a level surface. 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.





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2.22	QUALITY REQUIREMENTS																	
2.22.1	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.																	
2.22.2	Only the right kind of electrodes shall be used as called for in the Drawings.																	
2.22.3	Any other work carried out other than the requirements of Drawings/QWIs shall have the prior written approval of BHEL/ Trichy.																	
2.22.4	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.																	
2.22.5	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><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><tr><td>04</td><td>Measuring Steel tapes</td><td>Once</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	04	Measuring Steel tapes	Once
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2.22.6	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.																	
2.22.7	Manufacturing, handling and testing facilities' requirement as specified by BHEL from time to time shall be made available by the Vendor.																	
2.23	TRANSPORTATION																	
2.23.1	The rates finalized shall include cost of transporting finished products from Vendor's Works to 2X800 MW DVC Koderma site.																	
2.23.2	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.																	
2.23.3	The transportation should be done using appropriate Vehicle/Trailer with all valid Documents complying to all the applicable rules and regulations.																	
2.23.4	Loading of finished goods on to the Truck / Trailer is in Vendor's scope.																	



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2.23.5	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.
2.23.6	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.
2.23.7	In case after reaching the destination/Project site if any non-conformance is noticed by the way of improper loading/lassing of finished Goods, BHEL reserve the right to reject the material. Vendor should correct the non-conformances at his own cost.
2.23.8	In addition, BHEL may recover from the default Vendor, the amount arising due to improper loading of finished goods on vehicles as specified by BHEL officials at Unloading point.
2.23.9	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.
2.23.10	<p>Unloading of material at site, supplied by Vendor, shall be in the scope of BHEL. BHEL shall unload the material within 48-72 hrs. from the time of entry of trailer in the plant premises. In case the supplied material is not being unloaded within 72 hrs., for the reason not attributable to fabricator/transporter, Vendor shall be entitled for demurrage charges.</p> <p>a. Demurrage charges for Truck shall be Rs. 1000/days.</p> <p>b. Demurrage charges for all types of Trailers shall be Rs. 2000/days.</p> <p><u>For example:</u> if the vehicle reached at site for unloading and made IN entry on 02.07.2024 at 10:00 am, the free period (72 hrs. as mentioned above) will be available up to 10:00 am 05.07.2024. If the EXIT of the vehicle is recorded on 10:30 am 05.07.2020, then Demurrage will be calculated excluding duration of 72 hrs. Hence, Vendor will be eligible to claim Demurrage charges for only one day.</p>
2.23.11	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.
2.23.12	Demurrage shall be paid based on the Gate Entry at Site / certification by BHEL site personnel – with signature & official seal.
2.23.13	As soon as the dispatches are made, Vendor have to upload/provide scanned copy of DC and GST Invoice in BHEL system.
2.23.14	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 (as defined in Chapter IV of TCC) have to be furnished for processing the invoice at BHEL.
2.24	<b><u>SURFACE PREPARATION, PAINTING AND STENCILING</u></b>
2.24.1	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 <b>Annexure 8</b> . Vendor shall refer the latest version of Painting scheme and applicable quality documents during execution. Blasting, wherever



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	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.
<b>2.24.2</b>	Identification of Structures shall be hand punched and stenciled.
<b>2.24.3</b>	The Project name, Work Order No., Number off, DU Number, Weight, and Vendor Code number shall be legibly stenciled for identification and dispatch as may be advised. Vendor Code number alone 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.
<b>2.24.4</b>	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.
<b>2.24.5</b>	After painting and stenciling, suitable crating should be made, according to the job size.
<b>2.24.6</b>	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 default Vendor. If a proper blasting and painting process is followed, then the painting should withstand severe / corrosive atmosphere. Moreover, Vendor cannot absolve its responsibility even beyond normal warranty period, irrespective of the fact that the product had been inspected by BHEL/QC/AIA. In order to avoid such penalties, Vendor is advised to follow the established process of blasting and painting as mentioned in BHEL approved quality documents. BHEL approved quality documents and procedures shall be shared during execution.
<b>2.25</b>	<b><u>INSPECTION</u></b>
<b>2.25.1</b>	Inspection at the Vendor works shall be done by BHEL Quality Control Department and/or by BHEL's customers and/or by an agency or person(s) authorized by BHEL. All facilities and equipment(s), calibrated instruments and standard gauges required for inspection shall be provided by the Vendor at their own cost.
<b>2.25.2</b>	BHEL representatives/authorized agents shall have free access to the Vendor's works at any time during the execution of the orders as well as for verification of requisite documents/materials.
<b>2.25.3</b>	Cost incurred by the Vendor for specimen preparation of production test coupon carried out at authorized agency as requested by BHEL shall not be reimbursed by BHEL.
<b>2.25.4</b>	The quality of paints used by Vendor shall be checked by BHEL at regular intervals. In case discrepancies with respect to BHEL's specification are noted, the job may be rejected, and appropriate action against the Vendor shall be initiated as per latest revision of BHEL Guidelines for Suspension of Business Dealings with Suppliers/Contractors/Vendors.



