

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023 for the work of “CIVIL AND ARCHITECTURAL WORKS IN FOUNDATIONS & CIVIL SUPERSTRUCTURE FOR MAIN POWER HOUSE BUILDINGS, TG DECKS, COMMON CONTROL ROOM, SERVICE BUILDING, TRANSFORMER YARDS, SWITCHYARD, PIPE/CABLE RACK FOUNDATIONS & MISC. BLDGS. OF UNIT-1 AND UNIT-2 FOR 2X800 MW SINGRAULI STPP STAGE-III, DISTRICT SONEBHADRA, U.P.”.

A) **Time Extension:** Clause No. 1.0 Salient Features of NIT in NOTICE INVITING TENDER is revised as below:

Sl. No.	Clause No.	Existing in Tender	Revised As
1	Sl. No. v) DUE DATE & TIME OF OFFER SUBMISSION.	Date: 29/07/2024, Time: 10:00 Hrs	Date: 05/08/2024, Time: 10:00 Hrs
2	Sl. No. vi) OPENING OF TENDER	Date: 29/07/2024, Time: 16:30 Hrs	Date: 05/08/2024, Time: 16:30 Hrs

B) **Modification in Technical Conditions of Contract (TCC) and BOQ CUM RATE SCHEDULE ITEMS:**

(i) **Modification in BOQ**

BOQ ITEM NO.	Existing Clause	Revised Clause
Sl. No	Description	Description
500	Roof Treatment works: Roof treatment works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, curing, sampling, testing etc at all level as per specification, drawings and as directed by engineer - in - charge.	Roof Treatment works: Roof treatment works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment, transportation, handling, curing, sampling, testing etc at all level as per specification, drawings and as directed by engineer - in - charge. Note: Cement shall be issued by BHEL free of cost (unless otherwise specified in BOQ/contract specifications).

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BOQ ITEM NO.	Existing Clause	Revised Clause
Sl. No	Description	Description
A1322	<p>Providing, fixing & Designing GRC Tile of size 250mmx75mmx15mm conforming to IS:1237 in approved design, size, texture, thickness, pattern and color on walls upto any height as per the architectural drawing & approval,including necessary scaffoldings required for installation. The Tile shall confirm to IS :1237-1980. The composition of tiles should be '43' Grade White Portland cement, reinforced with Alkali Resistant Glass Fiber and the pigmentation should be done with exterior grade synthetic inorganic iron oxide pigments. The pigmentation should be homogeneous and in accordance with British Standards BS EN 12878:1999. The other additives should be fine washed graded quartz, super plasticizers and integrated water proofing agents and others. The tiles should be produced with high vibration technology and should have compressive strength equivalent to M-40 Grade@28 days. The top surface of the tiles should be sealed with acrylic lacquer resulting in surface water absorption of tiles, less than 1% and water absorption by 24 hrs immersion method, less than 8%. The tiles should be applied on a rough plaster of cement mortar 1:3 (1 cement: 3 coarse sand) and the fixing of tiles should be done by tile adhesive Unistone,Luxture or equivalent as per manufacturer's laying instruction. Installation to be done by specialized vendor in strict supervision if required as per the manufacture's specification.The colour, texture and pattern finish shall be as finalized by Architect engineer. Note: Quoted item rate shall be inclusive of Cement for tile making.</p>	<p>Providing, fixing & Designing GRC Tile of size 250mmx75mmx15mm conforming to IS:1237 in approved design, size, texture, thickness, pattern and color on walls upto any height as per the architectural drawing & approval,including necessary scaffoldings required for installation. The Tile shall confirm to IS :1237-1980. The composition of tiles should be '43' Grade White Portland cement, reinforced with Alkali Resistant Glass Fiber and the pigmentation should be done with exterior grade synthetic inorganic iron oxide pigments. The pigmentation should be homogeneous and in accordance with British Standards BS EN 12878:1999. The other additives should be fine washed graded quartz, super plasticizers and integrated water proofing agents and others. The tiles should be produced with high vibration technology and should have compressive strength equivalent to M-40 Grade@28 days. The top surface of the tiles should be sealed with acrylic lacquer resulting in surface water absorption of tiles, less than 1% and water absorption by 24 hrs immersion method, less than 8%. The tiles should be applied on a rough plaster of cement mortar 1:3 (1 cement: 3 coarse sand) and the fixing of tiles should be done by tile adhesive Unistone,Luxture or equivalent as per manufacturer's laying instruction. Installation to be done by specialized vendor in strict supervision if required as per the manufacture's specification.The colour, texture and pattern finish shall be as finalized by Architect engineer. Note: Quoted item rate shall be inclusive of Cement for tile making. Cement for fixing mortar shall be issued by BHEL free of cost.</p>

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BOQ ITEM NO.	Existing Clause	Revised Clause
Sl. No	Description	Description
1814A	<p>Installing of 40 mm dia GS pipe Electrode (length - 3.0 Mtr) as per approved drawing with test links and treated earth pit with CI frame and hinged cover alongwith all associated civil works i.e.</p> <ul style="list-style-type: none"> - excavation - installing the pipe electrode with alternate layers of Coke & charcoal, salt - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work <p>Note: Only GI Pipe, Nuts, Bolts & Washers, test links will be supplied by BHEL. Other items like CI frame, CI cover, charcoal, salt etc shall be supplied by contractor.</p>	<p>Installing of 40 mm dia GS pipe Electrode (length - 3.0 Mtr) as per approved drawing with test links and treated earth pit with CI frame and hinged cover alongwith all associated civil works i.e.</p> <ul style="list-style-type: none"> - excavation - installing the pipe electrode with alternate layers of Coke & charcoal, salt - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work <p>Note: Only GI Pipe, Nuts, Bolts & Washers, test links shall be issued by BHEL free of cost. Other items like CI frame, CI cover, charcoal, salt etc shall be supplied by contractor.</p>
1814B	<p>Installing of 40 mm diameter Rod Electrode with test pit/link per approved drawing including following works :</p> <ul style="list-style-type: none"> - excavation - installing the rod electrode - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work <p>Note: Only 40 mm Diameter MS rod & test link shall be supplied by BHEL, other items like CI frame, cover etc.</p>	<p>Installing of 40 mm diameter Rod Electrode with test pit/link per approved drawing including following works :</p> <ul style="list-style-type: none"> - excavation - installing the rod electrode - backfilling and compaction - Casting the Test Pit with Cast Iron covers - any other work necessary to complete the work <p>Note: Only 40 mm Diameter MS rod & test link shall be issued by BHEL free of cost, other items like CI frame, cover etc.</p>
1814C	<p>Installing of 40 mm diameter Rod Electrode without test pit/link per approved drawing including following works including following works:</p> <ul style="list-style-type: none"> - excavation/hammering of rod in earth - installing the rod electrode - backfilling and compaction - any other work necessary to complete the work <p>Note: 40 mm Diameter MS rod will be supplied by BHEL.</p>	<p>Installing of 40 mm diameter Rod Electrode without test pit/link per approved drawing including following works including following works:</p> <ul style="list-style-type: none"> - excavation/hammering of rod in earth - installing the rod electrode - backfilling and compaction - any other work necessary to complete the work <p>Note: 40 mm Diameter MS rod shall be issued by BHEL free of cost.</p>

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BOQ ITEM NO.	Existing Clause	Revised Clause
Sl. No	Description	Description
2307	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel having minimum galvanisation conforming to IS:2062 in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	Supplying, fabrication, erection and alignment of factory made electroforged galvanised grating units with mild steel having minimum galvanisation conforming to IS:2062 in flooring, platforms, drain and trench covers, walk-ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. Note: Electroforged Galvanised Gratings will be issued by BHEL free of cost.

