

# TENDER

TENDER NOTIFICATION NO. - **FCX/22231014**

FOR

**Balance work for extension of GJB for establishing  
manufacturing facility of Heat exchangers for  
nuclear project.**

**PRICE BID**



**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION**

**BHARAT HEAVY ELECTRICALS LIMITED**

**(A Government of India Undertaking)  
BHOPAL – 462 022 (M.P)**

## PREAMBLE OF PRICE BID

**1.0** This Price Bid consists of Three Schedule:

### **1.1 Schedule A**

Schedule A consists of Two Annexure:

The evaluation currency for this tender shall be INR. Total price of the package combining **Annexure I & Annexure II** to be quoted by the bidders which shall form the basis for comparison for deciding lowest bid. For further processing and award, total quoted amount by the L1 (lowest) bidder for the package shall be used for deriving individual item rate by BHEL based on % (percentage) weightage specified at Annexure I & Annexure II of Price Schedule.

### **1.2 Schedule B**

It consists of details of free issue materials by BHEL.

### **1.3 Schedule C**

It consists of details of tools & tackles provided by BHEL either on higher basis or on free of cost basis which are mentioned in price bid.

**2.0** The work to be carried out under the contract shall, except as otherwise provided in tender conditions, include all labour, materials, tools, plant, equipment, and transport which may be required in preparation of and for full & entire execution and completion of the Works. The descriptions given in the Schedule of Quantities shall, unless otherwise stated, be held to include waste on materials, carriage and cartage, carrying in return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion as aforesaid in accordance with good practice and recognized principles as laid down in Technical Specification & elsewhere in Tender Specification.

**3.0** The price bid should not contain any condition. Conditional price Bids shall be summarily rejected.

**4.0** The bidder should not leave any column blank in Price Schedules.

**5.0** Price Quoted shall include all taxes, & duties except **GST**.

**6.0** Unless otherwise specified in the items involving cement, reinforcement steel or structural steel, these items shall be issued free of cost by BHEL.

**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION****Price Schedule**

Balance work for extension of GJB for establishing manufacturing facility of Heat exchangers for nuclear project.

**SUMMARY**

	Details ANNEXURE	Total Amount (Rs.)
	Total price of the package combining of Annexure-I & Annexure-II.	

Amount in words: Rs.

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**NOTE:**

- 1** The evaluation currency for this tender shall be INR. Total price of the package combining of **Annexure-I & Annexure-II** to be quoted by the bidders which shall form the basis of comparison for deciding lowest bid.  
For further processing & award total quoted Amount for the package by the L1 (lowest) bidder shall be used for deriving Individual item rate by BHEL based on % (percentage) weightage specified at **Annexure-I & Annexure-II** of Price Schedule.
- 2** In case of “discrepancy in words and figures”, the same shall be adjusted in accordance with following rule:
  - (a)** If, in the price structure quoted for the required goods/ services/ works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.  
If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected.
  - (c)** If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.
  - (d)** If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION****Price Schedule : Anneuxre - I**

Name of work : Balance work for extension of GJB for establishing manufacturing facility of Heat exchangers for nuclear project.

Sr. No.	Based on DSR' 2012	Item Description	Qty.	Unit	% Weightage of item amount against total amount
1		Carriage of material by Mechanical transport including, loading, unloading & stacking of..			
	1.1.1	a) Lime, moorum, building rubbish 1 km lead	2.16	cum	0.0031
	1.1.11	e) Steel - 1 Km lead	49.05	tonne	0.0639
2		Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:( <b>cement which shall be supplied free of cost by BHEL</b> )			
	4.1.3	1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size ).	2.00	cum	0.1142
3	Ana. 5.22A.6	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level. ( <b>Reinforcement bars will be supplied free of cost from BHEL store</b> ). Thermo-Mechanically Treated bars.	76.03	Kg	0.0124
4	5.33	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement concrete as per approved design mix including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement. including Admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer- in - charge. (Note :- Cement concent considered in ths item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).			
	5.33.1	All works upto plinth level	1.04	cum	0.0743
5	**	Brick work with clay flyash F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor five level in :			
	6.32.2	Cement mortar 1: 6 ( 1 cement : 6 coarse sand )	2.72	cum	0.1972
6	**	12 mm cement plaster of mix:(Cement free issue by the Deptt.)			
	13.4.1	1 : 4 (1 cement : 4 coarse sand) .	26.85	sqm	0.0593

