

# BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

High Pressure Boiler Plant, Tiruchirappalli 620 014, India

**MAINTENANCE & SERVICES**

☎: (0431) 2575010 / 2575123 / e-mail: [umadsankar@bhel.in](mailto:umadsankar@bhel.in)



ISO 9001

ENQ No: 9451900033

Dt. 30.05.2019

## **NOTICE INVITING TENDER**

**SUB: ELECTRIFICATION OF NEWLY EXTENDED BAY 5A OF BUILDING 50.**

**Ref: Enquiry No.: 9451900033/ Dated: 30/05/2019; Due Dt: 21/06/2019.**

Tender of the following work should be submitted in a sealed cover consisting of three inner sealed covers such as 1) EMD cover, 2) Technical bid cover & 3) Price bid cover, all superscribing the name of work, enquiry number etc.

- 1) EMD cover shall contain **EMD of Rs. ₹ 98,600/-** Mode of Payment of EMD: (a) e-Collect mode (as directed in Commercial T & C) or (b) Banker's cheque/ Pay Order/ DD in favor of BHEL or (c) Fixed Deposit Receipt (FDR) issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies act (FDR should be in the name of the Contractor, a/c BHEL). EMD shall not carry any interest.
- 2) Technical bid cover shall contain duly filled in Technical bid document signed by the tenderer in all the pages with documentary evidences for pre-qualification such as experience, value of work executed in the similar nature of work etc. Any bid without proper documentary evidence for pre-qualification shall not be considered for further evaluation.
- 3) One set of unpriced bid of Contract Work Schedule duly signed by the tenderer for accepting the work content (BOQ) should be submitted along with the Technical bid for technical evaluation.
- 4) The price bid cover shall contain price bid document duly filled in and signed by the tenderer in all the pages. The tenderer has to quote only the percentage rates ie. Below (- %) / At par (0%) / Above (+ %) of the rates provided in Price bid.

The complete Technical bid and price bid along with requisite **EMD of ₹ 98,600/-** shall reach the office of the undersigned on or **21/06/2019 at 14.00 Hrs.** MSE suppliers can avail EMD Waiver benefits only if they submit along with the offer, either of the following:

- 1) EM II Certificate having deemed validity of five years from the date of issue of acknowledgement in EM II.
- 2) EM II Certificate along with attested copy of a CA Certificate (Format Enclosed) if the date of issue of acknowledgement in EM II is older than five years as on the date of tender opening.
- 3) Valid NSIC/SSI certificate.
- 4) MSME - UAM certificate along with CA Certificate (Format Enclosed).

**Tenders without EMD/ MSME proof as detailed above will be summarily rejected and the Technical bid & price bid shall not be considered.**

The Technical bid will be opened on the same day at **14.30 hrs.** In case of opening day falls on holiday or happened to be declared as a holiday the receipt and opening of the tender shall automatically fall on the same timing of the next working day. Date and time of opening of the Price Bid shall be intimated only to the bidders those who have qualified after evaluation of the Technical bid. You/ Your authorized representative may participate in the tender opening.

Sign & Seal of Contractor

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## **NOTICE INVITING TENDER**

01.	Name of work	<b>ELECTRIFICATION OF NEWLY EXTENDED BAY 5A OF BUILDING 50.</b>
02.	Earnest Money Deposit	<b>₹ 98,600/-</b>
03.	Duration of the contract	One Year
04.	Last Date for Receipt of Tender	14.00 Hrs. on 21/06/2019
05.	Date of Technical Bid Opening	14.30 Hrs. on 21/06/2019
05.	Date of Price Bid Opening	Will be intimated to those who are Qualified separately.
07.	Guarantee Period	Not applicable

The Tender documents can be downloaded from BHEL Tender website ([www.bhel.com](http://www.bhel.com)) / Government's Central Public Procurement Portal (<https://eprocure.gov.in>) at free of cost. Tender document contains 26 Pages (Technical Bid - 25 Pages, Schedule for price bid – 1 Page).

Clarification if any can be obtained from Engineer/ Contracts/ M&S.

Encl:1) NIT – Notice Inviting tender (Consists of Preamble, Technical Bid & price bid)

Tender should be addressed to: **THE ENGINEER,  
MAINTENANCE & SERVICES / CONTRACTS,  
2&4 BUILDING, BHARAT HEAVY ELECTRICALS LIMITED,  
HIGH PRESSURE BOILER PLANT,  
TIRUCHIRAPPALLI - 620014,  
TAMILNADU**

ISSUING OFFICER

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## TECHNICAL BID

**NAME OF THE WORK: ELECTRIFICATION OF NEWLY EXTENDED BAY 5A OF BUILDING 50.**

**Ref: Enquiry No: 9451900033/ Dated: 30/05/2019; Due Dt: 21/06/2019.**

### PRE-QUALIFICATION CRITERIA

The following eligibility criteria shall be complied to fulfill the Technical bid: -

Sl. No	Description	Vendor to confirm
1	The BIDDER / VENDOR shall have a minimum of three Years of Continuous Experience in the field of supply and installation of electrical contract works in industries. Vendor may indicate the actual no. of years of experience in the field.	
2	The contractor should have minimum annual turnover of Rs.15 lakhs during the three previous financial years ending March 31, 2018 (Copies of audited statements & Income Tax Returns to be enclosed as proof for the same)	
3	Electrical contractor should have valid electrical license (Minimum Class B) for carrying out LT panel work. (Copy of the same shall to be enclosed)	
4	The contractor should have executed successfully similar works during last 7 years ending January 31, 2018 which should be either of the following:- (i).Three similar completed works each costing not less than Rs.20 lakhs Or (ii).Two similar completed works costing not less than Rs.25 lakhs Or (iii).One similar completed work costing not less than Rs.40 lakhs Note: Similar work means "Internal / External Electrical Works in industries and 3 Phase MP / DP boards installation not less than 200 Amps incoming switch"	
5	Vendor has to submit at least one Performance Certificate from their customers in India, for satisfactory performance of "Electrical installation work as mentioned in Sl. No. 1.4 in part A, for a minimum period of one year (as on date of opening tender). For obtaining the Performance certificate, a suggestive format is provided.	
6	The BIDDER / VENDOR to furnish Reference List of Customers, with complete address, details of contact person, where Electrical installation work carried out in industries in the past with details.	

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7	<p>(i) BHEL Vendor code (if applicable) - (ii) PAN Number (Copy to be Enclosed) - (iii) GSTN registration Number (Copy to be Enclosed) - (iv) Mobile number (Which is linked to GSTN registration Number) - (v) Email id (Which is linked to GSTN registration Number) – (vi) SAC Code –</p> <p>Offer will be entertained only if the vendor submit the details as above &amp; has a valid GST registration no. If any specific exemption is available, a declaration with due supporting documents need to be furnished for considering the offer. Otherwise the offer shall be rejected.</p>	
8	Acceptance for Scope of Work as per the Enquiry	
9	Acceptance for All Terms & Conditions as per the Enquiry	
10	The bidder along with its associate/collaborators/sub-contractors/sub-vendors/consultans/service providers shall strictly adhere to BHEL fraud prevention policy displayed on BHEL website <a href="http://www.bhel.com">http://www.bhel.com</a> and shall immediately bring to the notice of BHEL management about any fraud or suspected fraud as soon as it comes to their notice	

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## SCOPE OF WORK & BILL OF QUANTITIES:

ITEM NO.	SCOPE OF WORK	UOM	QTY	RATE	VALUE
10/10	Electrification of Newly extended Bay 5A as per the detailed specification given below:	AU	1	3556000	3556000
20/10	Electrification of bay 5A office wiring as per the detailed specification given below:	No.	1	1374000	1374000