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<b>2.25.5</b>	The works are deemed to have been completed and accepted, only after the inspector / Agency / Agencies accept / approve the Inspection Report (IR). IR has to be raised as per the format given in BHEL.
<b>2.25.6</b>	Acceptance of the product and delivery at site after inspection makes the Vendor eligible for payment. However, such acceptance after inspection by BHEL / AIA does not absolve the responsibility of the Vendor in ensuring the quality / performance of their product, even after the warranty period.
<b>2.25.7</b>	Quality documents such as dimension report, material TC, etc., against the PO placed and drawing shall be uploaded/provided by the Vendor.
<b>2.25.8</b>	BHEL representative from unit or Customer Quality (CQ) is authorized to carry out audits along with Third Party Inspection Agency (TPIA) at Vendor's works before clearing the items for dispatch wherever required.
<b>2.25.9</b>	<p>Few extra rate schedules with prefixed rates have been identified for this tender enquiry. Rates for extra rate schedules as mentioned hereunder, shall be payable over and above the basic fabrication rates (finalized for Main fabrication schedules), wherever applicable. Accepting the Pre-fixed rates by Vendor mentioned in Extra rate schedule is mandatory.</p> <ul style="list-style-type: none"> <li>• Fabrication of few items shall involve a combination of E250 grade and E350 grade of raw material. Differential Rate for E350 grade of raw material including SAW Consumable are pre-fixed and it will be operated as an extra which shall be over and above the finalized rate as detailed in above table.</li> <li>• Vendor shall quote their rates considering the materials as E250 grade. Extra rates will be provided for E350 materials as per pre-fixed rates for extra rate schedule.</li> <li>• <b>For e.g.:</b> <ul style="list-style-type: none"> <li>✓ The DU weight of an Auto Welded beam is <b>14 MT (Quantity 1 Number)</b>.</li> <li>✓ Out of <b>14 MT</b>, <b>10 MT</b> is E250 BR/GrA &amp; <b>4 MT</b> is E350 BR.</li> <li>✓ Rate finalized is <b>Rs. 20,000 per MT</b>.</li> </ul> </li> </ul> <p><b>The Payable amount shall be as follows:</b></p> <p><b>a) Basic amount = Rs. 2,80,000</b>  [Finalized Rate (Rs. 20,000 / MT) * Weight (14 MT)]</p> <p><b>b) Extra amount for E350 BR = Rs. 15,600</b>  [Prefixed Rate for <u>Extra RS02</u> (Rs. 3900 per MT) * Weight for E350 BR (4 MT)]</p> <p><b>c) Total payable amount = Rs. 2,95,600 [a+ b]</b>  <b>Above example is only for illustration purpose only.</b></p>



