

# **Bharat Heavy Electricals Limited**

**High Pressure Boiler Plant  
Tiruchirappalli - 620 014. India  
Civil Engineering Department (Township)**

## **TENDER DOCUMENT (PRICE BID)**

<b>Name of work</b>	<b>:</b>	<b>Annual Maintenance contract for Water proofing treatment on roof terraces in buildings in BHEL Township - Trichy</b>
<b>Tender Schedule No</b>	<b>:</b>	<b>CT: TS: 002 / 20 - 21</b>
<b>Estimate Value of Work</b>	<b>:</b>	<b>Rs. 40,00,000.00 + Applicable GST</b>
<b>Evaluation Value of Work (50% max based on split and award condition for 3 Vendors)</b>	<b>:</b>	<b>Rs. 20,00,000.00 + Applicable GST</b>
<b>EMD</b>	<b>:</b>	<b>Rs. 40,000.00 (Rupees Fourty Thousand only)</b>
<b>Period of Contract</b>	<b>:</b>	<b>15 (Fifteen) Months</b>
<b>Date of Notification</b>	<b>:</b>	<b>30.09.2020</b>
<b>Last Date of Receipt of Tender</b>	<b>:</b>	<b>15.10.2020 @ 10:00 hrs.</b>
<b>Date of Tender Opening</b>	<b>:</b>	<b>15.10.2020 @ 10:00 hrs.</b>

**BHARAT HEAVY ELECTRICALS LIMITED**  
**TIRUCHIRAPALLI - 620 014**

**SCHEDULE - A**

Name of Work: **Annual Maintenance Contract for Water Proofing treatment on roof terraces in buildings in BHEL Township - Trichy**

I / We \_\_\_\_\_ have read the condition of tender attached hereto and agree to abide by such conditions. I/We offer to execute the works in **CT: TS: 002 / 20 - 21** for a period of **15 (Fifteen) Months** at the percentage below / at par / above the rates contained in Bill of Quantities appended **below from Page 03**.

I / We further agree to sign an Agreement Bond to abide by the General Conditions of Contract and to carry out all works according to the specifications for materials and works of Bharat Heavy Electricals Limited, Tiruchirappalli - 620 014. In case of acceptance of the tender by the BHEL, I/We bind myself/ourselves to execute the contract documents within 7 days after notice that my/our tender has been accepted and this contract has been awarded to me/us and thus failing which I/We shall have no objection to the forfeiture of the Earnest Money amount to **Rs. 40,000.00** lodged with Bharat Heavy Electricals Limited, Tiruchirapalli-620 014.

I / We further agree to include all tools & plants and consumables required for the work in my / our scope but required power and water will be provided at one point by BHEL at free of cost and based on this, we have quoted our percentage.

**Note:** Details & Quantities of each item of work shown in the BILL OF QUANTITIES are only approximate and the same is appended below. They are given as a guide for the purpose of tendering only and are liable to variation and alteration of the Competent Authority. The work under each item as executed shall be measured and priced at the overall percentage quoted by the contractor **Below (100-X) % / At par (100%) / Above (100+X) %** of the rates provided in Bill of Quantities appended below from **Page 03**.

Sl. No.	Approx. Value of work	<b>Common single percentage rate, Below (100-X) % / At par (100%) / Above (100+X) % to be quoted with respect to the BHEL estimate rate provided in Bill of Quantities appended below from Page 03</b>	
		In Figures	In Words
1.	<b>Rs. 20,00,000.00 (Excluding GST) = 100%</b>		

**Note: BHEL estimate total 100% is given below. Contractor has to quote Common single percentage, Below (100-X) % / At par (100%) / Above (100+X) %, with respect to the estimate total in Bill of Quantities below, at page 2 both in figures and in words.**

**CIVIL ENGINEERING DEPARTMENT - TOWNSHIP  
BHEL / TRICHY-620 014**

**BILL OF QUANTITIES**

**Name of work :** Annual Maintenance contract for Water proofing treatment on roof terraces in buildings in BHEL Township - Trichy