## Detailed Scope of Work

### PART-B-Electrification of Newly Extended Bay 5A of Building 50 (ITEM10)

Sl. No.	PARTICULARS	SPECIFICATION DETAILS	QTY	RATE	VALUE	OFFER BY BIDDER
1.0.0	APPLICATION					
1.1.0	Purpose	Electrification of Newly extended Bay 5A of Building 50 located at Trichy, Tamil Nadu.				
2.0.0	Specification					
2.1.0	Supply and laying of 3 runs, 3.5 Core 185 Sqmm XLPE cable in trench	Supply and Laying of 3/2 runs of 3.5 core,185sqmm XLPE cables (1.1kv) in the already excavated/formed trench and closing the trench with the trench cover to make it good. Cable should be of RPG, Polycab, KEI, Paramount, Radiant, Delton, Gloster, Nicco, Universal, Mansfield, Suraj makes only.	Qty : 1000M	1072	1072000	
2.2.0	Supply and laying of Single run, 3.5 Core 95 Sqmm XLPE cable in trench	Supply and Laying of single run of 3.5 core,95sq.mm XLPE cables (1.1kv) in the already excavated/formed trench and closing the trench with the trench cover to make it good. Cable should be of RPG, Polycab, KEI, Paramount, Radiant, Delton, Gloster, Nicco, Universal, Mansfield, Suraj makes only.	Qty : 300 M	598	179400	
2.3.0	Supply and laying of Single run, 3.5 Core 50 Sqmm XLPE cable in trench	Supply and Laying of single run of 3.5 core,50sq.mm XLPE cables (1.1kv) in the already excavated/formed trench and closing the trench with the trench cover to make it good. Cable should be of RPG, Polycab, KEI, Paramount, Radiant, Delton, Gloster, Nicco, Universal, Mansfield, Suraj makes only.	Qty : 300 M	384	115200	
2.4.0	Supply and laying of Single run, 4 Core 10 Sqmm XLPE cable in trench	Supply and Laying of single run of 4 core,10sq.mm XLPE cables (1.1kv) in the already excavated/formed trench and closing the trench with the trench cover to make it good. Cable should be of RPG, Polycab, KEI, Paramount, Radiant, Delton, Gloster, Nicco, Universal, Mansfield, Suraj makes only.	Qty : 100 M	199	19900	
2.5.0	Supply and fixing of Isolator 200	Supply and fixing of sheet steel enclosed fully shrouded, 200A TPN Isolator with suitable adaptor box, and angle iron	2 sets	23000	46000	

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	Amps with adaptor box	frame work on the wall/column/trench. The Isolators should be properly connected to earthing strips. The adaptor box should be painted with one coat of Red oxide paint and two coats of grey colour paint (powder coated). Suitable hole for cable entry should be provided in the adaptor Box. Make of Isolator: GEM, Menco or HAVELLS ONLY SUITABLE. PLEASE QUOTE SPECIFIED MAKE ONLY.				
2.6.0	Supply and fixing of Isolator 100 Amps with adaptor box	Supply and fixing of sheet steel enclosed fully shrouded, 100A TPN Isolator with suitable adaptor box, and angle iron frame work on the wall/column/trench. The Isolators should be properly connected to earthing strips. The adaptor box should be painted with one coat of Red oxide paint and two coats of grey colour paint (powder coated). Suitable hole for cable entry should be provided in the adaptor Box. Make of Isolator: GEM, Menco or HAVELLS ONLY SUITABLE. PLEASE QUOTE SPECIFIED MAKE ONLY.	6 sets	16000	96000	
2.7.0	Supply and fixing of Isolator 400 Amps with adaptor box	Supply and fixing of sheet steel enclosed fully shrouded, 400A TPN Isolator with suitable adaptor box, and angle iron frame work on the wall/column/trench. The Isolators should be properly connected to earthing strips. The adaptor box should be painted with one coat of Red oxide paint and two coats of grey colour paint (powder coated). Suitable hole for cable entry should be provided in the adaptor Box. Make of Isolator: GEM, Menco or HAVELLS ONLY SUITABLE. PLEASE QUOTE SPECIFIED MAKE ONLY.	1 set	37000	37000	
2.8.0	Supply and fixing of Isolator 63 Amps with adaptor box	Supply and fixing of sheet steel enclosed fully shrouded, 63A TPN Isolator with suitable adaptor box, and angle iron frame work on the wall/column/trench. The Isolators should be properly connected to earthing strips. The adaptor box should be painted with one coat of Red oxide paint and two coats of grey colour paint (powder coated). Suitable hole for cable entry should be provided in the adaptor Box. Make of Isolator: GEM, Menco or HAVELLS ONLY SUITABLE. PLEASE QUOTE SPECIFIED MAKE ONLY.	5 Sets.	9100	45500	
2.9.0	Supply and fixing of Isolator 32 Amps with adaptor box	Supply and fixing of sheet steel enclosed fully shrouded, 32A TPN Isolator with suitable adaptor box, and angle iron frame work on the wall/column/trench. The Isolators should be properly connected to earthing strips. The adaptor box should be painted with one coat of Red oxide paint and two coats of grey colour paint (powder coated). Suitable hole for cable entry should be provided in the adaptor Box. Make of Isolator: GEM, Menco or HAVELLS ONLY SUITABLE. PLEASE QUOTE SPECIFIED MAKE ONLY.	5 Sets.	5000	25000	
2.10.0	Supply and fixing of 63A 8way DB	Supply and installation of 8 way 63 A, TPN FDB with 200A Isolator as incomer with suitable adapter box, and angle iron frame work on the wall/column/floor. The FDB should be made up of thick gauge CRCA sheet steel as per IS 2675 and porcelain base HBC type as per IS 2086 and with HBC fuse links, Bus bar suitable for the number of ways and amperage.	2 Sets.	66500	133000	

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		Neutral bus bar and earthing terminal to be provided. Board finished with two coat of Grey enamel paint. Suitable for 3 Phase 415V AC supply. MAKE of FDB and Isolator: GEM, Menco or HAVELLS only suitable.				
2.11.0	Supply and fixing of 32 A 8 way DB	Supply and installation of 8 way 32 A, TPN FDB with 200A Isolator as incomer with suitable adapter box, and angle iron frame work on the wall/column/floor. The FDB should be made up of thick gauge CRCA sheet steel as per IS 2675 and porcelain base HBC type as per IS 2086 and with HBC fuse links, Bus bar suitable for the number of ways and amperage. Neutral bus bar and earthing terminal to be provided. Board finished with two coat of Grey enamel paint. Suitable for 3 Phase 415V AC supply. MAKE of FDB and Isolator: GEM, Menco or HAVELLS only suitable.	1 Set.	37000	37000	
2.12.0	Supply and installation of Earth Pit	Excavation of earth, supply and installation of earth electrode generally conforming to IS: 3043-1987. The electrode should be of cast Iron, 3M long 100mm inner dia, 13mm thick with supply of 50 x 6 mm GI clamp (Hot dipped galvanised flat) with suitable fasteners, back filling of alternate layers of salt and charcoal around the electrode, Construction of masonry chamber (Size 600 x 600mm) and cover etc. Earth resistance value, earth electrode No. and date of inspection are to be painted inside the chamber wall and on the top of the cover. SPECIAL INSTRUCTIONS for making earth pits:- a) Before commencement of work, contractor should consult with Electrical in charge and finalise the location plan for the installation of earth pits. b) After excavation of earth & before closing the same it should be shown to Electrical in charge. c) Contractor should fill charcoal around electrode with presence of Electrical in charge. d) Unique earth pit number should be allotted for every earth pit and same is to be painted with black colour paint on the inside wall of masonry chamber and cover. e) After erection of earth pit, the ohmic value to be measured in the presence of Electrical in charge and final report to be submitted. The value of the earth pit should be less than 2 ohms.	5 Nos.	15000	75000	
<b>3.0.0</b>		<b>DESCRIPTION OF MAIN PANEL BOARD:--</b>				
3.1.0	Supply and installation of MP board	Supply, installation and commissioning of 800 AMP MAIN PANEL BOARD WITH 800 AMPS COPPER BUSBAR ALONG WITH - 800 AMPS INCOMER SS ENCLOSURE WITH FUSE - 1 No - 200 AMPS OUTGOING SS ENCLOSURE WITH FUSE - 2 Nos - 100 AMPS OUTGOING SS ENCLOSURE WITH FUSE - 3 Nos - 400 AMPS OUTGOING SS ENCLOSURE WITH FUSE - 1 Nos SPECIFICATION FOR MAIN POWER BOARD: --	1 SET	485000	485000	

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Supply and installation of Medium Voltage Floor mounting free standing Industrial type panel board.

