



**BHARAT HEAVY ELECTRICALS LIMITED  
SOLAR BUSINESS DIVISION**

DOC No. ELEC-PT-PQR-CK-04

**TECHNICAL PRE-QUALIFICATION CRITERIA FOR  
PT ELECTRICAL WORKS**

Rev. 00

APRIL.2024

**TECHNICAL PRE-QUALIFYING CRITERIA**

1	Contractor should have valid Class-1 Electrical contractor license issued by State / Central Govt to be provided. <b>(Document proof to be submitted)</b>
2	The bidder should have experience in successfully executing similar works, during last 7 years ending last day of month previous to the one in which applications are invited. The experience should be either of the following: a) Three similar completed works costing not less than the amount equal to 40% of estimated cost. (Inc. GST) OR b) Two similar completed works costing not less than the amount equal to 50% of estimated cost. (Inc. GST) OR c) One similar completed work costing not less than the amount equal to 80% of estimated cost. (Inc. GST).  "Bidder to submit any one of the following documents as proof of completion or execution of similar work: i. Purchase/Work Order copy along with Invoice(s) with self-certification by the bidder that supplies against the invoices have been executed. ii. Execution /completion certificate by client with order value. <b>Notes:</b> a. The term "Similar works" means: "Electrical works pertaining to LT Cable Laying, Termination, Cable tray work, earthing works etc"
3	<b>Bidders must visit our plant BHEL-SBD, Malleshwaram, Bangalore on Working days to study the actual requirement and the copy of the document certifying the vendors visit to BHEL SBD should be submitted along with the technical bid. Bids without this document will be disqualified.</b>
4	Supply materials shall be for new & not for any refurbished or used items.

**Note:**

BHEL reserves the right for independent verification of the credentials submitted by the bidder and in case of any discrepancy, BHEL reserves the right to accept/ reject Bidder's offer.

Manoj Kumar DGM-IP	Thirupathi G DGM-CTI	Navit Mahajan Manager-IP&NP	Amajyoti Saikia Dy. Manager -M&S	Chandra Ketu Sr. Engineer-M&S