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2.25.10	<b>Extra rate Schedule</b>			
	<b>Sl. No</b>	<b>EXTRA RATE SCHEDULE</b>	<b>EXTRA RATE SCHEDULE DESCRIPTION</b>	<b>Rate</b>
	1	Extra RS02	Material cost differential between E350 BR/GrA and E250 BR/GrA including SAW Consumable cost differential used for E350-E350 material welding and E250-E250 material	<b>Rs 3,900 / MT</b>
	2	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)	<b>Rs 1170 / MT</b>
	3	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)	<b>Rs 1620 / MT</b>
	4	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.	<b>Rs 360 / MT</b>
2.25.11	Extra works, if any, carried out as per drawings / Quality plan / PO requirement shall qualify for extra payment. 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.			
2.26	<b>PROGRESS REPORT</b>			
2.26.1	The Vendor Shall E-mail their completion plan and progress report from time to time as and when required by BHEL.			
2.26.2	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.			
2.26.3	In the event of non-submission of completion plan and progress report, suitable action deemed fit shall be taken against such defaulting Vendor(s).			
2.27	<b>ACTION AND COMPENSATION IN CASE OF BAD WORKMANSHIP</b>			



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<b>2.27.1</b>	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.
<b>2.27.2</b>	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.
<b>2.27.3</b>	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.
<b>2.27.4</b>	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.
<b>2.27.5</b>	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.
<b>2.27.6</b>	To address any multiple mismatches during erection stage, the successful Vendor shall arrange a technical person as per the instructions received from BHEL at site for proper co-ordination with various agencies so that problem is attended / rectified without any time gap. Vendor shall deploy adequate resources at site for coordination and rectification work (for the reason attributable to vendor) without any extra cost to BHEL.





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

S.No.	Package	Contractual Schedule (Month)
1.	<b>Package A:</b> Boiler Structure for Unit 1	17 Months
2.	<b>Package B:</b> Boiler Structure for Unit 2	17 Months

**3.1.6 Priority Schedule of important Structures:**

Tentative supply completion schedule from Zero date		
Supply schedule	Package A For Unit #1	Package B For Unit #2
Main column supply commencement	2nd Month	2nd Month
1st tier supply completion*	3rd Month	3rd Month
2nd tier supply completion*	4th Month	4th Month
3rd tier supply completion*	5th Month	5th Month
4th tier supply completion*	6th Month	6th Month
5th tier supply completion*	7th Month	7th Month
6th tier supply completion*	8th Month	8th Month
7th tier supply completion*	9th Month	9th Month
8th tier supply completion*	10th Month	10th Month
PG 35 & Roof Structure supply completion*	11th Month	11th Month
Structure supply under PG 36 completion*	15th Month	15th Month
Structure supply under PG 38 completion*	17th Month	17th Month
Structure supply under PG 39 completion*	17th Month	17th Month

**Note:**

2. Completion\* means Supply of all structural items (incl. Main Columns, Auxiliary Columns, Middle Columns, Horizontal Beams, First Pass Horizontal Beam, Second Pass Front Bracing,



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**Chapter III – Time Schedule**

Side Bracing, Rear Bracing, Landing & Connecting Platforms, stairs, landing platform, other beams and bracings and other related PGMAs).

3. Phase gap of Unit # 1 & Unit # 2 is 3 months tentatively.

3.1.7 Inputs for fabrication work such as Drawings, shall be provided progressively.

3.1.8 Timely delivery is the essence of the Contract. Vendor shall ensure on-time procurement of raw material. Atleast 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.

- i. Diversion of part scope to another agency. Cost difference, if any shall be recovered from the defaulting vendor.
- ii. Supply of raw material to vendor work. Cost towards raw material with 10% overheads shall be recovered from the agency.
- iii. Short closure/ Termination of contract in line with breach of contract clause.

3.1.9 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.

3.1.10 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.

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

**3.2 Package wise Bill of Quantities:**

S.No	BOQ Description	Package A Weight (in MT)	Package B Weight (in MT)
	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 considering E250 grade of material).		
1	Star Column (Heaviest component of 40 MT approx.)	3448	3448
2	Fabrication other than star column (Beams, Bracing, Landing & Connecting Platforms, gantry girders, roof trusses, portals, laced purlins, hangers, monorails, galleries, stiffeners, etc.)	9937	9937