- The panel shall be fabricated from 50x50x6mm M.S Angle for vertical and 40x40x6mm for horizontal.
  - The cable supports shall be fabricated from 50x6mm M.S Flat.
  - The switches shall be mounted at a suitable operating height which should not exceed 2000mm from the floor.
  - The bottom of the switch fuse unit should be atleast 600mm above the floor level and the panel overall height not exceed 2200mm.
  - All the adopter boxes should have the cable entries from the bottom side of the box for cable termination/ complete inter connections. The space between switches shall not less than **150mm for easy and free operation of switch handles.**
- All the switches shall be provided with 2Nos of 25x3mm copper earth bus. Fabrication of doors, bus bar chamber, and adopter boxes shall be used with 2mm thick CRCA sheet.
- After fabrication, the panel should be painted with one coat of red-oxide paint, 2 coats of grey enamel ACID PROOF paint. The panel should be provided with 440 volt danger boards. Out going, incoming and switch fuse unit rating should be encarving made of perfix sheet or equivalent material should be provided. All required materials confirming to IS 375/1963.

BUSBAR:--

The busbar should be extensible for future extension with proper coupling arrangement of buses of suitable additional length shall be provided. The bus bar chamber shall be provided with 2 or 3 section of door covers with neoprene gasket all around. 800 Amps, 3phase, 415volts and neutral Electrolytic copper bus of suitable size and fixed with insulating spacers and bus bar supports etc., with phase indication lamps red, yellow and blue of siemens/L&T make. volt meter 0-500 volts L&T/siemens make with selector switch kaycee/L&T 3nos, CT800/5amps, Ammeter selector switch, kilo watt hour meter digital type L&T/Energon/MECO or equivalent make acceptable to BHEL, 3phase 4wire system with control fuses. Heat shrinkable sleeves should be provided for bus bars.

INCOMER:--

One No. 630Amps GE/L&T make TPN fuse switch unit in sheet steel enclosure. 3Nos of cable cut out suitable for 185sqmm shall be provided with suitable adopter box.

OUTGOING:--

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		<p>1 Nos of 400 Amps , 2Nos of 200Amps &amp; 3Nos of 100amps GE/L&amp;T make combination fuse switch unit in <b>Sheet Steel enclosure</b>. 2Nos of cable cut out suitable for 185sqmm for each switches shall be provided with suitable adopter box.</p> <p>THE FOLLOWING SWITCHES TO BE MOUNTED ON THE ABOVE MP BOARD</p> <p>1.800AMS INCOMER WITH SUITABLE ADOPTER BOX</p> <p>2.200AMPS SWITCHES 2 NOS, IN THE BOTTOM ROW WITH ADOPTER BOX</p> <p>3.100AMPS SWITCHES 3 NOS ON THE TOP ROW WITH ADOPTER BOX</p> <p>4. 400AMPS SWITCHES 1 NOS ON THE Bottom ROW WITH ADOPTER BOX</p> <p>5.ALL SWITCHES TO BE PROVIDED WITH SUITABLE ADOPTER BOXES.</p> <p>Note:</p> <p>1. Inspection will be done by BHEL Engineers at site before dispatch.</p> <p>2. All the items are under supplier's scope.</p> <p>3. Drawing will be approved by BHEL Engineers before fabrication of MP Board.</p> <p>4. Installation of above mentioned MP boards inside the factory. All materials including frame work, adaptor box and fixing are under contractor scope.</p>				
3.1.1	Supply and installation of MP board	<p>Supply installation and commissioning of 800 Amps with 800 Amps copper busbar along with</p> <ul style="list-style-type: none"> <li>- 650 AMPS INCOMER SS ENCLOSURE WITH FUSE - 1 No</li> <li>- 200 AMPS OUTGOING SS ENCLOSURE WITH FUSE – 2 Nos</li> <li>- 100 AMPS OUTGOING SS ENCLOSURE WITH FUSE -3 Nos</li> <li>- 350 AMPS OUTGOING SS ENCLOSURE WITH FUSE - 1 Nos</li> </ul> <p>Specification for main power board:--</p> <p><u>Supply of Medium Voltage Floor mounting free standing Industrial type panel board.</u></p> <ul style="list-style-type: none"> <li>• The panel shall be fabricated from 50x50x6mm M.S Angle for vertical and 40x40x6mm for horizontal.</li> <li>• The cable supports shall be fabricated from 50x6mm M.S Flat.</li> <li>• The switches shall be mounted at a suitable operating height which should not exceed 2000mm from the floor.</li> <li>• The bottom of the switch fuse unit should be atleast 600mm above the floor level and the panel overall height not exceed 2200mm.</li> <li>• All the adopter boxes should have the cable entries from the bottom side of the box for cable termination/ complete inter connections. The space between switches shall not less than <b>150mm for easy and free operation of switch handles</b>.</li> </ul> <p>All the switches shall be provided with 2Nos of</p>	1 SET	485000	485000	

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25x3mm copper earth bus. Fabrication of doors, bus bar chamber, and adopter boxes shall be used with 2mm thick CRCA sheet.

- After fabrication, the panel should be painted with one coat of red-oxide paint, 2 coats of grey enamel ACID PROOF paint. The panel should be provided with 440 volt danger boards. Out going, incoming and switch fuse unit rating should be encarving made of perfix sheet or equivalent material should be provided. All required materials confirming to IS 375/1963.

BUSBAR:--

The busbar should be extensible for future extension with proper coupling arrangement of buses of suitable additional length shall be provided. The bus bar chamber shall be provided with 2 or 3 section of door covers with neoprene gasket all around. 800 Amps, 3phase, 415volts and neutral Electrolytic copper bus of suitable size and fixed with insulating spacers and bus bar supports etc., with phase indication lamps red, yellow and blue of siemens/L&T make. volt meter 0-500 volts L&T/siemens make with selector switch kaycee/L&T 3nos, CT800/5amps, Ammeter selector switch, kilo watt hour meter digital type L&T/Energon/MECO or equivalent make acceptable to BHEL, 3phase 4wire system with control fuses. Heat shrinkable sleeves should be provided for bus bars.

INCOMER:--

One No. 630Amps GE/L&T make TPN fuse switch unit in sheet steel enclosure. 2Nos of cable cut out suitable for 300sqmm shall be provided with suitable adopter box.

OUTGOING:--

1 No of 350 Amps , 2Nos of 200Amps & 3Nos of 100amps GE/L&T make combination fuse switch unit in **cast iron / Sheet Steel enclosure**. 2Nos of cable cut out suitable for 185sqmm for each switches shall be provided with suitable adopter box.

THE FOLLOWING SWITCHES TO BE MOUNTED ON THE ABOVE MP BOARD

1. 650AMS INCOMER WITH SUITABLE ADOPTER BOX
2. 200AMPS SWITCHES 2 NOS, IN THE BOTTOM ROW WITH ADOPTER BOX
3. 100AMPS SWITCHES 3 NOS ON THE TOP ROW WITH ADOPTER BOX
4. 350AMPS SWITCHES 1 NOS ON THE Bottom ROW WITH ADOPTER BOX
5. ALL SWITCHES TO BE PROVIDED WITH SUITABLE ADOPTER BOXES.