<b>ITEM NO</b>	<b>BHEL SR No.</b>	<b>DESCRIPTION</b>	<b>Units</b>	<b>Rate (Rs. P.)</b>
1	0310C	Brick work with F.P.S bricks (second class ground moulded chamber bricks) of class designation 50/75 in foundation and plinth in: <b>Cement mortar 1:5.</b>	M3	<b>3,720.10</b>
2	0318	Rectifying the wall cracks by chipping off the existing plastered surfaces to the required width, depth and applying cement slurry in the cracks to the required depth, making good all damages and finishing to match with the existing one by plastering with C.M 1:5, 12/15mm thick and a coat of white wash / snowcem / distemper etc. as the case may be.	M2	<b>93.30</b>
3	0319	Rectifying the wall cracks by chipping off the existing plastered surfaces to the required width, depth and applying cement slurry in the cracks to the required depth, making good all damages, providing chickenmesh and finishing to match with the existing one by plastering with C.M 1:5, 12/15mm thick and a coat of white wash / snowcem / distemper etc. as the case may be.	M2	<b>133.7</b>
4	0601	Finishing the top of all floors with 20 mm thick cement concrete (without using sand) in the proportion of one part of cement and three parts of 3 to 10 mm gauge hard broken granite stone chips and finishing the top surface smooth, rounding of corners, curing etc., complete, all as per standard specifications. (Ellis pattern I sort)	M2	<b>190.7</b>
5	0801A	Plastering with cement mortar as per standard specifications. <b>In cement mortar 1:3, 12mm thick.</b>	M2	<b>93.25</b>
6	0801C	Plastering with cement mortar as per standard specifications. <b>In Cement mortar 1:5, 12mm thick.</b>	M2	<b>92.95</b>

ITEM NO	BHEL SR No.	DESCRIPTION	Units	Rate (Rs. P.)
7	<b>1001A1</b>	Dismantling / removing / demolishing as the case may be of the following by manually / mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the nearby low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. <b>Brick work in cement mortar</b>	M3	<b>530.25</b>
8	<b>1001A5</b>	Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the nearby low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. <b>RCC works including stacking of steel bars by manual / mechanical means.</b>	M3	<b>916.95</b>
9	<b>1001A10</b>	Dismantling / removing / demolishing as the case may be of the following by manually/mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the nearby low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. <b>Tile work in floors and roofs laid in cement mortar.</b>	M2	<b>27.70</b>
10	<b>1001A11</b>	Dismantling / removing / demolishing as the case may be of the following by manually / mechanical means and carefully stacking the serviceable materials at site of work or conveying and handing over the same at BHEL stores and disposal of unserviceable materials by transporting and dumping in the nearby low level areas within a lead of 100 metres. All as per instructions of Engineer-in-charge. <b>Brick jelly lime concrete.</b>	M3	<b>219.15</b>