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S.No	BOQ Description	Package A Weight (in MT)	Package B Weight (in MT)
3	Running meter ISMC, ISA, Base Plate, ISMB etc. Supplied cut to length with minor fabrication work, if any, such as drilling or chamfering etc. (no welding involved).	153	153
4	Fabrication of Stairs (complete in all respect) with GI grill. Items of Blasting and painting items shall not be applicable on GI grill items.	84	84
5	Blast cleaning of steel structures to near white metal surface (Sa 2 1/2) and applying coat of two component moisture curing zinc (ethyl) Silicate primer of minimum 70-micron DFT.	13622	13622
6	Providing and applying intermediate coat of two component polyamide cured epoxy with MIO Content of minimum 100-micron DFT	13622	13622
7	Providing and applying Finish coat of two-pack aliphatic Isocyanate cured acrylic finish paint minimum 70-micron DFT.	13622	13622
8	HSFG Bolt, Nut & Washer Grade 4.6	12	12

**Note:**

1. The above quantities are tentative and may vary, BHEL reserves the right for allocation of tonnage to the agencies as per requirements.
2. Quantity Variation limit:  $\pm 30\%$  of awarded value.
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	<b>Package A:</b> Boiler Structure for Unit 1	13,622 MT
	<b>Package A:</b> HSFG Bolt, Nut & Washer Grade 4.6	12 MT
2	<b>Package B:</b> Boiler Structure for Unit 2	13,622 MT
	<b>Package B:</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, within 15 days from the date of Purchase Order, for approval of BHEL.

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



**BHARAT HEAVY ELECTRICALS LIMITED**  
**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 for BOQ as per the breakup given hereinafter: -**

- 1) **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 60 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. Validity of LC i.e. last shipment date shall be linked to PO delivery date.

**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 Receivable Exchange of India Limited (RXIL), M1 Exchange & Invoicemart as per extant guidelines. Vendor to submit complete documents, as listed below:

List of Documents to be submitted by bidder.

- a) GST Compliance Invoice (1 Original + 2 copies)
  - b) Copy of insurance intimation letter / e-mail. (Intimation to Insurance agency to be sent on the same day of dispatch.)
  - c) LR copy (consignee address shall be BHEL 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) 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 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 Vendor 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



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**Chapter IV – Terms of Payment**

initially for the contract period & shall be extended up to acceptance of final bill if the final bill is not settled during the contract period.

- v. Fixed Deposit Receipt issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the 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, Dist. 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 Vendor 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/ 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 Vendor 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 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.



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- 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.



**BHARAT HEAVY ELECTRICALS LIMITED**  
**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter V – Welding, Radiography, NDT, PWHT**

**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 Vendor's welder shall be borne by Vendor.

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/boiler inspecting authority. Vendor shall also arrange the Ultrasonic Testing (UT) equipment with recording facility at his own cost. UT shall be done as per requirement of BHEL / client. Records of UT shall be produced & submitted to as per site requirement.

5.2.3 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.

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



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**Chapter V – Welding, Radiography, NDT, PWHT**

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 at site.

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.

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 chucks, & 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 authorities and due clearances obtained.

5.3.9 Results of these processes shall be verified/ validated as per requirements of BHEL / client.

**BHARAT HEAVY ELECTRICALS LIMITED****TECHNICAL CONDITIONS OF CONTRACT (TCC)****Chapter VI – Preservation & Protection of 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. Necessary preservation agents including the primer & paint, for the above work shall be provided by the Vendor.
- 6.2 The Vendor shall make suitable security arrangements including employment of security personnel and ensure protection of all materials/ equipment in their custody and installed equipment's from theft/fire/pilferage and any other damages and losses.
- 6.3 Vendor shall be solely responsible for preservation and safety of material at their works. Vendor shall refurbish the material in case of any loss of material, without any cost to BHEL.



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**Chapter VII - Exclusion**

**7.0 Exclusion in the scope of work are as mentioned hereunder:**

- 7.1 Supply of Foundation bolts, bearing, hand rail & Pipe/sleeve.
- 7.2 Supply and fabrication of Electro Forged GI floor Gratings (other than stairs).
- 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 Ceiling girder.