Note:

1. Inspection will be done by BHEL Engineers at site before

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		dispatch. 2. All the items are under supplier's scope. 3. Drawing will be approved by BHEL Engineers before fabrication of MP Board. Installation of above mentioned MP boards inside the factory. All materials including frame work, adaptor box and fixing are under contractor scope.				
3.1.2	Supply and laying of GI flat (50mm x 6 mm)	Supply and laying of 50 mm x 6 mm GI Earth flat on the floor/formed trench/ excavated trench/wall by fixing/ welding and to be connected the both ends to Main existing earth connection/Earth pit/Electrical Equipments / MP(or) ML boards and other accessories. All items like screws and clamps etc., should be supplied by the contractor. Clamp should be painted with one coat of red oxide paint.	80 Metre	450	36000	
3.1.3	End Termination of 185 Sq. MM	Making end termination of the following 3.5 core, XLPE, Armoured, medium voltage cables with supply of suitable copper lugs, glands and earthing clamp. Size: 185 sq.mm. Note: All materials including glands, lugs, earthing clamps etc., are under the scope of the contractor.	12 Nos.	2000	24000	
3.1.4	End Termination of 95 Sq. MM	Making end termination of the following 3.5 core, XLPE, Armoured, medium voltage cables with supply of suitable copper lugs, glands and earthing clamp. Size: 95 sq.mm. Note: All materials including glands, lugs, earthing clamps etc., are under the scope of the contractor.	18 Nos.	1800	32400	
3.1.5	End Termination of 50 Sq. MM	Making end termination of the following 3.5 core, XLPE, Armoured, medium voltage cables with supply of suitable copper lugs, glands and earthing clamp. Size: 50 sq.mm. Note: All materials including glands, lugs, earthing clamps etc., are under the scope of the contractor.	10 Nos.	1200	12000	
3.1.6	Supply and laying of 14 SWG	Supply and laying of 14 SWG copper wire in various equipment for earthing purpose as required.	200 Meters	30	6000	
3.1.7	Supply and laying of 8 SWG	Supply and installation of 8 SWG copper wire in various equipment for earthing purpose as required.	100 Meters	100	10000	
3.1.8	Supply and Installation of Earth Cable 16 SWG	Supply and Installation of No. 16 SWG copper wire in the trench/wall/ column/truss and connect the both ends with earth points/body of the Electrical equipments /Accessories.	200 meters	30	6000	
3.1.9	End Termination of 10 Sq. MM	Making end termination of the following 3.5 core, XLPE, Armoured, medium voltage cables with supply of suitable copper lugs, glands and earthing clamp. Size: 10 sq.mm. Note: All materials including glands, lugs, earthing clamps etc., are under the scope of the contractor.	10 Nos.	500	5000	
3.1.10	Painting and Marking	Neat Painting and marking of MP board incoming and outgoing, isolators, DPs. For easy identification of cable routing. All painting materials are contractor scope.	1 Set	40000	40000	
3.1.11	Supply and Fixing of Lightning Arrester	Supply and Fixing of new 5 spikes copper lightning conductor with complete set of 4 feet copper tube, one number bowl, one number copper base plate on the top of the factory building to a height of 15 M to 33 M.	1 Nos	20000	20000	

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# BHARAT HEAVY ELECTRICALS LIMITED

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**MAINTENANCE & SERVICES**

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		Note: All items are to be supplied by the contractor. Before fixing the Lightning arresters tighten the all accessories of the same.				
3.1.12	Supply and fixing 16 A MCB	Supply and Fixing of Single pole 16 amps MCB's in the Sheet metal box on the wall/column with supply of 20 x 3 mm MS flat.	20 Nos	1200	24000	
3.1.13	Supply and fixing 32 A MCB	Supply and Fixing of Four pole 32 amps MCB's in the Sheet metal box on the wall/column/ with supply of 20 x 3 mm MS flat.	4 Nos	4500	18000	
3.1.14	Supply and fixing of MCB 63Amps 4-pole	Supply and Fixing of four pole 63 amps MCB's in the Sheet metal box on the wall/column with supply of 20 x 3 mm MS flat. All other materials are to be supplied by the contractor.	3 Nos	1200	3600	
3.1.15	Supply and Installation of 8way 16Amps 4-pole DL	Assembly, fixing and testing of 8 ways 16 A MCB Lighting distribution Boards with 100A, 4 pole MCB as incomer. Each phase to be controlled with 100 A DP ELCB .The MCB DB (DL) should be provided with necessary angle iron frame work on the wall / column. Necessary cable adopter boxes for both incoming & outgoing, support channels with required fasteners are to be supplied by the contractor. Note:- All the other materials required including 8 ways 16 A TPN MCB Lighting distribution Boards(DL), adopter boxes, support channels fasteners multi strand copper cable etc. for carrying out the work will be in the scope of the contractor.	2 Nos.	10000	20000	
3.1.16	Supply and Installation of 100Amps 4-pole DL Timer boxes	Fixing of roof light timer boxes on column near by the MCB DL boards in the shop floors. The timer boxes should be fixed on the 25 mm x 6 mm MS flat with suitable bolts and nuts. Note:- All other materials including the DL timer boxes, welding machines, 25 mm x 6 mm MS flat and fasteners are under contactor's scope.	2 Nos	20000	40000	
3.1.17	Supply and installation of Roof lights 200W	Supply and installation of 200W Induction Luminaire: 1. Integral housing. 2. Suitable for Medium bay and it should be designed to counter heavy vibration and continuous burning hrs which is more than 12 hrs per day. 3. Reflector made of anodised aluminium. 4. Electronic control gear with THD of less than 10% 5. Accessories mounted on a serviceable gear tray 6. Provision of safety chain from luminary to the roof hook. 7. Heavy duty Eyebolt with anti-vibration rubber bushing provided on housing for suspension 8. The luminaire should perform in the input voltage range of 180-250 V. 9. 200W induction lamp suitable for the luminaire. General Note: 01).EOT crane will be provided/spared free of cost for roof light installation where ever available. The contractor has to	30 Nos	40000	1200000	

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		<p>arrange their own facility (Ladder, welding machine etc.) for gaining access to the fittings in the annex bldgs./high bays/low bays. Contractor has to arrange for personal protective equipment like safety belt, helmet, safety shoes etc. Necessary welding of hooks for mounting the Induction luminaire is contractor scope. All materials are contractor scope.</p> <p>02). Contractors are requested to strictly comply the work permit system while doing the works at height. The safe work permit has to be obtained as directed by the Electrical Engineer in-charge.</p> <p>03). Prior permission should be obtained from M&amp;S, Production and Safety Dept. Necessary safety precautions should be adhered strictly.</p> <p>04) The contractor shall ensure removal of all accessories such as ladders, safety belts, tools, nuts, bolts etc from the top of the EOT crane after completion of each cycle of work.</p>				
3.1.18	Supply and installation of Roof lights of 8 runs 2.5sqmm cable	<p>Supply and wiring with <b>8 runs of 2.5sqmm</b> stranded copper conductor unsheathed cable in the medium quality, 1.5mm thick, 25/32mm dia, pvc conduit pipe with continuous running of 8 SWG copper wire as earthing on the steel structural members of the roof with suitable clamping (8x100 = 800 Meter cable). One running meter of wiring consist of 1m PVC conduit, 1m earth wire and 8 runs of 1m copper wire with suitable clamps.</p> <p>NOTE:</p> <p>1. The contractor should produce the samples of PVC conduit and PVC insulated copper conductor (unsheathed) cables and get the approval from the Electrical Incharge. The makes FINOLUX/HAVELLS/RPG /DELTON only acceptable.</p> <p>2) All the PVC conduit pipe should be of AVONPLAST/FINOLUX make only acceptable.</p> <p>3) Necessary materials like Tees, L bends, Clamps, PVC flexible conduits required for the wiring are under contractor's scope.</p> <p>4) EOT crane will be provided/spared free of cost for roof light installation where ever available. The contractor has to arrange their own facility (Ladder etc.) for gaining access to the fittings in the annex blgs/high bays/low bays. Contractor has to arrange for personal protective equipments like safety belt, helmet, safety shoes etc.</p> <p>5) Wiring should be done from the nearest Lighting MCB DB.</p>	100 meter (8x100M = 800 Meter cable)	550	55000	
3.1.19	Supply and installation of Roof lights of 6 runs 2.5sqmm cable	<p>Supply and wiring with <b>6 runs of 2.5sqmm</b> stranded copper conductor unsheathed cable in the medium quality, 1.5mm thick, 25mm dia, pvc conduit pipe with continuous running of 8 SWG copper as earthing on the steel structural members of the roof with suitable clamping . (6x100 = 600 M cable)</p> <p>One running meter of wiring consist of 1m PVC conduit, 1m earth wire and 6 runs of 1m copper wire with suitable</p>	100 meters (6x100 = 600 M cable)	420	42000	