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PURCHASE SPECIFICATION FOR PT ELECTRICAL WORKS

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ANNEXURE-1

SCOPE OF WORK FOR PT ELECTRICAL WORKS

Sl.No	Description	Unit	Qty
<b>A MV CABLE LAYING</b>			
A.1	Laying of 1.1kV, 3.5 Core, 240 Sqmm, XLPE, Al, Armoured UG cable in ladder type cable trays From existing Hollow Insulator LT Panel To BAY 1 , BAY 2 Main LT Panel and KILN. <i>(Cables are in BHEL scope)</i>	Mtr	380
A.2	Laying of 1.1kV, 3.5 Core, 240 Sqmm, XLPE, Al, Armoured UG cable direct in Ground. The rate shall include excavation of earth in all types of soil and backfilling including providing bricks and sand. <i>(Cables are in BHEL scope)</i>	Mtr	50
A.3	Laying, Fixing & Commissioning of 1.1kV, 3.5 Core, 70 Sqmm, Cu, XLPE, Armoured cable in cable trays and clamped with required MS Flat. <i>(Cables are in BHEL scope)</i>	Mtr	160
A.4	Laying, Fixing & Commissioning of 1.1kV, 3.5 to 4 Core, Copper, PVC Insulated, Armoured cable in cable trays and clamped with 1mm thick Saddle for following <i>(Cables are in BHEL scope)</i>		
A.4.1	From 25 Sqmm Upto 35 Sqmm Copper Cable	Mtr	100
A.4.2	From 4 Sqmm Upto 16 Sqmm Copper Cable	Mtr	550
A.4.3	From 1.5 Sqmm Upto 2.5 Sqmm Copper Cable	Mtr	630
<b>B CABLE TRAYS SUPPLY &amp; LAYING</b>			
<b>Ladder type Cable Trays (Hot dip Galvanized)</b>			
B.1	Supply & Erection of the following 2.5 mm thick sizes ladder type cable tray made of 14 SWG GI sheet steel with necessary supports, bolts, nuts, double washers, brackets, angle iron, suspension other mounting & fixing accessories are to be provided for fixing the trays. Cost should including Supply and Installation of steel supports for cable tray like MS angles, C channels, pipes etc with one coat primer and double coat paint. Tray support to be provided either with Walls, existing structures or fixing new support structure at 10mts of road crossing at height 10-12 mtrs.		
B.1.1	200 mm width x 50 mm Depth (For 3 runs of 3.5Cx240 Sqmm XLPE Cable)	Mtr	60
B.1.2	150 mm width x 50 mm Depth (For 2 runs of 3.5Cx240 Sqmm XLPE Cable)	Mtr	40
B.1.3	100 mm width x 50 mm Depth (For 1 runs of 3.5Cx240 Sqmm XLPE Cable)	Mtr	145
<b>Perforated type Cable Trays with perforation not more than 17.5% (Hot dip Galvanized)</b>			
B.2	Supply & Erection of the following 1.6 mm thick sizes perforated type cable tray made of 15 SWG GI sheet steel with necessary supports, bolts, nuts, double washers, brackets, angle iron, suspension other mounting & fixing accessories are to be provided for fixing the trays. Cost should including Supply and Installation of steel supports for cable tray like MS angles, C channels, pipes etc with one coat primer and double coat paint. <i>(Cable Trays to be provided with GI cover having thickness 1.2 - 1.6mm)</i>		
B.2.1	200 mm width X 50 mm Depth from BAY 2 LT Panel to Cold Room & BAY 1 LT Panel to SM	Mtr	85
B.2.2	150 mm width X 50 mm Depth from BAY 2 Cold Room to Drier	Mtr	50
B.2.3	100 mm width X 50 mm Depth for dropping to each machine	Mtr	50
B.2.4	50 mm width X 50 mm Depth for dropping to each machine	Mtr	30
B.2.5	50 mm width X 25 mm Depth for dropping to each machine	Mtr	120
B.3	Supply & Installation of Cable Trays marking with a) Incoming From , b) Outgoing To & c) Cable size clearly marked in GI Plate of size (200mmX150mm ) 2mm thickness at an interval of every 10 Mtr of length.	Nos	20
<b>C EARTHING &amp; GI EARTH STRIP LAYING</b>			
Supply and Providing of conventional earth electrode of 4.5mtr long, 40mm dia G.I pipe (B class) with construction of brick trough, providing meshed funnel, GI cover and other civil Engineering works, spreading a chalk/char coal, salt and bolt nut etc, completely as required, as per IS 3043, 1987 or latest revision. <i>(For LT Panels &amp; Machine Body earthing )</i>			
C.1		Nos	14
C.2	Testing of earth resistance of earth pits using earth electrode testing instrument.	Nos	14
Supply and laying of following size GI strip including all fixing accessories for earth connection from earth electrode inside/outside the building with all necessary interconnections with earth station and equipments. The cost shall also include the supply & installation of Heat Shrinkable PVC black colored sleeves for earthing GI strip.			
C.3.1	50 mm x 6 mm GI Strip for LT Panels Body & Extruder	Mtrs	300
C.3.2	25 mm x 5 mm GI Strip for Body of LT Panels (Inside Building)	Mtrs	500
<b>D Supplying and making end termination with brass double compression gland and Aluminium/Copper lugs for following size XLPE conductor cable of 1.1kV grade.</b>			
D.1	3.5C x 240 Sqmm Aluminium Cable (With Aluminium Lugs)	Nos	10
D.2	3.5C x 70 Sqmm Copper Cable (With Copper Lugs)	Nos	4
D.3	4C x 25 Sqmm Copper Cable (With Copper Lugs)	Nos	2
D.4	4C x 16 Sqmm Copper Cable (With Copper Lugs)	Nos	6
D.5	4C x 6 Sqmm Copper Cable (With Copper Lugs)	Nos	8
D.6	4C x 4 Sqmm Copper Cable (With Copper Lugs)	Nos	10
<b>E LIGHT FIXURES</b>			
E.1	Installation & Commissioning of 150 W Hight Bay LED light fittings lumanaries with connecting wire and cables with 3CX 1 Sqmm PVC Insulated grade copper cables as required. Separate neutral shall be run for each circuit. <i>(LED Lumanaries and wires/cables will be provided by BHEL) Height 8-10Mtrs</i>	Nos	30
<b>F Supply, erection, testing and commissioning of MCB Distribution Boards, wall-mounted / column mounted : MCB Make-Hager, Siemens, ABB, GE, Schneider. Dist Board Make- Siemens, Hager, Havel, Ritta, Schneider</b>			
E.4.1	8 Way SPN DB Main Incommer:32A DP MCB : 1 No Outgoing -10A SP MCB D curve-10 Nos	Set	2
E.4.2	8 Way TPN DB Main Incommer:63A TPN MCB : 1 No Outgoing -10A SP MCB C curve-24 Nos	Set	2

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