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Sr. No.	Based on DSR' 2012	Item Description	Qty.	Unit	% Weightage of item amount against total amount
7	**	15 mm cement plaster on the rough side of single or half brick wall of mix:(Cement free issue by the Deptt.)			
	13.5.1	1 : 4 (1 cement : 4 coarse sand).	35.80	sqm	0.0906
8	**	Distemping with 1st quality acrylic distemper (ready mixed) having VOC content less than 50 gms/litre, of approved manufacturer, of required shade and colour complete, as per manufacturer's specification.			
	13.42.1	Two or more coats on new work <b>Make of Paint:</b> "Tractor acrylic distemper" from Asian, "Duwel Acrylic Distemper" from Akzonobel, "Bison acrylic distemper" from Berger, "Beauty Premium acrylic distemper" from Nerolac	312.00	sqm	0.2477
9		Finishing walls with Acrylic Smooth exterior paint of required shade:			
	13.46.1	New work (Two or more coats applied @1.67 litre/10 sqm) over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm).	312.00	sqm	0.4152
10	Analysis 13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	624.00	sqm	0.9367
		<b>Make of Putty:</b> Birla Wall Care Cement Putty, JK Wall Putty, Asian Wall Putty, Sika Wall Décor Putty			
11		Demolishing brick work manually / by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge :			
	15.7.4	In cement mortar.	2.16	cum	0.0271
12	15.18	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates, bolts, nuts, cutting rivets, welding etc. including dismembering and stacking within 50 metres lead.	49053.98	Kg	1.6515

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Sr. No.	Based on DSR' 2012	Item Description	Qty.	Unit	% Weightage of item amount against total amount
13		Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS : 733 and IS : 1285, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing/panelling, C.P. brass/stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and panelling to be paid for separately).(Make of Aluminium section shall be Maan/Jindal/Hindalco )			
		For fixed portion.			
	21.1.1.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	499.10	kg	2.8439
14		For shutters of doors, windows & ventilators including providing and fixing hinges/pivots and making provision for fixing of fittings wherever required including the cost of PVC/neoprene gasket required (Fittings shall be paid for separately).(Make of Aluminium section shall be Maan/Jindal/Hindalco )			
	21.1.2.2	Powder coated aluminium (minimum thickness of powder coating 50 micron)	224.28	kg	1.5479
<b>Total : Annexure I</b>					<b>8.2850</b>

**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION****Price Schedule : Anneuxre - II**

Name of work : Balance work for extension of GJB for establishing manufacturing facility of Heat exchangers for nuclear project.

Sr. No.	Item Description	Qty.	Unit	% Weightage of item amount against total amount
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- 1 Supply and installation of coated galvalume steel sheet having maximum of pitch of 205 mm c/c and minimum 28 mm crest depth in length for roofing / side cladding as per site requirement. The supplied material is to be manufactured out of 0.50 mm TCT (Total coated thickness) and 550 MPA tensile strength, with zinc aluminium alloy of AZ-150 (As per IS-15961:2012). The sheet shall have a hot dip metallic zinc aluminium alloy coating of zinc (43%), silicon (1.5%) and aluminium (55%) with total mass coating of 150 gms/sqm considering both sides together , self drilling/self tapping screws with EPDM seal fixed to the existing MS purlins/MS runners complete as per drawing and as directed by engineer-in-charge.

4733.41 Sqm 50.8153

**Pre dispatch inspection of the material shall be carried out to witness the tests as per FQP. Sample shall be submitted for color approval .**

- 2 Supply & fixing of flashings, ridges, cappings, corner pieces etc. made of 0.5mm TCT plain galvalume steel sheet in required shape & size & fixed with stitching screw complete at a maximum height up to 35.00 m as per the instruction of Engineer-in-charge.

259.40 Rmt. 1.4556

**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION****Price Schedule : Anneuxre - II**

Name of work : Balance work for extension of GJB for establishing manufacturing facility of Heat exchangers for nuclear project.

Sr. No.	Item Description	Qty.	Unit	% Weightage of item amount against total amount
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- 3 Providing & fixing in position including fabricating and erecting structural steel works at all heights comprising sag rods floor beams, columns, girders, rails bracings, clamps, purlins with channels & angles, gutters with M.S. Plates, M.S. Flat supports including all connections as per detailed drawings connected steel works etc., cleats, gusset plates all bolts, nuts washers base plates anchor bolts etc., as per detailed drawings cutting welding and painting 2 coats of red oxide primer before erection & 2 coats of synthetic enamel paint of approved brand & colour after erection complete. Advani made electrodes or other approved make electrodes are to be used. All bolts nuts washers, gas, electrodes paints are in contractor's scope. Fabrication to be done as per I. S. Codes of latest revision. Structural Steel will be provided free of cost by BHEL.  
**(Note:- The item includes cost of cutting, threading of sag rods etc.)**

- a) Only fabrication with free issue of Structural Steel by BHEL  
b) Only erection

60481.82	Kg	12.4163
62272.82	Kg	6.2301

**Critical structural welds shall be inspected as per Field Quality Plan .**

- 4 Providing and fixing north/south light fire retardant and U.V. resistant plain and solid transparent embossed polycarbonate sheet of minimum 3 mm thick on MS runner with polymer coated galvanised hexagon heated self tapping self drilling screw with EPDM seal as per manufacturer specification ,design and instruction of engineer-in-charge complete. The solid transparent polycarbonate sheet shall be free from scratches and other surface damage and it shall be UV treated and tested as per relevant ASTM or DIN or AS etc. as the case may be .The minimum side overlapping shall be 50 mm.