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		<p>clamps.</p> <p>NOTE:</p> <p>1.The contractor should produce the samples of PVC conduit and PVC insulated copper conductor (unsheated) cables and get the approval from the Electrical Incharge. The makes FINOLUX/HAVELLS/RPG /DELTON only acceptable.</p> <p>2) All the PVC conduit pipe should be of AVONPLAST/FINOLUX make only acceptable.</p> <p>3) Necessary materials like Tees,L bends, Clamps,PVC flexible conduits required for the wiring are under contractor's scope.</p> <p>4) EOT crane will be provided/spared free of cost for roof light installation where ever available. The contractor has to arrange their own facility(Ladder etc.) for gaining access to the fittings in the annex blgs/high bays/low bays. Contractor has to arrange for personal protective equipments like safety belt, helmet, safety shoes etc.</p> <p>5)Wiring should be done from the nearest Lighting MCB DB.</p>				
		<b>PART-C -OFFICE ANNEXE BUILDING ELECTRICAL WIRING ( ITEM-20)</b>				
3.2.1	Supply and Fixing of 32Amps /12way MCB DB	Supply and installation of Double door with IP42 protection, 415 V,12 way, 32 amps TPN MCB DB with 100AMPS Phase control DP RCCB (7 segment DB) with 100 amps input 4 pole RCCB / RCBO as incomer ELCB (300mA) DB ,all MCBs are LEXIC D curve -10KA ,MS adaptor box(14SWG sheet steel) for incoming ,outgoing supply cables and suitable fabricated wall mounted iron frame made with 35mmx35x3mm size L angle and connect incoming and outgoing supply cables with proper clamping, cable glands and earthing etc. surface mounting type TPN Seven Segment Distribution Board along with supply of required MCCB and ELM & MCBs, double doored with IP42 protection metal door and 12 Way (on each phase). Outgoing: 32A SP MCBs (36 Modules; 12 for each phase) Sub incomer: Each phase controlled by 63 Amps (10ka Icu-D Curve) double pole MCB. Incomer: one number of 100Amps, 4pole, 16ka Icu MCCB with 300mA ELM attached unit duly wired with insulated copper conductors/busbars and terminal ends are terminated with suitable current rating copper lugs, two neutral and earth bars with top and bottom cable end boxes. Preferable makes:- Siemens/ L&T (HAGER)/ ABB/ LEGRAND only.	1 Nos	51000	51000	
3.2.2	Supply and Fixing of 16 Amps /8 way MCB DB	Supply, assembly, fixing and testing of surface mounting 7 segment 8 Way, 16 A MCB DB (IP 42 protection type), duly wired with copper conductors/ busbars, supply and fixing of adaptor boxes at top & bottom of DB and fixing on the wall/ column with supply of suitable MS angle iron frame work and commissioning the DB including earthing. 63 amps input 4 pole RCCB / RCBO as incomer ELCB (300mA) DB ,all MCBs are 10KA ,MS adoptor box(14SWG sheet steel) for incoming	72 Nos	22000	44000	

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		,outgoing supply cables and suitable fabricated wall mounted iron frame made with suitable 3mm thick size L angle and connect incoming and outgoing supply cables with proper clamping, cable glands and earthing etc . surface mounting type TPN Seven Segment Distribution Board along with supply of required RCBO & MCBs, double doored with IP42 protection metal door and 8Way (on each phase). Outgoing: 16A SP MCBs (24 Modules; 8 for each phase) Sub incomer: Each phase controlled by 40 Amps (10ka Icu-C Curve)double pole MCB. Incomer: one number of 63 Amps, 4 pole TPN 10ka Icu-C CURVE RCBO(300mA).Provided with 100A copper busbar for each phase, neutral busbar & earth busbar, duly wired with stranded copper conductor cables and terminal ends are terminated with suitable current rating copper lugs along with supply and providing of cable end boxes at the incoming and out going side of the DB.				
3.2.3	Supply and installation of 12Way 16A SPN MCB	Supply and fixing of 12 Way Single row, Flush mounting type MCB DB with Double Door concealed on the wall. Incomer: 32A, DP MCB, 10KA - 1 no Outgoing: 16A, SP MCB - 10kA - 10 nos. Installation: 1)Supply of top & bottom cable adaptor box,suitable MS angle iron frame work (35x35x3 mm), earthing etc. and necessary fasteners are under contractor scope 2) 12 Way SPN MCB Double Door DB, with metal double door are contractor scope	10 Nos	7200	72000	
3.2.4	Supply and Fixing of AC Points 20Amps	Supply and Fixing of 20Amps Sockets with plug controlled by suitable rated SP MCB in the flush mounting box metal plate top of sheet metal box with necessary interconnections and including earth connection. All materials are under contractor's scope. Preferable makes:- Siemens/ L&T (HAGER)/ ABB/ LEGRAND only.	8 Nos	2400	19200	
3.2.5	Supply and laying of 4 Sqmm copper cable.	Supply and laying of 2 run of 4 sq.mm FRLS, single core, stranded copper conductor unsheathed cable in the medium quality,1.5mm thick,20mm dia,pvc conduit pipe with continuous running of 12 SWG copper as earthing on 1.5mm thick,20mm dia, pvc conduit pipe with continuous running of 12 SWG copper wire in concealed wall. All masonry work are contractor's scope. (2Rx125M=250M) Make: Delton, Finolex, BCH, L&T, RRkabel, Havells, Siechem. These makes are only suitable. NOTE: 1.The contractor should produce the samples of PVC conduit and PVC insulated copper conductor (unsheathed) cables and get the approval from the Electrical In-charge. Grade: 650/1100 Volts grade. 2)All the PVC conduit pipe should be of AVONPLAST/FINOLUX make only acceptable. 3)Necessary materials like Tees, L bends, Clamps, PVC	250 M	162.5	40625	