(ii) Modification in TCC

TCC Clause No.	Existing Clause	Revised Clause
9.7.2	Penal Rate will be 1.05 times the actual cost to BHEL or Rate mentioned in Table 9.10.1 above, whichever is higher, shall be imposed.	Penal Rate will be 1.05 times the actual cost to BHEL or Rate mentioned in Table 9.7.1 above, whichever is higher, shall be imposed.
Chapter-IV Cl no. (4.1.8)	4.1.8 Concrete Batching Plant with computerized operations and batch report facilities. 01 Nos. 4.1.8.1 Capacity- 60 CuM /Hr. 01 Nos. 4.1.8.2 Capacity- 30 CuM/ Hr. 01 Nos.	4.1.8 Concrete Batching Plant with computerized operations and batch report facilities. 4.1.8.1 Capacity- 60 CuM /Hr. 01 Nos. 4.1.8.2 Capacity- 30 CuM/ Hr. 01 Nos.

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TCC Clause No.	Existing Clause	Revised Clause
Chapter- XI	<p>11.0 Following Technical Specifications shall be integral parts of this tender (attached separately):</p> <ul style="list-style-type: none"> • SECTION-C: CUSTOMER CONTRCT SPECIFIC TECHNICAL REQUIREMENTS • SECTION-D: GENERAL TECHNICAL REQUIREMENTS • WORKERS ACCOMMODATION DRAWING OF CUSTOMER • WORKERS REST ROOM DRAWING • GPR REPORT FOR UNDERGROUND FACILITIES AT SINGRAULI STAGE-III • DETAILS OF FACILITIES TO BE DISMANTLED. • TECHNICAL SPECIFICATIONS FOR QUALITY ASSURANCE OF CIVIL WORKS. • PLOT PLAN (TENDER STAGE DRAWING FOR BIDDER'S INFORMATION ONLY. FINAL PLOT PLAN SHALL BE PROVIDED TO THE SUCCUESSFUL BIDDER AFTER AWARD OF WORK). <p>NOTES:</p> <ul style="list-style-type: none"> • Contractor has to make him well conversant with the Customer and BHEL's Technical Specification. In case of ambiguity between BHEL and customer specification, customer specification shall prevail. • Above documents have been uploaded Separately. 	<p>11.0 Following Technical Specifications shall be integral parts of this tender (attached separately):</p> <ul style="list-style-type: none"> • SECTION-C: CUSTOMER CONTRCT SPECIFIC TECHNICAL REQUIREMENTS • SECTION-D: GENERAL TECHNICAL REQUIREMENTS • WORKERS ACCOMMODATION DRAWING OF CUSTOMER • WORKERS REST ROOM DRAWING • GPR REPORT FOR UNDERGROUND FACILITIES AT SINGRAULI STAGE-III • DETAILS OF FACILITIES TO BE DISMANTLED. • TECHNICAL SPECIFICATIONS FOR QUALITY ASSURANCE OF CIVIL WORKS. • PLOT PLAN (TENDER STAGE DRAWING FOR BIDDER'S INFORMATION ONLY. FINAL PLOT PLAN SHALL BE PROVIDED TO THE SUCCUESSFUL BIDDER AFTER AWARD OF WORK). • TYPICAL EARTHING DETAIL DRAWINGS (TENDER STAGE DRAWING FOR BIDDER'S INFORMATION ONLY. APPROVED CONSTRUCTION DRAWINGS SHALL BE PROVIDED TO THE SUCCUESSFUL BIDDER AFTER AWARD OF WORK) <p>NOTES:</p> <ul style="list-style-type: none"> • Contractor has to make him well conversant with the Customer and BHEL's Technical Specification. In case of ambiguity between BHEL and customer specification, customer specification shall prevail. • Above documents have been uploaded Separately.

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C) Some of the Bidders had asked queries in the published tender specification. The clarifications issued by BHEL are furnished below:

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
1	Cl No 2.13.3 of GCC	SECURED ADVANCE AGAINST MATERIAL BROUGHT TO SITE	Secured Advance against materials brought to site –This advance shall be paid within how many days of procurement on request for payment of advance.	Payment of secured advance against material shall be released along with the corresponding month's RA Bill as per Tender terms & condition.
2	BOQ item no 900 to A933	ST NO.900- DOORS & WINDOWS: Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material (unless otherwise specified in BOQ/contract specification), equipments, transportation, handling, preparation of working drawings etc. at all level as per specification, drawings and as directed by engineer - in - charge.	Please provide the Doors and Windows Drawings or Dimentions.	<p>Tender specifications to be followed. Detail drawings shall be provided during detail engineering.</p> <p>In general the door width varies from 900 mm to 2400 mm and height varies from 2100 mm to 3000 mm depends upon the use of the building, equipment sizing. window/louvers/ventilators sizes varies from 900 mm to 3000 mm and height varies from 900 mm to 3000 mm as per the building design requirements. However, the actual sizes shall be as per detailed engineering drawings. Please refer TCC Clause No. 2.5.7 and Chapter-VII 'Drawings and Documents' of SCC: Approved construction drawings shall be provided to the successful bidder / contractor during execution of works.</p>

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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
3	BOQ item no A208	Providing and laying of M-50 grade of concrete as per IS:456 & Design Mix----- and temperature control of concrete. Payment terms - a) After casting 75% ; b) After receipt of ultrasonic test report - 25%. Note: 1. OPC-43 Grade Cement & Supplementary cementitious materials like Micro-silica / Micro-fine GGBFS shall be issued by BHEL free of cost.	Will BHEL supply Micro silicon for this item	Please refer BOQ Item Description of Item No. A208. As per Note under this BOQ Item: "OPC-43 Grade Cement & Supplementary cementitious materials like Micro-silica / Micro-fine GGBFS shall be issued by BHEL free of cost."
4	BOQ item no A302	Fairface form work with good quality water.....as per specification, drawing and instruction of engineer in charge.	Please consider to give drawing of various structure to be considered for tender purpose.	Tender specifications to be followed. Detail drawings shall be provided during detail engineering. Please refer TCC Clause No. 2.5.7 and Chapter-VII 'Drawings and Documents' of SCC: Approved construction drawings shall be provided to the successful bidder / contractor during execution of works.
5	BOQ item no B2419	Providing and laying cement concrete of grade M35..... providing & fixing forwork etc. all complete. Note: 1. Rate quoted shall be Excluding the cost of reinforcement and dowel bar. 2. Cement shall be issued by BHEL Free of Cost.	Not practical to mobilize concrete paver machine for 160 cum work .This specification should be reviewed	Tender specifications to be followed.
6	EMD/PBG		Insurance Surety bond format is to be given for EMD and PBG	Bidders are requested to submit Insurance Surety Bond in EMD BG format for EMD purpose.