**BHARAT HEAVY ELECTRICALS LIMITED**  
**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**' only in price Bid.

**8.1.1 BOQ along with weightage for Package A is mentioned hereunder:**

S.No.	BOQ Description	Weight (in MT)	Amount Weightage
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 considering E250 grade of material).			
1	Star Column (Heaviest component of 40 MT approx..)	3448	0.234817447813
2	Fabrication other than star column (Beams, Bracing, Landing & Connecting Platforms, gantry girders, roof trusses, portals, laced purlins, hangers, monorails, galleries, stiffeners, etc.)	9937	0.649405200671
3	Running meter ISMC, ISA, Base Plate, ISMB etc. Supplied cut to length with minor fabrication work, if any, such as drilling or chamfering etc. (no welding involved).	153	0.007656977379
4	Fabrication of Stairs (complete in all respect) with GI grill. Items of Blasting and painting items shall not be applicable on GI grill items.	84	0.006475561595
5	Blast cleaning of steel structures to near white metal surface (Sa 2 1/2) and applying coat of two component moisture curing zinc (ethyl) Silicate primer of minimum 70-micron DFT.	13622	0.039846314889
6	Providing and applying intermediate coat of two component polyamide cured epoxy with MIO Content of minimum 100-micron DFT	13622	0.031322206626
7	Providing and applying Finish coat of two-pack aliphatic Isocyanate cured acrylic finish paint minimum 70-micron DFT.	13622	0.029042396790
8	HSFG Bolt, Nut & Washer Grade 4.6	12	0.001433894237

**8.2 Modality of award**

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

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

Step-1: 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 Packages B:

- Case: I – L-1 Bidder is MSE.  
Package B shall be counter offered to the other bidders in the order of Price Competitiveness on Finalized L-1 rates (i.e. L-2, L-3 and henceforth).
- Case: II – L-1 Bidder is non -MSE.

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.

In case none of the MSE-MII bidders falling within 15% margin of purchase preference accepts to match the L1 rate. Package B shall be counter offered to remaining bidders in the order of price competitiveness.

In case none of the MSE-MII bidders falls within 15% margin of purchase preference. Package B shall be counter offered to bidders in the order of price competitiveness.

The bidder accepting the L1 rates shall be considered for awarding of Package B. The unit rates of Package A as derived from L-1 rates shall be applicable for unit rates of Package B and accordingly Total awarded value of Package B shall be calculated.

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

### 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: 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 contract. Contract Value for this purpose, shall be the total Purchase order value inclusive of Quantity Variation and exclusive of PVC, Extra Works, Supplementary/Additional Items, 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 4**.
  - b. Duly Filled Vendor Questionnaire. Format - P4F2R0 - **Annexure 5**.
  - c. Valid Factory Registration certificate.
  - d. Overall Organization Chart with Manpower details (Design, Manufacturing, Quality etc.).
  - e. Supply reference list indicating similar product supply order reference no., customer name, rating of product, date /year of supply, date / year of commissioning.
  - f. Source of Raw Material.
  - g. List of Qualifies Welder and NDT personals with Vendor.
  - h. List of Manufacturing Equipment available with vendor.
  - i. List of Testing Equipment available with vendor.
  - j. Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any.
  - k. Details of Outsourced Manufacturing Processes, if any.
  - l. Quality control exercised during receipt, in-process & final inspection.
  - m. Product Satisfactory performance feedback letter/End user Certificate.
  - n. Copy of ISO 9001 Certificate.
  - o. Compliance of Statutory requirements (As applicable).
  - p. The factory of the bidders shall be inspected by BHEL in line with the TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL 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 any discrepancy Vendor shall be complied as per BHEL/CUSTOMER requirement at any stage of job.

9.0	<b>TAXES &amp; DUTIES</b>
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 &amp; services consumed and output goods &amp; 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 <b>GST</b> on output supply (goods/service) and TDS/TCS as per Income Tax Act shall be as per following clauses.</p>
9.2	<b>GST (Goods and Services Tax)</b>
9.2.1	GST as applicable on output supply (goods/services) are excluded from contractor's scope; therefore, contractor's price/rates shall be <b>exclusive</b> of GST. Reimbursement of GST is subject to compliance of following terms and conditions. BHEL shall have the right to deny payment of GST and to recover any loss to BHEL on account of tax, interest, penalty etc. for non-compliance of any of the following condition.
9.2.2	The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL & its Contractor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL & its Contractor.
9.2.3	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.
9.2.4	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.
9.2.5	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.
9.2.6	Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, vendor has to provide scan copy of invoice & GR/LR/RR to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions.
9.2.7	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> <ol style="list-style-type: none"> <li>Supply of goods and/or services have been received by BHEL.</li> <li>Original Tax Invoice has been submitted to BHEL.</li> <li>Contractor/ Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order.</li> <li>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.</li> </ol>