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		flexible conduits, copper wire required for the wiring are under contractor's scope.				
3.2.6	Supply and fixing of 35W BLDC Ceiling fans	Supply, Assembling, fixing and commissioning of 1200 sweep less than 35W BLDC ceiling fan with standard MS down rod/0.5 M long on the existing hook on the ceiling. All other materials are under contractor's scope. Remotes has to be handed over to supervisor incharge. BLDC Fan make – Super fan / Orient electric / Atomberg	35 Nos	5500	192500	
3.2.7	Supply and fixing of heavy duty 'U' type clamp	Supply and fixing of heavy duty 'U' type clamp with two fastener bolts on the roof for ceiling fans with proper fixing arrangements. Note: - All required materials are under contractor's scope.	35 Nos	200	7000	
3.2.8	Supply and wiring of 6 Sq. Mm copper cable	Supply and laying of Single core, unsheathed, FRLS annealed bare high conductivity, flexible stranded copper conductor, Wiring (concealed on the wall) with 2runs of 6.0sq.mm pvc insulated unsheathed stranded copper wire in 20 mm dia pvc gray colour high quality rigid, 2.2mm wall thick conduit pipe along with continuous running of single run of 14 SWG bare copper wire for earthing, on the wall/column/ceiling and connecting to the wiring points.(2x50M=100M). Make: Delton, Finolex, BCH, L&T, RRkabel, Havells, Siechem. These makes are only suitable. NOTE: 1.The contractor should produce the samples of PVC conduit and PVC insulated copper conductor (unsheathed) cables and get the approval from the Electrical In-charge. Grade: 650/1100 Volts grade. 2) All the PVC conduit pipe should be of AVONPLAST/FINOLUX make only acceptable. 3) Necessary materials like Tees, L bends, Clamps, PVC flexible conduits, copper wire, masonry work required for the wiring are under contractor's scope.	100 M	187.5	18750	
3.2.9	Supply and wiring of 10 Sq. Mm copper cable	Supply and wiring (concealed on the wall) with 2runs of 10.0sq.mm Single core, pvc insulated (FRLS) unsheathed stranded copper wire in 20 mm dia pvc gray colour high quality rigid, 2.2mm wall thick conduit pipe along with contineous running of single run of 16 SWG bare copper wire for earthing, on the wall/column/ceiling and connecting to the wiring points. (2 x 100M = 200 M). Make: Delton, Finolex, BCH, L&T, RRkabel, Havells, Siechem. These makes are only suitable. (200 M) NOTE: 1.The contractor should produce the samples of PVC conduit and PVC insulated copper conductor (unsheathed) cables and get the approval from the Electrical In-charge. Grade: 650/1100 Volts grade. 2)All the PVC conduit pipe should be of AVONPLAST/FINOLUX make only acceptable. 3)Necessary materials like Tees, L bends, Clamps, PVC	200 M	237.5	47500	

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		flexible conduits, copper wire, masonry work required for the wiring are under contractor's scope.				
3.2.10	Supply and wiring of 2.5 Sqmm cable	Supply and Wiring (concealed on the wall) with 2 runs of 2.5sq.mm FRLS, pvc insulated unsheathed stranded copper wire in 20 mm dia pvc gray colour high quality rigid ,2.2mm wall thick conduit pipe along with continuous running of single run of 8 SWG bare copper wire for earthing, on the wall/column/ceiling and connecting to the wiring points. (1000Mx2R = 2000M) Make: Delton, Finolex, BCH, L&T, RRkabel, Havells, Siechem. These makes are only suitable. NOTE: 1.The contractor should produce the samples of PVC conduit and PVC insulated copper conductor (unsheathed) cables and get the approval from the Electrical In-charge. Grade: 650/1100 Volts grade. 2) All the PVC conduit pipe should be of AVONPLAST/FINOLUX make only acceptable. 3) Necessary materials like Tees, L bends, Clamps, PVC flexible conduits, copper wire, masonry work required for the wiring are under contractor's scope..	2000 M	152.5	305000	
3.2.11	Supply and wiring of 1.5 Sqmm cable	Supply and wiring of 2 run of 1.5 sq.mm Single core FRLS, stranded copper conductor unsheathed cable in the medium quality, 1.5mm thick,20mm dia, PVC conduit pipe with continuous running of 8 SWG copper as earthing on 1.5mm thick,20mm dia,pvc conduit pipe with continuous running of 8 SWG copper wire in concealed wall. All masonry work are contractor's scope. (1750 Mx2 runs=3500M). Cable make: Delton, Finolex, BCH, L&T, RR kabel, Havells, Siechem. These makes are only suitable. NOTE: 1.The contractor should produce the samples of PVC conduit and PVC insulated copper conductor (unsheathed) cables and get the approval from the Electrical Incharge. Grade: 650/1100 Volts grade. 2) All the PVC conduit pipe should be of AVONPLAST/FINOLUX make only acceptable. 3)Necessary materials like Tees,L bends, Clamps,PVC flexible conduits, copper wire required for the wiring are under contractor's scope.	3500 M	142.5	498750	
3.2.12	Supply and Fixing of LED Tube Lights 18 Watts	Supply and Fixing of 18 Watts LED Tube Lights fitting on the wall / ceiling T.W round blocks, All materials including tubelight fitting, tube light, nuts, screws etc.,) are under contractor's scope. Make of tube lights: - Philips, Crompton, Syska, havells.	60 Nos	1200	72000	
3.2.13	Supply and installation of Exhaust Fan 380mm 1 ph	HEAVY DUTY EXHAUST FAN. With 1 Ph Assembly and fixing of 380mm sweep Heavy-duty exhaust fan with suitable fixing clamp on the wall of the toilet. SWEEP SIZE: 380 MM,	2 Nos.	7500	15000	

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		RPM : 1400, VOLT : 230v- 1Ph, 50Hz. Make:-ORIENT, CROMPTON-GREEVES, KHAITAN & ALMONARD MAKES ONLY SUITABLE. The vendor has to assemble and test the exhaust fans at BHEL, Trichy after supply. All materials including masonry work, bolts and nuts, fixing clamp etc. for carrying out the work will be in the scope of the contractor. required for installation contractor scope.				
3.2.14	Supply and Fixing of Junction Box 5/15A Amps	<b>RAW POWER CIRCUIT MAINS:</b> Supply, wiring, testing & commissioning to the 5/15A Plug Points with switches using 2R 2.5 sq.mm for phase in R Y B colours and neutral in black colour and 1R2.5 sq.mm for earth in Green colour PVC unsheathed, PVC insulated multi-strand flexible copper wire (FRLS) drawn in a suitable ISI make PVC conduit with all necessary laid in partition / wall / ceiling in a concealed system. Supply of 3 pin, 5 A/ 15 A modular type socket, controlled by 15 A modular type SPT switch housed in suitable size modular flush mounted metal box with cover plate, duly wired, assembling, inter connecting and concealing on the wall and connecting to the general power supply. Note: 1) All materials are under contractor's scope. 2)The 3 pin, 5 A/ 15 A modular type sockets to be fixed in various ancillary & annex buildings Acceptable Makes: - Legrand/Siemens/ RR Connect/Goldmedal.	30 Nos	4500	135000	
		<b>UPS CIRCUIT MAINS:</b> Supply, wiring , testing & commissioning to the 5/15A Plug Points with switches using 2R2.5sq.mm for phase in R Y B colours and neutral in black colour and 1R2.5sq.mm for earth in Green colour PVC unsheathed ,PVC insulated multi-strand flexible copper wire (FRLS) drawn in a suitable ISI make PVC conduit with all necessary laid in partition / wall / ceiling in a concealed system. 2/3 pin combined, 5 A modular type socket, controlled by 5 A modular type SPT switch housed in suitable size modular flush mounted metal box with cover plate, duly wired, assembling, inter connecting and concealing on the wall and connecting to the general power supply.Note: 1) All materials are under contractor's scope. Acceptable Makes: -Legrand/Siemens/Anchor				
3.2.15	Supply and installation of LT 4 Core 50 Sqmm cable	Supply and Laying of 4 core XLPE/armoured cables in the already excavated trench / Wall of building. Size: 50 sq.mm. Note: Cables laying inside the factory. Opening the trench cover at required interval, laying /removing of 4 core XLPE armoured cables in the trench and closing the trench cover to make good / with clamps Confirming to IS 7098/Part-1/1988. (Size:4core - 50sq.mm.) Make of the cable: RPG, Polycab, KEI, Paramount, Radiant,	Qty : 150 M	419	62850	