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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
7	BOQ Item 102	Extra over ST No. 101 for dewatering of ground water by well point method as per IS 9759. Note: Measurement shall be taken of the quantity.....	WELL POINT DEWATERING : As per BOQ Item 102/ Earthwork, Well Point Dewatering system to be adopted for excavation work below ground water table (GWT) and payment for the item shall be made as per quantity of excavation made below GWT. For enabling us to estimate the cost of Dewatering and quantity of excavation, kindly clarify the followings : a. GWT mentioned in NTPC Bore log, varies from 0.80 mtr to 9.60 mtr. Kindly inform the GWT and depth of excavation below GWT to be considered in estimation of cost. b. Kindly inform whether the excavation below GWT will be mass excavation on single/ multiple Location(s)/ Area or individual/ Isolated Footings and Mode of Measurement of Excavation for this item (i.e. Excavation below GWT). c. Plan area, depth and Excavation quantity of each location requiring Well Point Dewatering system.	Tender specifications to be followed. BOQ Item No. 102 is an optional item kept in BOQ in case there is a situation required to lower the raised water table below founding level than the same may be applicable. Mode of measurement shall be as per tender specifications. Please refer TCC Clause No. 2.5.7 and Chapter-VII 'Drawings and Documents' of SCC: Approved construction drawings shall be provided to the successful bidder / contractor during execution of works.
8	FINANCIAL PQ CRITERIA- "C-3"	PROFIT: Bidder must have earned profit in any one of the Five Financial Years ending on 31.03.24 (i.e. F.Y. 2019-20, 2020-21, 2021-22, 2022-23, 2023-24).....	FINANCIAL PQ CRITERIA : As per Financial PQ Criteria (Para C-3/ NIT/ Page – 15), “Bidder must have earned profit in any one of the Five Financial Years ending on 31.03.24 (i.e. F.Y. 2019-20, 2020-21, 2021-22, 2022-23, 2023-24)”. We understand that bidder must earn profit at-least in one year	Bidders understanding is correct.

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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
			during the Five Financial Years ending on 31.03.24. i.e. making loss other four years will also suffice as per the criteria. Kindly confirm.	
9	Cl No 7.2 of TCC	SECURED RECOVERABLE ADVANCES: Interest Free Secured Mobilization Advance as per GCC Clause No. 2.13.1 will be payable under exceptional circumstances	<p>INTEREST FREE MOBILISATION ADVANCE : As per 7.2 of TCC, Interest Free Mobilisation Advance to the tune of 5% shall be paid in three tranches based on stages of Mobilisation of resources (Plant & Machineries). But as per GCC Para 2.13.1, BGs are to be furnished for each tranches of Mobilisation Advance.</p> <p>Since each tranche of Mobilisation Advance are secured through sufficient resources (Plant & Machineries) mobilised at site, we propose that there should not be any requirement of BGs towards these tranches of Mobilisation Advance. Kindly look into our proposal favourably and confirm.</p>	Tender specifications to be followed.

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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
10	Cl No 10.4 of SCC	The payment for outstanding dues etc. and other dues in the meanwhile. 60% of RA Bills complete and correct in all respects and certified by BHEL Engineer, shall be paid within 15 days of receipt. Balance payment shall be within 30 days.	RA BILL PAYMENT : As per Para 10.4 of SCC/ Page – 33, “60% of RA Bills complete and correct in all respects and certified by BHEL Engineer, shall be paid within 15 days of receipt. Balance payment shall be within 30 days.” For better cash-flow of the project ensuring time completion of the project, we request you for Ad-hoc payment of 75% of Gross Value of Monthly RA Bills within 15 days of submission of Bill and to make balance payment within 30 days of certification of the Bill. Kindly confirm.	Tender specifications to be followed.
11	General		TENDER DRAWINGS : Please provide Tender Drawings (Architectural & Structural) of Major Structures for enabling us to judge height and quantum of structures, thereby optimizing the cost estimation.	Tender specifications to be followed. Detail drawings shall be provided during detail engineering. For quantum of work, refer BoQ.
12	General		CONCRETE QUANTITIES : It is observed that there are two types/ sets of Concrete Items in the BOQ, one with Free Cement and the other with Cement & Sand as Free Issue Material. However, the quantities of these two sets are same (i.e. quantity for Cement Free Item is same as that of Cement & Sand Free Item). Kindly confirm that even if one set of Items (either Cement Free Items or Cement & Sand Free items) are operated during execution,	Total Concrete Quantity envisaged for the tendered scope is divided in two type of BOQ Items for concrete works. One with only 'cement' as free issued material and other with 'cement & crushed stone sand' as free issued material. Hence the total approx. concrete quantity envisaged is the sum of all the BOQ Items for concrete works.

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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
			total quantity of concrete for the project will remain in same range (i.e. Concrete quantity to the tune of 160,000 cum provided in present BOQ shall be maintained during execution). Kindly confirm.	
13	General		Kindly inform the distance of crusher from where Sand shall be provided free by you.	Tender specifications to be followed. Please refer TCC clause no. 1.1, bidders are requested to visit the site to get the required details.
14	General		Kindly inform the distance of Batching Plant location proposed by you and condition of its approach from project site.	Tender specifications to be followed. Please refer TCC clause no. 1.1, bidders are requested to visit the site to get the required details.
15	Details of Facilities to be Dismantled		DISMANTLING WORK : It is understood that we have to dismantle sub-structures of the buildings/ structures mentioned in "5.3-SCT-SGL-MPH-CVL-VOL-IA-Details of Facilities to be Dismantled" of Part-3 of Bid document and quantities for these are covered in BOQ Head "200 : Concrete Work". Superstructures of these buildings/ structures are being dismantled by your Owner (NTPC) and hence are excluded from our Scope of Work. Kindly confirm.	Tender specifications to be followed.

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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
16	Cl no. 1 (v) of NIT DUE DATE & TIME OF OFFER SUBMISSION	Date: 29/07/2024, Time: 10:00 hrs.....	You will appreciate, doing Site & Market Survey, getting offers from our Sub-vendors/ suppliers for Bought Items (which are many in numbers for this project) require sufficient and thereafter we can complete our estimation. In view of the above, we request you for at-least 15 days time extension for submission of the bid (i.e. up-to 12.08.2024). Also time of submission should be in Afternoon, so that the last day can be effectively utilized in working out competitive offer	Bidders are requested to refer Sl no. A) Time Extension, above.
17	BOQ Item no. B514	Providing and applying Food grade epoxy coating complying to FDA Ttitle 21, Part 175.300 of minimum 400 micron DFT	Kindly provide the vendor name & contact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
18	BOQ Item no. B907,	Providing and fixing automatically closing fire proof steel flush	Kindly provide the vendor name & conact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
19	BOQ Item no. 915	Providing, fixing and fitting of glazing of first grade class in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete.		Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.

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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
20	BOQ Item no. 915 I(a)	composite double glazing, 25 mm thick 2 hr fire rated, with one outer 6 mm thick tinted heat-reflecting type free from distortion and thermal stress.	Kindly provide the vendor name & conact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
21	BOQ Item no. 915 I(b)	composite double glazing of fire resistant glass MIN.30 mm thick Hermetically sealed double glazed unit of one Fire resistant glass of min.14mm thick (outer side) clear, etc all complete as per specification.	Kindly provide the vendor name & conact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
22	BOQ Item no. 915 I(C)	One outer 6mm thick tinted heat-reflecting type toughened glass and one inner 6mm thick plain float toughened glass hermetically sealed and seperated by 12 mm thick gap from distortion and thermal stress.	Kindly provide the vendor name & conact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
23	BOQ Item no. A922,	Providing and fixing electrically operated, self operable/closing, approved anodized aluminium framed glass door with 10 mm thk. tinted glass, all complete.....	Kindly provide the vendor name & conact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.