ITEM NO	BHEL SR No.	DESCRIPTION	Units	Rate (Rs. P.)
11	<b>1538</b>	Attending to leak at roof slab and wall joint. The scope of work includes clearing the tiled terrace surfaces to be free of dust, loose particles, algae growth and atmospheric deposits, filling small blow holes if any with CERAFILE 45 / TEC TILE 12 / Sika Grout / NACC Tile Grout / Dr. Fixit Crack-X and providing primer and top coat of CERAFILE / TEC WAVE 3000 / Sika Raingard / NACC High Flex single component / Dr. Fixit New Coat highly flexible membrane coating including curing adequately. All as per manufacturer's recommendation / standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges etc. complete - for In accessible areas. <b>One Primer and one top coat.</b>	M2	<b>335.5</b>
12	<b>1539</b>	Attending to leak at roof slab and wall joint. The scope of work includes clearing the tiled terrace surfaces to be free of dust, loose particles, algae growth and atmospheric deposits, filling small blow holes if any with CERAFILE 45 / TEC TILE 12 / Sika Grout / NACC Tile Grout / Dr. Fixit Crack-X and providing primer and top coat of CERAFILE / TEC WAVE 3000 / Sika Raingard / NACC High Flex single component / Dr. Fixit New Coat highly flexible membrane coating including curing adequately. All as per manufacturer's recommendation / standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges etc. complete -for In accessible areas. <b>One primer and two top coats.</b>	M2	<b>518.30</b>
13	<b>1540</b>	Providing two coats of CERALASTIC / TEC WAVE 2000 / Sika Raingard / NACC roof coating / Dr. FIXIT PIDIFIN 2K water proofing membrane coating followed by one bond coat of CERA BOND SBR / TEC BOND SBR / Sika latex / NACC Latex / Dr. FIXIT PIDICRETE URP SBR LATEX over the membrane coating and providing cement plastering 6mm thick in CM 1:4 admixed with general purpose water proofing compound of respective products and curing adequately. All as per manufacturer's recommendation / standard specifications and instructions of Engineer-in-charge. The scope of work includes dismantling the existing damaged weathering course and tiles to expose to the RCC slab and finishing to match with the existing weathering course. Rate quoted includes cost of all materials except cement which will be issued free of cost at BHEL stores, labour charges, conveyance, tools and all other incidental charges etc, complete. Replacing the damaged tiles and re-pointing where ever required which will be paid under separate item - for - accessible areas.	M2	<b>338.25</b>

ITEM NO	BHEL SR No.	DESCRIPTION	Units	Rate (Rs. P.)
14	1541	Attending crack filling at parapet level with pressure grouting: The scope of work includes routing out the cracks with a mechanically operated groove cutter and sealing the groove with flexible sealant - CERA CRACK FILLER / TEC KRACK FILLER / Sika CRACK SEAL / NACC CRACK FILLER / Dr. FIXIT CRACK - X PASTE and allowing the sealant to set overnight, driving grouting nozzles at intervals of 1M and grouting neat cement slurry admixed with expansive grouting additive CERA EXPAN 250 / TEC SWELL / Sika INTRA PLAST / NACC EXPAN / Dr. FIXIT PIDICRETE AM 250 and providing two coats of CERAFLLEX / TEC WAVE 3000 / Sika RAINGARD / NACC HIGH FLEX / Dr. FIXIT NEW COAT roof coating single component flexible membrane for a width of 15cms aligned to the centre of the crack. All as per manufacturers recommendations / standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges etc., complete, but excluding cost of cement which will be issued free of cost at BHEL stores.	M2	151.25
15	1542	Attending Crack filling at parapet level without pressure grouting. The scope of work includes routing out the cracks with a mechanically operated groove cutter and sealing the groove with flexible sealant - CERA CRACK FILLER / TEC KRACK FILLER / Sika CRACK SEAL / NACC CRACK FILLER / Dr. FIXIT CRACK - X PASTE and providing two coats of CERAFLLEX / TEC WAVE 3000 / Sika RAIN GARD / NACC ROOF COATING / Dr. FIXIT NEW COAT highly flexible membrane for a width of 10cms aligned to the center of the crack. All as per manufacturers recommendations / standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges, etc. complete.	RM	112.75
16	1543	Drilling pockets and fixing PVC Nipples in position along weak concrete junctions and leakage points in walls / floor and pressure grouting CERA EXPAN 250 / TEC SWELL / Sika INTRA PLAST / NACC EXPAN / Dr. FIXIT PIDICRETE AM 250 expansive grouting additive admixed with cement slurry using hand operated grouting pump. The scope also includes plugging the grout hole with CERA PLUG / TEC STOP / Sika HYDRO PLUG / NACC PLUG / Dr. FIXIT INSTANT LEAK PLUG. All as per manufacturer's recommendations / standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges except cement which will be issued free of cost at BHEL stores.	POINT	145.75