	<p>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.</p> <p>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.</p> <p>g. Contractor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.</p>
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 Contractor's due payment.
9.2.14	Any denial of input credit to BHEL or arising of any tax liability on BHEL due to non-compliance of GST Law by the Contractor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Contractor.
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><b><u>Variation in Taxes &amp; Duties:</u></b></p> <p>Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability.</p> <p>In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its contractor only and within the contractual delivery period only.</p> <p>In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/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	<b><u>Income Tax:</u></b>



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	<b>TDS/TCS</b> as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from contractor's bill.	
9.4	<b><u>List of state wise GSTIN Nos. of BHEL is as follows:</u></b>	
	<b>Sl. No</b>	<b>Projects under state</b>
	1	Andhra Pradesh
	2	Bihar
	3	Chhattisgarh
	4	Gujarat
	5	Jharkhand
	6	Madhya Pradesh
	7	Maharashtra
	8	Orissa
	9	Telangana
	<b>GSTIN</b>	
		37AAACB4146P7Z8
		10AAACB4146P1ZU
		22AAACB4146P1ZP
		24AAACB4146P1ZL
		20AAACB4146P5ZP
		23AAACB4146P1ZN
		27AAACB4146P1ZF
		21AAACB4146P1ZR
		36AAACB4146P1ZG





**BHARAT HEAVY ELECTRICALS LIMITED**  
**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Annexure A – Tentative Requirement for Factory**

<b>TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL STRUTURES</b>		
<b>Characteristic</b>		<b>Check List</b>
<b>License</b>	a	Availability of factory registration license, GST Registration and other statutory licenses/permissions etc.
	b	Correctness of Name & address with name plate/Company Registration Certificate/Excise Certificate.
	c	If factory is on lease/rented area than availability of valid lease /rent agreement document.
<b>Quality management</b>	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.
<b>Raw Material control</b>	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.
<b>Material handling</b>	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)
<b>Handling of weld consumables</b>	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.
<b>Welding qualification</b>	a	Availability of qualified WPS & PQR.
	b	Availability of sufficient no of qualified welders.
	c	Availability of welder performance monitoring/defect rate monitoring systems.
<b>Quality Records</b>	a	Randomly on verification of documents for one or two order executed, availability of proper quality related documents.
<b>Machinery</b>	a	Availability of Auto beam welding Machine to handle proposed largest component & sufficient number of SAW welding machines.
	b	Availability of sufficient number of welding machinery-SMAW/GMAW/GTAW/FCAE etc.
	c	Availability of CNC plasma/torchy cutting machines/profile cutting machines.



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**Annexure A – Tentative Requirement for Factory**

<b>TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL STRUCTURES</b>		
<b>Characteristic</b>		<b>Check List</b>
	d	Availability of PUG/Gas cutting machines
	e	Availability of radial drilling machine, lath Machine & rolling machine-capacity matching to proposed thickness & size of component.
	f	Availability of weld edge preparation/bevel end cutting machines
	g	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.
<b>Spare/Inspection Area</b>	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.
<b>NDT/HEAT treatment/hydro/leak test facility</b>	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
<b>Professional qualification/quality manpower</b>	a	Availability of qualified & experience manpower for quality.
	b	Availability of DP/MPT Level II qualified personal.
	c	Availability of RT level II qualified personal if applicable.
	d	Availability of UT level II qualified personal if required.
<b>Testing facility</b>	a	Availability of calibrated tape/laser beam instruments to measure long column length for proto /assembly
	b	Availability of calibrated weld gauge, Vernier, micrometer & measuring instruments
	c	Availability of calibration status of major equipments and measuring instruments.





**BHARAT HEAVY ELECTRICALS LIMITED**  
**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Annexure A – Tentative Requirement for Factory**

**TENTATIVE REQUIREMENT FOR FACTORY FOR FABRICATION OF STEEL STRUCTURES**

Characteristic		Check List
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.