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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
24	BOQ Item no., A923,	Providing and fixing Electrically operated, self operable/closing, G.I. framed with fire resistant glass, sliding doors with Fire resistant glazed door system	Kindly provide the vendor name & contact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
25	BOQ Item no.A926,	Providing & fixing 120 minutes Fire Rated, Fully Glazed non load bearing fixed partition with valid fire test certificate from national or international lab with Partition Frame manufactured from 1.6 mm galvanized steel sheet	Kindly provide the vendor name & contact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
26	BOQ Item no. A927,	Providing & fixing minimum 30mm thick Hermetically sealed double glass (DGU) consisting of Fire resistant glass of minimum 14mm thick, clear, toughened,interlayered borosilicate glass,120 minutes fire rated for both integrity & radiation control ,remain transparent under both fire and non fire condition and 6mm thick toughened tinted glass with 10mm gap. The partitions shall be 120 minutes Fire Rated,Fully Glazed non load bearing fixed	Kindly provide the vendor name & contact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
27	BOQ Item no. A928,	Providing and fixing of fully glazed steel door with 120 minutes fire rating, of integrity and radiation control (EW 120) fabricated with 1.6 mm thick galvanized steel sheet. The door frames are manufactured from 1.6 mm galvanized steel sheet (zinc coating not less than 120 gm/sqm) pressed to form	Kindly provide the vendor name & contact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.

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		a profile of 35 mm x 60 mm on the vertical sides.....		
28	BOQ Item no. A931	Provide & Install SS Logo/Signature ICON of NTPC as per Guidelines of "Client" complete in all aspects. Logo to be fabricated in Stainless steel finish as per approved Pantone Shades of Client Guidelines along with proper provision of fixing arrangement of Logo on Partition Surface/Glass Surface/Acrylic Surface etc. Shop drawings for the item with all construction and anchoring details shall be got approved before execution, all complete as per specification and approved by Engineer incharge.	Kindly provide the size of NTPC LOGO	Tender specifications to be followed. Detail drawings shall be provided during detail engineering
29	BOQ Item no., 1309,	Two or more coats of fire resistant transparent paint	Kindly provide the vendor name & conact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
30	BOQ Item no. A1608,	Providing and fixing Pre-Painted Coil coated Steel false ceiling system , at all level, for all kind of works, in approved pattern, consisting of 0.5 mm thick galvanised as per IS 277	Kindly provide the vendor name & conact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.

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Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
31	BOQ Item no. A1609	Providing and fixing stainless Steel false ceiling system in lineal/tile shape, approved colour Luxalon hunter douglas or approved equivalent, lineal pattern (closed type) of 100 mm nominal width , bright finish at all level, for all kind of works.....	Kindly provide the vendor name & conact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.
32	BOQ Item no. A1842	Design, Supply, providing and installing modular Toilet Cubicles as per drawings & manufacturer's specifications. All intermediate panels, pilasters, doors shall be made up of Solid Compact Laminate (Phenolic Core Board) as per IS 2046 based on thermosetting resins, homogeneously reinforced with cellulose fibers making cubicles impervious to Water, resistant to Fire, etc. Compact laminate should be Greenguard and IGBC certified. Hardware and Fixing: All accessories shall be as per architect's approved grade including all hardware/fittings. The pilaster are anchored to the flooring using adjustable SS legs. The SS top rail shall be fixed on the top of the pilasters. Accessories: Std accessories include SS Hinges, SS Door knob, SS legs, SS thumb turn indicator, SS coat hook, SS top rail and SS channels (All accessories in SS 304/316 grade). Titan Std Series Cubicles: Std Sizes (W x D x H)- 1200 mm x 1550 mm x 1980 mm,(Height is including 150 mm gap from bottom) Door Size- MIN.600 mm. the size may	Kindly provide the vendor name & conact number for obtaining quotation before submission of tender offer.	Tender specifications to be followed. Bidders to explore the market at their own in line with tender requirements.

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
		varies as per detail drawings all complete as per specification and as directed by the engineer-in-charge.		
33	BOQ Item no. A1861	Providing engineering consultancy services for Architectural design & drawings of CCR (Central control room in powerhouse building) in harmony with the overall plant and presented in the form of presentation drawings, including 3-D perspective rendered views,panoramic views,.....	Kindly provide the detailed drawing for quoting of Lumpsum price before submission of our offer.	Tender specification to be followed. Detail drawings shall be provided during detail engineering.Please refer TCC Clause No. 2.5.7 and Chapter-VII 'Drawings and Documents' of SCC: Approved construction drawings shall be provided to the sucessfull bidder / contractor during execution of works.
34	Cl no. 1 (v) of NIT DUE DATE & TIME OF OFFER SUBMISSION	Date: 29/07/2024, Time: 10:00 hrs.....	We require some more time to complete the tender and for that reason we would request you to kindly extend the date of submission of this tender for 15 days i.e. up to 12.08.2024.	Bidders are requested to refer Sl no. A) Time Extension, above.
35	BOQ Cum Rate schedule		It is brought to your kind notice that in some of the items in BOQ had not specified the type of sand to be used. Kindly clarify , which type of sand to be used for civil works i.e (M Sand or River Sand) the items like concrete, (TG Deck item no: A208) , water proofing, Flooring and other misc. works	Tender specifications to be followed. Please refer Technical Specifications regarding type of Sand to be used Civil Works.
36	TCC, Ch. III, Cl. 3.2.1.a, 3.2.2.a & Cl.3.13.1	Cl no. 3.13.1- Construction Power (three phase, 415V/ 440V) shall be provided on chargeable basis at one point near the site.....	We request you to provide us the charges per unit of electricity to be provided by BHEL	Tender specifications to be followed. Please refer TCC clause no. 1.1, bidders are requested to visit the site to get the required details.