ITEM NO	BHEL SR No.	DESCRIPTION	Units	Rate (Rs. P.)
17	<b>1544</b>	Providing one coat of Antifungal coating - tec touch / Cera re-played / Sika Multi guard or Sika gard 67 / NACC acrylic / Dr. FIXIT DAMPGAURD - protective and decorative coating system as per manufacturer's recommendations / standard specifications and instructions of Engineer-in-charge. The scope of work includes surface preparation including cleaning the wall surfaces to be free of previous coatings, dust, loose particles, algae growth and atmospheric deposits, filling small blow holes if any with putty. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges etc., complete.	M2	<b>203.20</b>
18	<b>1545</b>	Arresting leakage through RCC Construction joints The scope of work includes routing out the horizontal cracks along / construction joints to expose the RCC joint and applying CERA SEAL / TEC POLYSEAL G / Sika Crack Seal / NACC poly seal gun grade polysulphide sealant / Dr. FIXIT PU SEALANT. The scope also includes application of CERAFLLEX / TEC WAVE 3000 / Sika Rain Gard / NACC Roof Coating / Dr. FIXIT NEW COAT single component flexible membrane with intermediate layer of cloth over the exposed area after allowing the PS (polysulphide sealant) to cure for 72 hours. All as per manufacturers recommendations / standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and all other incidental charges etc., complete.	M2	<b>499.10</b>
19	<b>1546</b>	Arresting leakage through Masonry construction joints. The scope of work includes routing out the vertical cracks along construction joints and providing a bond coat of CERA BOND SBR / TEC BOND SBR / Sika Latex Power / NACC latex / Dr. FIXIT PIDICRETE URP SBR LATEX followed by filling the cracks with repair mortar admixed with CERA EXPAN 250 / TEC SWELL / Sika Intra Plast / NACC Expan / Dr. FIXIT PIDICRETE AM 250. The scope also includes placing of grouting nipples on the neatly finished surface at adequate spacing and grouting cement slurry admixed with CERA EXPAN 250 / TEC SWELL/ Sika Intra Plast / NACC Expand / Dr. FIXIT PIDICRETE AM 250 using hand operated grouting pump. The treated surface shall then be finished with two coats of CERAFLLEX / TEC WAVE 3000 / Sika Rain gard / NACC Roof Coating / Dr. FIXIT NEW COAT. All as per manufacturers recommendations / standard specifications and instructions of Engineer-in-charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and other incidental charges etc. complete but excluding cost of cement which will be issued free of cost at BHEL stores.	RM	<b>262.20</b>

ITEM NO	BHEL SR No.	DESCRIPTION	Units	Rate (Rs. P.)
20	<b>1547</b>	Providing aluminum Sheet Flashing. The scope of work includes cutting a neat groove along the brick wall and fixing Aluminum sheet flashing of 1' to 1'6" as required including re-filling the grooves and sealing the joints with CERA SEAL / TEC POLYSEAL G / Sika Polysulphide / NACC poly seal gun grade polysulphide sealant / Dr. FIXIT PU SAEALANT. All as per Manufacturer's recommendations / standard specifications and instructions of Engineer-in-Charge. Rate quoted includes cost of all materials, labour charges, conveyance, tools and other incidental charges etc., complete.	RM	<b>479.80</b>
21	<b>0201C</b>	Providing and laying in position plain cement concrete of specified grade including consolidation, curing etc. complete, all as per standard specifications. All works up to plinth level. Rate excludes cost of centering and shuttering. <b>1:2:4 with graded stone aggregate 20 mm nominal size.</b>	M3	<b>2043.75</b>

Mentioned rates excludes GST %

Note:

1. Actual Bill of Quantities (Items with quantity to do the work) will be provided in the sub work order only.
2. Guarantee period of **02 (two) years** for non-leakage of roof should be ensured by the contractor.