**BHARAT HEAVY ELECTRICALS LIMITED**  
**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Annexure B – Price Variation Compensation**

**2.17 PRICE VARIATION COMPENSATION**

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

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

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

SL NO.	CATEGORY	INDEX/ AVERAGE MINIMUM WAGE	PERCENTAGE COMPONENT ('K')  FABRICATION Material in 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)	<b>17</b>
ii)	WELDING ROD	Name of Commodity: MANUFACTURE OF BASIC METALS Commodity Code: 1314000000	<b>5</b>
iii)	HIGH SPEED DIESEL	Name of Commodity: HSD Commodity Code: 1202000005	<b>2</b>
iv)	STEEL (Structural)	Name of Commodity: MILD STEEL: LONG PRODUCTS Commodity Code: 1314040000	<b>57</b>
v)	PAINT	Name of Commodity: PAINT Commodity Code: 1310050000	<b>4</b>

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

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

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

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)



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**Annexure B – Price Variation Compensation**

- $X_N$  = Revised Index for Labour, Revised Average Minimum Wages for Labour, Revised Index for High Speed Diesel Oil, Welding Rod, Paint, Cement, Steel and Materials for the billing month under consideration
- $X_o$  = Index for Labour, Average Minimum Wages for Labour, Index for High Speed Diesel Oil, Welding Rod, Paint Cement, Steel and Materials as on the Base date

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

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

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

2.17.8 The Vendor 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.

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

i) PVC shall not be applicable for time extension provided for the delays solely attributable to the Vendor. 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 detailed 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.

Depending on the availability of drawings, the asking rate of fabrication is assumed to be a **minimum of 800 MT/month**. PVC shall be applicable **based on the indices of the running month** for the material fabricated in that month, considering a minimum fabrication of **800 MT**.

Any shortfall in the fabricated tonnage from **800 MT**, due to reasons solely attributable to the vendor, shall be **earmarked/fixed** for PVC using the indices of the month in which the shortfall occurred.

If fabrication exceeds **800 MT (excluding backlog)** in a given month, PVC **will** be applicable to the actual tonnage fabricated in that month.

Let's assume the following scenario for a vendor working under this clause:

- Date of availability of drawings: **1st January 2025**
- Raw material procurement time: **45 days** (until **15th February 2025**)
- Fabrication time: **Next 45 days** (until **31st March 2025**)
- **Minimum expected fabrication rate: 800 MT/month**



**BHARAT HEAVY ELECTRICALS LIMITED**  
**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Annexure B – Price Variation Compensation**

- **Price Variation Compensation (PVC):** Based on indices of the fabrication month

Case 1: Vendor Meets the Minimum Requirement (800 MT)

- Suppose in **March 2025**, the vendor fabricates **800 MT** as expected.
- The PVC will be calculated **based on March 2025 indices** for the full 800 MT.

Case 2: Vendor Fabricates More Than 800 MT (e.g., 950 MT)

- Suppose in **March 2025**, the vendor fabricates **950 MT** (without any backlog from previous months).
- The **PVC will be applicable to the entire 950 MT**, using the indices of **March 2025**.

Case 3: Vendor Fabricates Less Than 800 MT (e.g., 700 MT) Due to Its Own Reasons.

- Suppose in **March 2025**, the vendor fabricates **only 700 MT** due to **delays solely attributable to vendor**.
- Since the clause mandates a **minimum of 800 MT**, the shortfall of **100 MT** will be fixed for PVC using the **March 2025 indices**.
- Even if the vendor compensates for this shortfall in April or May, the **PVC for the shortfall will still be calculated using March indices**.

Case 4: Vendor Fabricates 700 MT in March but Completes Backlog (solely attributable to Vendor) in April.

- Suppose in **March 2025**, the vendor fabricates **700 MT** (shortfall: 100 MT).
- In **April 2025**, the vendor fabricates **900 MT** (800 MT regular + 100 MT backlog from March).

**March 2025 PVC indices will still apply to the 100 MT shortfall**, while the remaining 800 MT of April's fabrication will be compensated using **April 2025 PVC indices**.