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
37	TCC, Ch. III, Cl. 3.3.1.a & Cl.3.14.1	BHEL may provide water supply (at single point source) for construction purpose on chargeable basis.....	We request you to provide us the charges for water supply to be provided by BHEL.	Tender specifications to be followed. Please refer TCC clause no. 1.1, bidders are requested to visit the site to get the required details.
38	TCC, Ch. III, Cl. 3.10.1	Availability of landBHEL shall provide free of charge limited open space for office, storage shed and laydown area as and where made available by customer.....	(i) We request you to provide us the Lead / distance between the area allocated for batching plant and work location / site. (ii) Also , kindly provide the Land nearby the site for Labour Colony.	Tender specifications to be followed. Please refer TCC clause no. 1.1, bidders are requested to visit the site to get the required details.
39	TCC, Ch. III, Cl. 3.11.1	Labour colony is to be developed..... All labour colony set up is to be developed as per attached drawing and in compliance of statutory requirements. Minimum 02 sets of labour hutments as per drawing shall be completed within 3 months from the date of start of work.....	Please confirm maximum number of labours that can be accomodated in 01 set of labour hutment as per tender drawing.	Tender specifications to be followed. Please refer the Worker's Accommodation Drawings (Drg. No.: 1150-999-POC-A-019-SH-1 to SH-4) attached alongwith the Tender. Required details are mentioned therein.
40	BOQ	Item Not provided	We request you to incorporate separate BOQ item towards Construction of Labour Colony at Site as per Tender drawings in line with other BHEL tenders.	Tender specifications to be followed.
41	TCC, Ch. IV, Cl. 4.1.8	<u>4.1.8 :</u> Concrete Batching Plant with computerized operations.... - 01 No. <u>4.1.8.1 :</u> Capacity - 60 Cum/hr - 01 Nos <u>4.1.8.2 :</u> Capacity - 30 Cum/hr - 01 Nos	We presume tentative requirement for Concrete Batching plant shall be as per cl.4.1.8.1 and 4.1.8.2 only as below, 4.1.8.1 : Capacity - 60 Cum/hr - 01 Nos 4.1.8.2 : Capacity - 30 Cum/hr - 01 Nos Please confirm.	Bidders are requested to refer Sl No. B) Modification in Technical Conditions of Contract (TCC) and BOQ CUM RATE SCHEDULE ITEMS above.

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
42	TCC, Ch. IV, Cl. 4.1.9 and BOQ, item no. A209	<p><u>TCC, Ch. IV, Cl. 4.1.9</u> Chiller plant of adequate capacity for Temperature controlled concrete - 01 No</p> <p><u>BOQ, item no. A209</u> Extra over St. No. 205 to 208 for controlling of temperature of fresh concrete to less than 25 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc.....</p>	We presume installation of Chiller Plant is not mandatory . Bidder is free to make alternative arrangements for temperature control of fresh concrete. Please confirm.	Bidder's understanding is correct.
43	TCC, Ch. IX, Cl. 9.1 & 9.3.3	<p><u>Cl. 9.1</u> Material to be issued by BHEL (Free of Cost) as specified in BOQ cum Rate Schedule: 1. Cement 2. Reinforcement Steel and MS Round Bar (Earthing Rod) 3. Structural Steel Material (Plates, Rolled Section, Gratings etc.) 4. Crushed Stone Sand for filling, concreting and other civil works</p> <p><u>Cl. 9.3.3</u> The issuance of crushed stone sand shall be on weighthment basis for dry sand as verified by BHEL engineer. Moisture correction of sand shall be carried out by contractor and shall be jointly witnessed and verified by BHEL and Contractor. Transportation and unloading of sand</p>	<p>We request you to provide us the Lead / distance between issuance location of below mentioned Free issue material and work location/site,</p> <p>1. Cement 2. Reinforcement Steel and MS Round Bar (Earthing Rod) 3. Structural Steel Material (Plates, Rolled Section, Gratings etc.) 4. Crushed Stone Sand for filling, concreting and other civil works</p>	Tender specifications to be followed. Please refer TCC clause no. 1.1, bidders are requested to visit the site to get the required details.

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
		from the issuance location as specified by BHEL shall be in contractor's scope.		
44	TCC, Ch. IX, Cl. 9.1 & 9.6	Cl no. 9.6 Consumption and wastage of Sand: Allowable Wastage : Three percent (3%) of theoretical consumption shall be considered as allowable wastage.....	We presume the allowable wastage of 3% for crushed Sand includes moisture correction calculated as per cl. 9.3.3 of TCC. Please confirm.	Tender specifications to be followed. Allowable wastage shall be w.r.t. to the theoretical consumption of issued sand.
45	BOQ item 501	Providing & laying underbed/topping grading plaster with Cement Mortar 1:4and avg thickness of 25 mm	Please confirm that Cement required for CM 1:4 shall be supplier by BHEL free of cost.	Cement shall be issued by BHEL free of cost. Bidders are requested to refer Sl No. B) Modification in Technical Conditions of Contract (TCC) and BOQ CUM RATE SCHEDULE ITEMS above.
46	BOQ item A507	Providing & laying wearing course consisting of 20 mm thick plain Cement Mortar 1:4 And reinforced with Galvanised chicken wire mesh.....	Please confirm that Cement required for CM 1:4 & GI wire mesh shall be supplier by BHEL free of cost.	Cement shall be issued by BHEL free of cost. Bidders are requested to refer Sl No. B) Modification in Technical Conditions of Contract (TCC) and BOQ CUM RATE SCHEDULE ITEMS above.

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
47	BOQ item A510	Providing & laying cement concrete chequered roof / floor tiles of 22 mm thicknesswith 8 mm thick 1:4 Cement Mortar over the top	Please confirm that Cement required for CM 1:4 shall be supplied by BHEL free of cost.	Cement for mortar shall be issued by BHEL free of cost. Bidders are requested to refer Sl No. B) Modification in Technical Conditions of Contract (TCC) and BOQ CUM RATE SCHEDULE ITEMS above.
48	BOQ item A930	Providing & fixing motorised curtain (operated with remote control also) mechanism at all heights.	Type of material for Curtain is not clear. Please provide additional details.	Tender specifications to be followed.
49	BOQ item A901, 902 & 903Note : Finish painting / polishing shall be paid separately.	Kindly confirm under which item the same is payable.	Tender specifications to be followed.
50	BOQ item 902, 903, A903, 904, A904, B904, A905, 907, A907, B907, A913, A921, A922, A923, A924, A926, A927, A928, A929	Unit of measurement is "Sqm"	We request you to kindly provide the sizes & nos of Doors of different types. Vendors ask these details for providing quotation.	Tender specifications to be followed. Detail drawings shall be provided during detail engineering. In general the door width varies from 900 mm to 2400 mm and height varies from 2100 mm to 3000 mm depends upon the use of the building, equipment sizing. window/louvers/ventilators sizes varies from 900 mm to 3000 mm and height varies from 900 mm to 3000 mm as per the building design requirements. However, the actual sizes shall be as per detailed engineering drawings. Please refer TCC Clause No. 2.5.7 and Chapter-VII 'Drawings and Documents' of SCC: Approved construction drawings shall be provided to the successful bidder / contractor during execution of works.