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		Delton, Gloster, Nicco, Universal, Mansfield, Suraj only. Qty : 150 M				
3.2.16	End Termination of 50 Sq. MM (main)	Making end termination of the following 3.5 core, XLPE, Armoured, medium voltage cables with supply of suitable copper lugs, glands and earthing clamp. Size: 50 sq.mm. Note: All materials including glands, lugs, earthing clamps etc., are under the scope of the contractor.	8 Nos.	1200	9600	
3.2.17	Supply and Fixing of 32 Amps 2-Pole MCB + ELCB	Supply and Fixing of two pole 32 amps MCB's + ELCB's in the Sheet metal box on the wall/column with supply of 20 x 3 mm MS flat. All other materials are to be supplied by the contractor.	5 Nos	2000	10000	
3.2.18	Supply and installation of 12 Modular switches.	Supply, assembling and fixing of Modular mechanism 12 module on the flush type metal box, grouting on the wall after making necessary pockets on the wall, fixing module frame cover with required 6 Amps switches 12 nos., making necessary inter connections and connecting to the wiring points including earthing. (For fans and lights) Note: 1. Metal box, switches & plates are contractor scope. Anchor/Havells/ Siemens/ L&T (HAGER)/ ABB/ LEGRAND only. 2. Masonary work and all other wiring materials are under contractor's scope.	10 Nos	3000	30000	
3.2.19	Supply and installation of 4 Modular switches.	Supply, assembling and fixing of Modular mechanism 4 module on the flush type metal box, grouting on the wall after making necessary pockets on the wall, fixing module frame cover with required 6 Amps switches 4 nos., making necessary inter connections and connecting to the wiring points including earthing. (For fans and lights) Note: 1. Metal box, switches & plates are contractor scope. Anchor/Havells/ Siemens/ L&T (HAGER)/ ABB/ LEGRAND only. 2. Masonary work and all other wiring materials are under contractor's scope.	20 Nos	2250	45000	
3.2.20	Supply and installation of 2 Modular switches.	Supply, assembling and fixing of Modular mechanism 2 module on the flush type metal box, grouting on the wall after making necessary pockets on the wall, fixing module frame cover with required 6 Amps switches 2 nos., making necessary inter connections and connecting to the wiring points including earthing. (For fans and lights) Note: 1. Metal box, switches & plates are contractor scope. Anchor/Havells/ Siemens/ L&T (HAGER)/ ABB/ LEGRAND only. 2. Masonary work and all other wiring materials are under contractor's scope.	20 Nos	800	16000	
3.2.21	Supply and installation of 8 Modular switches.	Supply, assembling, fixing and commissioning Modular mechanism 8 module flush type metal box flush with the wall (after making necessary pockets on the wall and fixing module frame Consists of three nos of 6 amps shuttered type sockets with One no. of 20Amps Double pole switch to	10Nos	2500	25000	

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	control the power supply inter connecting to all sockets and earthing (For UPS power on the wall). 1.Metal box, switches & plates are contractor scope. Anchor/Havells/ Siemens/ L&T (HAGER)/ ABB/ LEGRAND only. 2.Masonry work and all other wiring materials are under contractor's scope.				
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S.No.	PARTICULARS	GENERAL INSTRUCTION (FOR ITEM 10 &20)	Offer by Bidder
2.1	INSTRUCTION	The offer shall clearly indicate the list of material to be supplied under scope of supply and the list of activities to be carried out under scope of work with break up details. Before submitting offer the vendor may visit BHEL shop to study if required. Approval for make of cables, Electrical Equipments and Drawing approval with bill of materials has to be obtained before manufacturing of Equipments and procurement. All items should be ISI marked products or CE marked products. All control breakers / Switches should be of L&T, Legrand, Mitsubishi, Schneider, ABB.	
2.2	PACKING AND MATERIAL ENTRY	All items are to be properly packed and brought inside the factory. Necessary Material "IN" gate pass to be kept safe and it to be produced when billing.	
2.3	GENERAL	GENERAL NOTE: 01). Where ever welding work required, the same to be carried out by the Contractor. 02). Welding electrode will be issued by the Area supervisor/Executive at Electrical section. 03). Necessary height of the ladder and all types of required tools must be brought by the Contractor. 04) This work should be carried out only by qualified Electricians holding valid license and necessary safety rules and regulations should be adhered. 05) Contractor should get prior permission from concerned shop Electrical supervisor/executive, before carrying out of work. 06) While fixing of the Electrical Equipments all types of masonry work where ever required is to be done by the contractor. 07) All types of debris and other wastage materials are to be disposed properly as per the instructions. 08) Personal protective Safety Equipments to be supplied to their workers by the Contractor. 09) Safety precautions to be strictly adopted by the workers of the Contractor. 10) The quantity mentioned for this work is tentative. It may vary +/- 20 % 11) Safety precautions have to be ensured by the Contractor	

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☎: (0431) 2575010 / 2575123 / e-mail: [umadsankar@bhel.in](mailto:umadsankar@bhel.in)



ISO 9001

ENQ No: 9451900033

Dt. 30.05.2019

		depending on the work nature. Necessary work permit system and personal protective equipments (PPE) such as electrical resistance rubber gloves, helmet, spectacle goggles, safety shoes, safety belt/belt rope etc. as applicable to electrical works should be adhered while carrying out the work in the roof. Issuing of PPE to their employees are under contractor's scope.	
2.4	Safety	All contract work has to obey company rules and regulations. PPE should be used by workers.	
2.5	Pre dispatch inspection	All materials shall be offered for pre dispatch inspection at supplier's works. Inspection will be carried out by BHEL Engineers prior to dispatch from the supplier's works.	
2.6	Note for all cables	Note for all cables: NOTE(1): Technical data sheets shall be submitted for inspection purpose. NOTE (2): cable length shall be marked suitably at an interval of 5m or as specified in relevant IS.	

Sign & Seal of Contractor

# BHARAT HEAVY ELECTRICALS LIMITED

(A Govt. of India Undertaking)

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## **GENERAL TERMS AND CONDITIONS FOR M&S CONTRACTS**

- 1) The workmen of contractor should be covered under PF/ESI, etc., as per labour laws.
- 2) Safety precautions have to be ensured by the Contractor Depending on the work nature. Necessary work permit system and personal protective equipment (PPE) such as electrical resistance rubber gloves, helmet, spectacle goggles, safety shoes, safety belt etc. as applicable to Mechanical works should be adhered while carrying out the work.
- 3) PPES for appropriate trade job has to be ensured by the contractor at the job site at all times.
- 4) The contractors may visit the area to assess the quantum of work before quoting.
- 5) The contractor should mention the point to point confirmation.
- 6) Contractor should commit for Terms and Conditions of the enquiry otherwise the offer shall be liable for rejection.
- 7) **TWO PART BID SYSTEM:** Contractor should send their offer for two part bid system as below.
- 8) The contractor should quote the exact time required to complete the work in their offer.

### **TENDERING CONDITIONS:**

- a) The Bidders shall submit the offer in TWO PART BID SYSTEM (Part -I & II) along with EMD as indicated below which shall be sealed in ONE OUTER ENVELOPE.
- b) Envelope I- This sealed envelope should contain all the copies of technical bid together with un-priced commercial bid. This envelope should be clearly marked "Part I - Technical and commercial bid", indicating Enquiry No., Due Date and Address & Reference of the Bidder. Envelope I should contain sealed EMD cover indicating the enquiry detail.
- c) Envelope II - This sealed envelope should contain price details. This envelope should be clearly marked as - "Part -II Price bid", indicating Enquiry No., Due Date and Address & Reference of the Bidder.
- d) Envelope III - This sealed envelope should contain requisite **EMD**. This envelope should be clearly marked as - "EMD COVER", indicating Enquiry No., Due Date and Address & Reference of the Bidder.
- e) All the three envelopes shall be put in one cover, duly sealed, super scribing as offer for Enquiry No., and due date of opening, Name of the work and the address and reference of the Bidder.
- f) The offer should reach this office on or before the due date by 14.00 Hrs. (IST). Late offers will not be considered.
- g) Tender should not be addressed to any Individual's name but only by designation to:

THE ENGINEER  
MAINTENANCE & SERVICES / CONTRACTS,  
2&4 BUILDING,  
BHARAT HEAVY ELECTRICALS LIMITED,  
HIGH PRESSURE BOILER PLANT,  
TIRUCHIRAPALLI - 620 014.  
TAMIL NADU, INDIA.