413.10	Sqm	11.1943
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**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION****Price Schedule : Anneuxre - II**

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Sr. No.	Item Description	Qty.	Unit	% Weightage of item amount against total amount
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**Pre dispatch inspection of the material shall be carried out to witness the tests as per FQP. Sample shall be submitted for color approval .**

- 5 Providing and fixing fire retardant and U.V. resistant profiled and solid transparent embossed polycarbonate sheet of minimum 3 mm thick with profile to match with that of adjacent galvalume sheets on roof with self drilling/self stitching fasteners with EPDM seal for transmission of light, fixing of the sheet to the existing support system underneath as per the standard practice complete and as directed by engineer-in-charge. The solid transparent polycarbonate sheet shall be free from scratches and other surface damage and it shall be UV treated and tested as per relevant ASTM or DIN or AS etc. as the case may be.

36.00 Sqm 1.0199

- 6 Providing & fixing South/North light curve in required girth with 0.5 mm TCT coloured galvalume sheet with length of south/north light curve equal to maximum width of Galvalume sheet fixed to the steel members with self drilling/self stitching fasteners at maximum spacing of 500 mm c/c along length of capping, flashing etc complete as directed by Engr-in-charge. The curved width of south/ north light curve shall be as per drawing/ site condition and instructions of Engineer-in-charge .

153.00 Rmt. 1.1604

- 7 Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge. (Cost of aluminium snap beading shall be paid in basic item):  
With float glass panes of 5.00 mm thickness  
(Weight not less than 12.27 kg/sqm)

60.62 Sqm 0.8738

**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION****Price Schedule : Anneuxre - II**

Name of work : Balance work for extension of GJB for establishing manufacturing facility of Heat exchangers for nuclear project.

Sr. No.	Item Description	Qty.	Unit	% Weightage of item amount against total amount
8	Supply & fixing M.S Galvanised Gutters with 3.0 mm thick (minimum) M.S. Galvanised sheet including zinc coating of 120 gsm considering both side together and sheet width 900 mm in the required shape and size as per drawing of valley gutter with necessary fastener, welding and supports on steel bracket & sealing the space as required with external cladding as directed by Enginee-in -Charge .	1900.00	Kg	2.9714
9	Providing and fixing on wall face unplastised- Rigid PVC rain water pipes conforming to IS : 4985/2000 class 2 including jointing with solvent cement to form a permanent water tight joints.(Working pressure-4.0 kgf/sqcm) (i) Single socket (selfit) pipes:(Working pressure-4.0 kgf/sqcm) 160 mm dia.	352.00	metre	3.4049
10	Providing and fixing on wall face unplastised-PVC moulded fittings/accessories for unplastised - Rigid PVC rain water pipes conforming to IS : 4985/2000 class 2 including jointing with solvent cement to form a permanent water tight joints.(Working pressure-4.0 kgf/sqcm)  1.Coupler(Working pressure-4.0 kgf/sqcm) a)160mm	16.00	each	0.0577
	4.Single Tee without Door(Working pressure-4.0 kgf/sqcm) a)160x160x160mm	4.00	each	0.0192
	5.Bend 87.5 degree(Working pressure-4.0 kgf/sqcm) a)160mm Bend/Elbow	20.00	each	0.0960
<b>Total : Annexure II</b>				<b>91.7149</b>
<b>Total : Annexure I + Annexure II</b>				<b>100.00</b>

**FACTORY CIVIL CONSTRUCTION & MAINTENANCE DIVISION****Price Schedule : B**

Name of work : Balance work for extension of GJB for establishing manufacturing facility of Heat exchangers for nuclear project.

The following material free issue from BHEL stores.

- 1 Cement
- 2 Reinforcement Steel.
- 3 Structural steel
- 4 Red oxide zinc chromate primer

Note:- If the contractor fails to return to the department unconsumed portion of total quantities of respective free issue materials after completion of this work or as and when instructed by the Engineer-in-charge , penalty at twice the respective material cost as given in CPWD's DSR-2012 shall be imposed on him which shall be deducted from his bill(s).In case the materials cost is not available in DSR-12 , recovery against such materials shall be done @ twice the material cost as indicated in PO placed by BHEL.

**Price Schedule : C**

Name of work : Balance work for extension of GJB for establishing manufacturing facility of

- 1 Electricity charges at Rs.66.00/- per M.T. of fabrication of structural steel

Hire charges.

- i) Drill machine @ 252.00/- per day
- ii) Jack Hammer @108.00/- per day



(Subject to availability)

Drill machine/jack hammer rod Rs. 100.00 per rod