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
51	BOQ item A1322	Providing , fixing & Designing GRC tilesthe tiles should be applied on a rough plaster of Cement Mortar (1:3).....	Please confirm that rough plaster of CM (1:3) shall be paid seperately & cost of the same is not included in this item.	Cost of Plaster (1:3) is included in the BOQ Item. However, Cement for mortar shall be issued by BHEL free of cost. Bidders are requested to refer Sl No. B) Modification in Technical Conditions of Contract (TCC) and BOQ CUM RATE SCHEDULE ITEMS above.
52	BOQ item 1814A	Installing of 40 mm dia GS pipe electrodeas per Note : Only GI pipe , Nuts , Bolts & washer , test links will be supplied by BHEL	Kindly confirm that the GI pipe , Nuts , Bolts & washer , test links will be supplied by BHEL - Free of Cost .	Bidders are requested to refer Sl No. B) Modification in Technical Conditions of Contract (TCC) and BOQ CUM RATE SCHEDULE ITEMS above.
53	BOQ item 1814B	Installing of 40 mm dia Rod electrode Note : Only 40mm Diameter MS rod & test links will be supplied by BHEL.....	Kindly confirm that the MS rod & test links will be supplied by BHEL- Free of Cost . Kindly also confirm the length of the MS Rod Electrode .	Please refere to attached corrigendum-1. Typical Earthing Drawings are attached herewith for bidders reference only. Tender specifications to be followed. Detail drawings shall be provided during detail engineering.
54	BOQ item 1814C	Installing of 40 mm diameter Rod electrode without test Note : 40mm diameter MS rod will be supplied by BHEL .	Kindly confirm that the MS rod will be supplied by BHEL- Free of Cost . Kindly also confirm the length of the MS Rod Electrode.	Bidders are requested to refer Sl No. B) Modification in Technical Conditions of Contract (TCC) and BOQ CUM RATE SCHEDULE ITEMS above.
55	BOQ item A1861	Providing enginering consultancy services for Architectural design & drawings of Central Control Room in Power house building)	Kindly provide the plan area of Central Control Room in sqm for better understanding of scope of work.	Tender specifications to be followed. Detail drawings shall be provided during detail engineering. Please refer TCC Clause No. 2.5.7 and Chapter-VII 'Drawings and Documents' of SCC: Approved construction drawings shall be provided to the sucessfull bidder /

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
				contractor during execution of works.
56	BOQ item 2307 (a)	Supplying , Fabrication , Erection and alignment of factory made grating units with mild steeledge preparation etc all complete - Minimum galvanisation of 610 gm/sqm.	Please confirm whether the Supply of Structural Steel for grading unit is in Contractors scope / Free issue by BHEL. Please review %weightage given in BOQ accordingly which appears to be less.	Supply of Structural Steel Gratings is in BHEL's scope. Bidders are requested to refer Sl No. B) Modification in Technical Conditions of Contract (TCC) and BOQ CUM RATE SCHEDULE ITEMS above.
57	BOQ, item no. A303	Plywood Formwork with Film face of required thickness and smooth surface for TG superstructure (above base raft level for columns, connected beams & TG Deck only) including preparation of scheme, designing, submission and approval of staging drawing with sufficient props, braces and ties at every tier of height of approx. 4m for all heights complete including chamfering of edges, deshuttering as per drawing, specification, and instruction of engineer in charge.	Please provide us the drawing of TG superstructure (above base raft level for columns, connected beams & TG Deck) for planning of formwork & staging work.	Tender specifications to be followed. Detail drawings shall be provided during detail engineering. Please refer TCC Clause No. 2.5.7 and Chapter-VII 'Drawings and Documents' of SCC: Approved construction drawings shall be provided to the successful bidder / contractor during execution of works.
58	BOQ item no. B2419	Providingin road pavement using fully mechanised paver fitted with electronic sensors,	Since the quantity of road pavement is very less, providing fully mechanised paver fitted with electronic sensors shall not be mandatory. Please review.	Tender specifications to be followed.
59	BOQ - RBT1	Rebate for use of crushed stone.....	In our opinion Sum total Weightages of all BOQ items excluding RBT1 shall be 100.00 . Please review & confirm.	Tender specifications to be followed.

Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
60	Tender Drawings	Not provided	We request you to kindly provide the Tender Drawings of various structures involved in the scope of work showing details of height of structures, floor nos., plan size, etc. We require the details for proper planning.	Tender specifications to be followed. Detail drawings shall be provided during detail engineering. Please refer TCC Clause No. 2.5.7 and Chapter-VII 'Drawings and Documents' of SCC: Approved construction drawings shall be provided to the successful bidder / contractor during execution of works.
61	NIT, Cl. 1.0.v	Due Date & Time of Offer Submission : Date: 29/07/2024, Time: 10:00 hrs	Since BOQ items are more than 500 nos. and require time to get the quotations from our vendors for various Bought out items. We request you to extend the Bid submission date by at least 3 weeks . Further request to make the submission time in the afternoon i.e. after 02:00 pm. Please consider and confirm.	Bidders are requested to refer Sl no. A) Time Extension, above.
62	BOQ ITEM NO. 102	Extra over ST No. 101 for dewatering of ground water by well point method as per IS 9759.....	De-watering of Ground Water by well point method: We request you to kindly provide Plan Areas / Sizes of various buildings involved in the scope of work as per list given as clause no. 2.2.1 of TCC which require de-watering of ground water. Our Subcontractors / Vendors require above mentioned details for estimating the cost of dewatering.	Tender specifications to be followed. BOQ Item No. 102 is an optional item kept in BOQ in case there is a situation required to lower the raised water table below founding level than the same may be applicable. Mode of measurement shall be as per tender specifications. Please refer TCC Clause No. 2.5.7 and Chapter-VII 'Drawings and Documents' of SCC: Approved construction drawings shall be

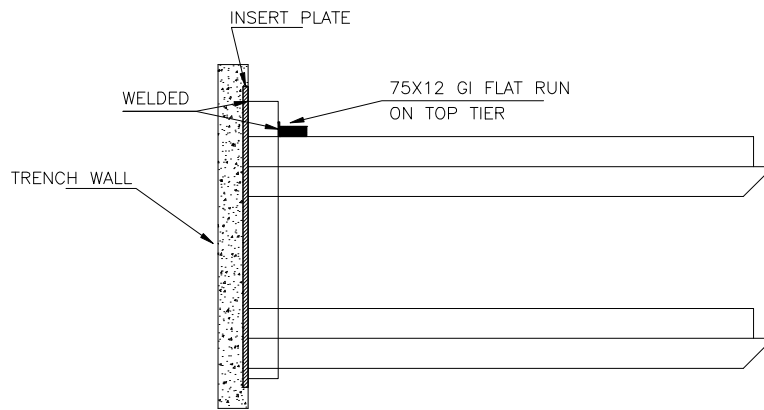
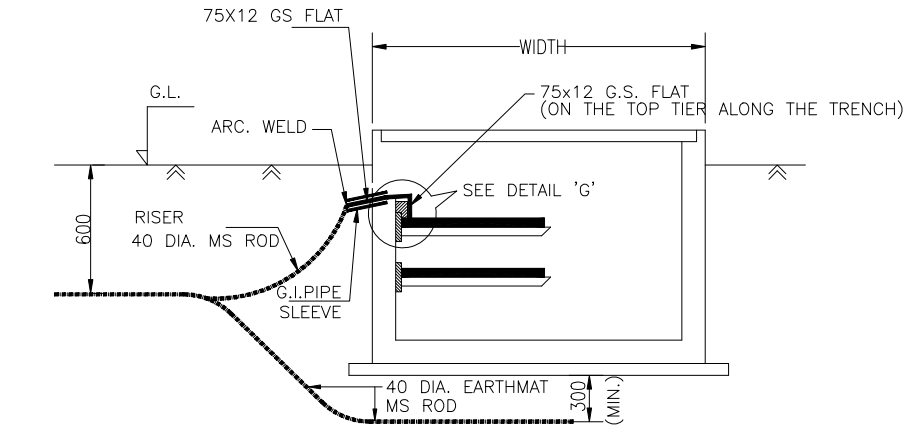
Corrigendum - 1 dated 29/07/2024 to CPC Tender No. BHEL/CPC/SGL/MPH-CVL/25/023

Sl.	Reference tender clause no.	EXISTING PROVISION	Bidder's query	BHEL reply/clarification
				provided to the sucessfull bidder / contractor during execution of works.
63	BOQ Item A2410	Providing & laying 40mm bitumen mastic wearing course over concrete pavement with industrial bitumen.....	BOQ Item A2410- 40 mm Bitumen Mastic Wearing Course- Rate per unit appears to be very less in view of high rate of industrial bitum grade 85/25. Request you to kindly review the % weightage given in the BOQ.	Tender specifications to be followed.
64	As per BOQ (item nos 101,102,103,104 and 105) cum Rate schedule		As per BOQ item nos 101,102,103,104 and 105, Excavation has to be done maximum depth of 10Mtr. To reach to this level and ramp has to be excavated, please clarify whether the quantity of ramp will be paid along with the excavated quantity.	Tender specifications to be followed.
Note:				
1	Reply to the queires is for bidders information only and it shall not have any effect on terms and conditions of tender.			