- h) Tenders should be free from CORRECTION AND ERASURES, Corrections if any, must be attested. All amounts shall be indicated both in words as well as in figures. Where there

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is difference between amount quoted in words and figures, amount quoted in words shall prevail.

- i) Offers should be in ENGLISH and accompanied by detailed Point to point confirmation of the scope of work.

## **OPENING OF TENDERS:**

- a) The Part I - Technical & un-priced commercial bid and EMD Cover alone would be opened on the Tender opening date (as mentioned in the enquiry) by 10.30Hrs(IST)
- b) The Part II - Price bid of technically suitable Bidders alone would be opened. The Technically Suitable Bidders would be informed about the Price bid opening date.
- c) Clarifications if any required by BHEL for Technical evaluation would be sought from Bidders before opening of Part II - price bid.

## **GST:**

1. Response to Tenders for Contractor will be entertained only if the vendor has a valid GST registration no which should be clearly mentioned in the offer. If any specific exemption is available, a declaration with due supporting documents need to be furnished for considering the offer.
2. Contractor shall mention their GSTN registration number in all their invoices and invoices shall be in the format as specified/prescribed under GST laws. Invoices shall necessarily contain Invoice number (in case of multiple numbering system is being followed for billing like SAP invoice no, commercial invoice no etc., then the Invoice No which is linked/uploaded in GSTN network shall be clearly indicated), item description as per PO, Quantity, Rate, Value, applicable taxes with nomenclature (like IGST, SGST, CGST & UTGST) separately, HSN/ SAC Code, etc.
3. All invoices shall bear the HSN Code for each item separately (Harmonized System of Nomenclature)/ SAC code (Services Accounting Code).

## **LD CLAUSE:**

If the contractor fails to complete the work as per terms & conditions of the order within the delivery schedule, 0.5% of the order value will be deducted for each week of delay or part thereof subject to a maximum of 10% of the total contract value.

## **RISK PURCHASE:**

In the event of any successful Tenderer's failure to fulfil any of the Tender / Contract obligations as per Contract / Agreement BHEL may entrust the job to alternate source and get it completed to meet BHEL requirement and additional expenditure, if any, including consequential cost, will be fully recovered from the Tenderer Contractor who failed to complete the job in line with Contract.

The decision of BHEL with regard to the actual losses / consequential expenditures incurred by BHEL shall be final and binding on the Tenderer / Contractor.

## **INDEMNITY:**

The Contractor shall have to indemnify BHEL against all claims for injury or damage to any person or property caused by his negligence or negligence of his employees whilst in BHEL premises / sites.

**IMPORTANT NOTE:** BHEL reserves the right to short close this work with one-month advance notice due to administrative reasons. BHEL's decision in this regard is final. Under such circumstances payment will be made for actual work carried out up to that period

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## **COMMERCIAL TERMS AND CONDITIONS FOR M&S CONTRACTS**

1. 100% payment will be made after completion of work on pro-rata basis on submission of invoice in triplicate duly certified by Area In – charge.
2. Attendance register should be maintained.
3. **Payment of EMD & SD preferably be in e-Collect mode, while making such payment, Enquiry no. may be mentioned in Remark column. Offers without EMD shall be liable for rejection**
  - a. **Procedure to remit money to BHEL Trichy's Account :**
  - b. Login to : <https://www.onlinesbi.com/prelogin/icollecthome.htm?corpID=574693>
  - c. Select State Bank Collect available on the top ( pre login page )
  - d. Accept the terms and conditions and click "PROCEED"
  - e. Select State "TAMILNADU " and Institution type " INDUSTRY ".
  - f. Select " **BHEL TRICHY** under "INDUSTRY".
  - g. In the next page, Select APPROPRIATE category, fill details correctly & click "SUBMIT".
  - h. If all details entered are correctly populated, click "CONFIRM "to proceed.
  - i. Make payment as per your convenience. (Options available are payment of fees through **SBI Net Banking, State Bank ATM cum Debit Cards / Other Bank Debit / Credit Cards and through SBI Branches**).
  - j. SAVE & Keep the copy of receipt for future reference.
4. Security Deposit shall be furnished by the successful vendor to the total contract value before starting the work. The total amount of Security Deposit will be 5% of the contract value. EMD of the successful tenderer shall be converted and adjusted towards the required amount of Security Deposit. SD is forfeited in case of any failure in execution of the contract or due to any shortcomings observed in the documentation furnished earlier for getting qualified or in case the Contractor is banned.
5. An additional payment as per circular ref. BHE/HR/W/EW/08.04.2014 is to be paid to the contract workmen as below, over and above the minimum wages prescribed by the government of Tamil Nadu:
  - a) Unskilled - Rs.3200/-
  - b) Semiskilled - Rs.3700/-
  - c) Skilled - Rs.4100/-
6. Bonus @ 8.33 % to workmen to be paid.
7. **Rate should be quoted as per price bid.**
8. The rate that is offered should be comprehensive and no separate charges will be made towards expenses like travel, boarding and lodging.
9. The contractor should quote the validity of the offer.
10. If two or more vendors offer the same percentage, L1 ranking will be decided based on fresh revised reduced price bids.
11. The contractor should remit the salary/wages for their workmen only through Bank. Monthly clearance will be given in respect of all contractors, if only the salary/ wages to the workmen has been remitted through the bank account of the contract workmen. The relevant Bank statement/proof for Bank payment should be produced along with PF and ESI challans to Welfare Section every month.

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Sign & Seal of Contractor

## Certificate by Chartered Accountant on Letter Head

This is to certify that M/s. \_\_\_\_\_ (hereinafter referred to as 'company') having its registered office at \_\_\_\_\_ is registered under MSMED Act 2006, (Entrepreneur Memorandum No (Part II)) \_\_\_\_\_ dt. \_\_\_\_\_, Category: (Micro/Small). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the latest audited financial year \_\_\_\_\_ as per MSMED Act 2006 is as follows:

**1. For Manufacturing Enterprises:** Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No. S.O.1722(E) dated October 5, 2006):

₹ \_\_\_\_\_ Lacs

**2. For Service Enterprises:** Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act 2006):

₹ \_\_\_\_\_ Lacs

**(Strike off whichever is not applicable)**

The above investment of ₹ \_\_\_\_\_ Lacs is within permissible limit of ₹ \_\_\_\_\_ Lacs for \_\_\_\_\_ Micro / Small (Strike off which is not applicable) Category under MSMED Act 2006.

Or

The company has been graduated from its original category (Micro/Small) (Strike off which is not applicable) and the date of graduation of such enterprise from its original category is ..... (dd/mm/yyyy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S.O. No. 3322(E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by Ministry of MSME.

Date:

(Signature)

Name:

Membership number:

Seal of Chartered Accountant

## SCHEDULE FOR PRICE BID

**SUB: ELECTRIFICATION OF NEWLY EXTENDED BAY 5A OF BUILDING 50.**

**Ref: Enquiry No.: 9451900033/ Dated: 30/05/2019; Due Dt: 21/06/2019.**

Sl. No. (1)	Approx. Value of work (2)	Below (- %) / At par (0%) / Above (+ %) of the rates appended in Bill of quantities	
		In Figures (3)	In Words (4)
10	Rs. 49,30,000/- (Rupees Forty Nine Lakh and Thirty Thousand only)		

- Taxes if any should be quoted extra.

- 1). 100% payment will be made after completion of work on pro-rata basis on submission of invoice in triplicate duly certified by Area In – charge.
- 2). Tax deduction will be made from every bill at the prevailing rate as per the Government rule and regulation from time to time.
- 3). Detailed scope of work and other terms and conditions are specified in the Technical Bid of the Tender.
- 4). **Cumulative L-1 will be considered for ordering.**
- 5). The percentage quoted shall remain firm and valid throughout the entire Contract period and no extra payment will be reimbursed to the contractor by BHEL. Any increase of DA/ wages to the contract labor shall be absorbed by the contractor themselves during the period of contract.

Sign & Seal of Contractor