Note:

- 1) All other terms and conditions against this NIT shall remain unchanged.
- 2) This corrigendum is to be submitted duly signed and stamped along with the Techno-commercial bid (Part- I).

**for BHARAT HEAVY ELECTRICALS LTD
Manager/ SCT**



DETAIL 'G'

DETAIL FOR CONNECTING GI FLAT RUNNING
ON TOP TIER TRENCH TO EMBEDDED PLATE.

NOTE:

1. RISERS SHALL BE PROVIDED AT AN INTERVAL OF 20M ALONG THE LENGTH OF TRENCH.
2. THE EARTH STRIP (75x12 G.S. FLAT) SHALL BE WELDED/CLEATED TO TOP RACK ALONG THE TRENCH RUN AT EVERY 0.75M.
3. WHERE THE CABLE RACKS ARE PROVIDED ON BOTH SIDES OF THE TRENCH, BOTH SIDES SHALL BE EARTHED AS PER ABOVE.
4. CABLE & CABLE TRAY EARTHING SHALL BE DONE AS PER SPECIFICATION.



EQUIPMENT EARTHING DETAILS CABLE TRENCH

COMPU. DRG. REF.

DRG. NO.

TB-419-316-006

SHEET
06

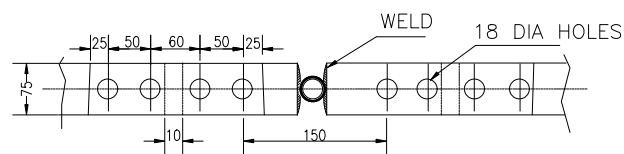


1. SUPPLY OF FIXING BOLTS NUTS & WASHERS FOR GI FLAT EARTHING CONDUCTOR IS ALSO FORMS PART OF THE SCOPE.
2. TO BE USED FOR CONNECTING TRANSFORMER /REACTOR NEUTRAL
3. GI PIPE SHALL CONFORM TO IS 1239.
4. PIPE EARTHING SHALL CONFORM TO IS 3043.



EQUIPMENT EARTHING DETAILS
PIPE EARTH ELECTRODE WITH TREATED PIT

07



VIEW-'A'

NOTES:—

1. SUPPLY OF FIXING BOLTS NUTS & WASHERS FOR GI FLAT EARTHING CONDUCTOR IS ALSO FORMS PART OF THE SCOPE.
2. TO BE USED FOR CONNECTING DOWN CONDUCTOR OF LIGHTNING MASTS & TOWERS WITH PEAK.
2. ALSO APPLICABLE FOR CVT AND LA.



EQUIPMENT EARTHING DETAILS

ROD EARTH ELECTRODE WITH TEST PIT

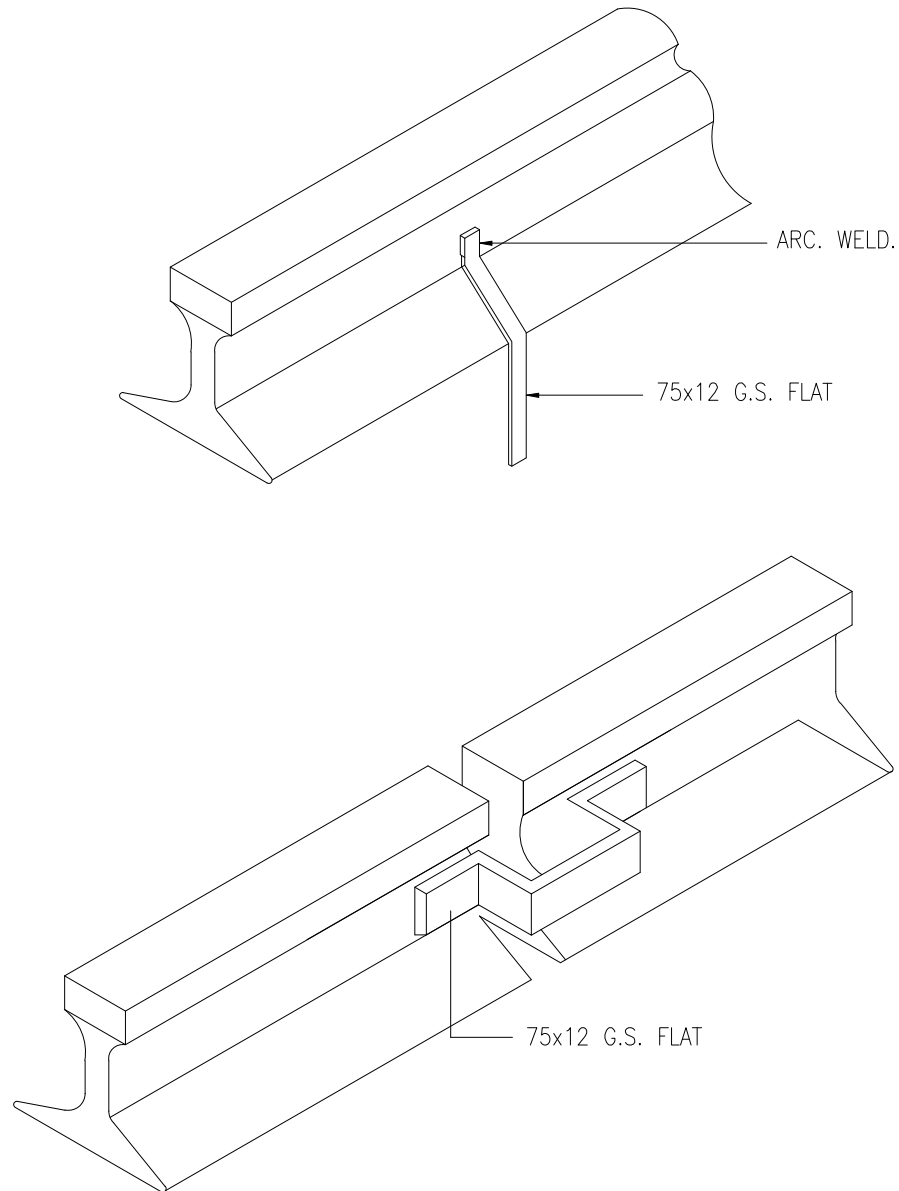
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DRG. No.

TB-419-316-006

SHEET No.

8



NOTE:—

1. RAILWAY TRACKS WITHIN SWITCHYARD AREA SHALL BE EARTHED AT A SPACING OF 30 m AND ALSO AT BOTH ENDS.



EQUIPMENT EARTHING DETAILS

RAIL BONDING

COMPU. DRG. REF.

DRG. NO.

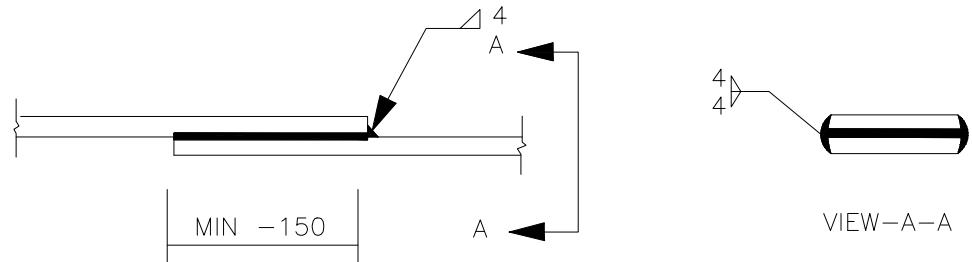
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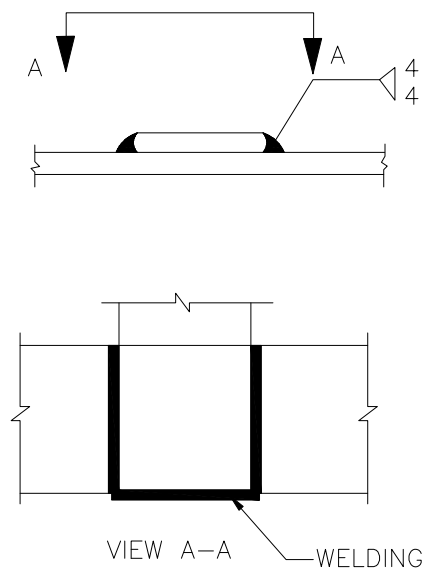
09

STRIP TO STRIP (75x12/50X6 MS FLAT)

1. STRAIGHT LAP JOINT/RISER



2. CROSS LAP JOINT



EQUIPMENT EARTHING DETAILS

WELDING DETAILS

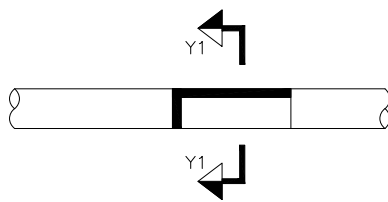
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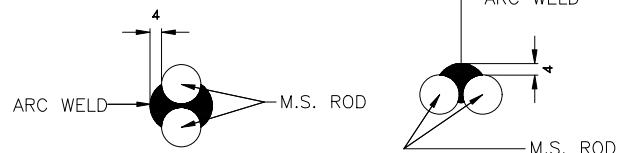
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15

Split



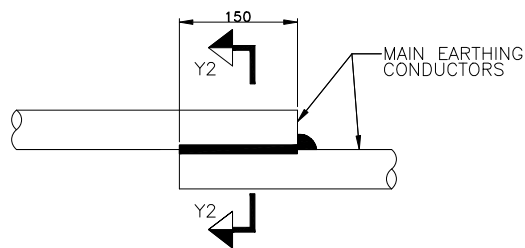
ELEVATION

(CONDUCTOR IN HORIZONTAL PLANE)



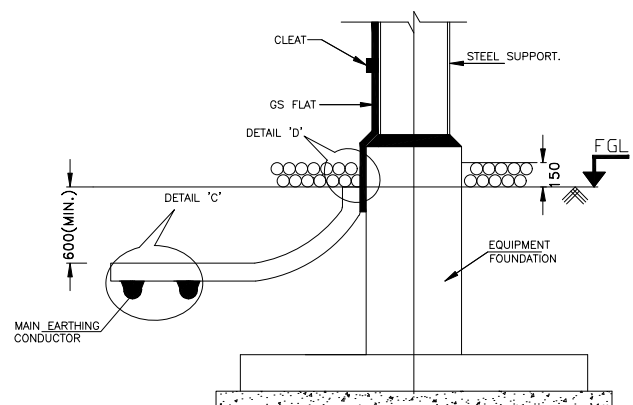
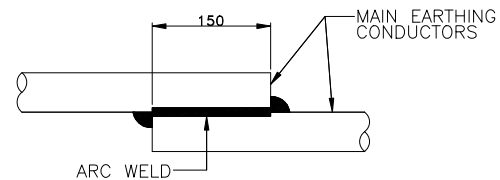
SECTION Y2-Y2

SECTION Y1-Y1

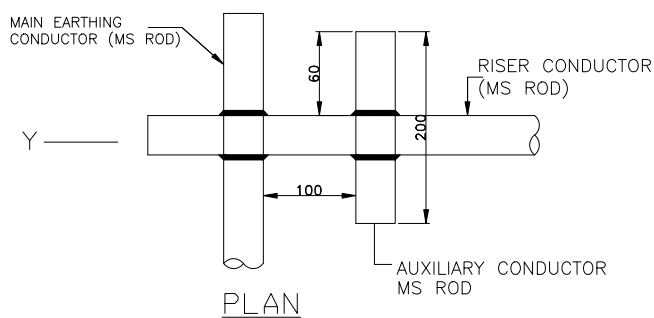


ELEVATION

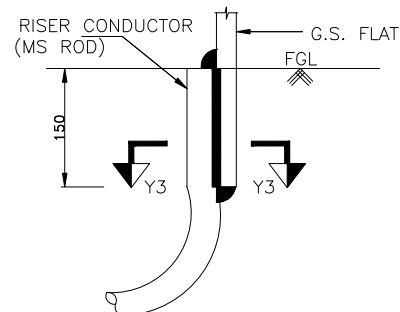
(CONDUCTOR IN VERTICAL PLANE)



TYPICAL DETAILS OF RISER

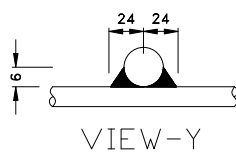


PLAN

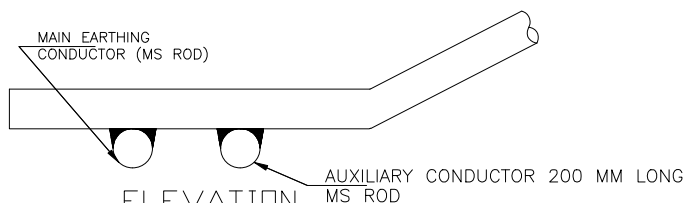
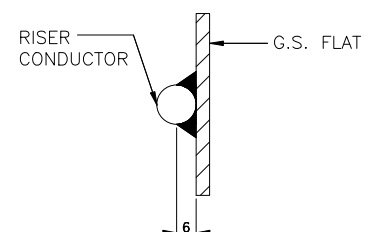


ELEVATION

DETAIL-D



VIEW-Y

ELEVATION
DETAIL-C

SECTION Y3-Y3

TYPICAL OVERLAPPING JOINT OF TWO CONDUCTORS



EQUIPMENT EARTHING DETAILS

WELDING DETAILS

COMPUTERREF.NO.

DRG. No.

TB-419-316-006

SHEET No.
16

