


48

	PURCHASE SPECIFICATION	Doc. No:-	REG20190225
		Part	03/05
Rudrapur	GROUP : REG (RENEWABLE ENERGY GROUP)	Rev no	00

SCOPE OF WORK & TECHNICAL SPECIFICATIONS

1. Cable Laying (4 core AL armoured):

Sl.No	Cable type	Size (sqmm)	Length (meter)
1	4 core AL armoured cable	185	650
2	4 core AL armoured cable	300	350

Bidder to note that cable laying shall be done from ACCB Location (roof) to Basement (vertical run) than to individual Energy Sub Station (ESS).

All accessories for cable laying, including clamps, hooks, ties, double compression cable glands, cable lugs, SS304 bolts/ nuts/ plain and spring washers, anchoring arrangement shall be in vendor scope of supply. Cutting the wall/surface and making good the same as required is also included in the scope of the contractor. Contractor has to arrange for cutting of the cables and jointing by using suitable cable jointing kits. All arrangement, tools & tackles in this regard will be in Contractor's scope. This include the minor shifting of cable drum (with in NBCC permis). Cable shall be lied on existing cable tray. Bidder to fix the cable by help of U-hooks/plates using SS fasteners.

Bidder is requested to visit the site to understand the actual site conditions.

Note: -

1. Office block having 04 buildings, each building having 4-10 floor building.
2. Two cable vault is available in each building; space is available at cable vault.
3. Cable shall be laid on existing cable tray. Where cable tray is not available, bidder shall finalize the cable route in consultation with BHEL/NBCC. On the basis of final route BHEL will get cable tray erected.
4. Bidder may note that this work also includes to make wall opening for passing the cable at basement-1 or 2 (as required). At some places minor civil work may be required for cable laying. Also note that fall-sealing work has been completed at site. Fall-sealing may be required to remove for cable laying. Bidder shall be responsible for disassembly or assemble of fall-sealing.
5. Please note that all damaged work shall be repair work shall be in bidder scope.
6. Bidder to take utmost precaution while working as these blocks are already occupied by VIPs. Bidder is also requested to work in off-timing (expect office timing) to avoid disturbance to office employees.


I. Termination of 4C AC cables at ACCB and ESS end

- a) For AC side connection at string inverters and ACCB/ACDB boxes, cable as per SLD, 1.1kV, Copper, XLPE, armored as per IS: 7098 part-1, together with nickel plated brass double compression cable glands, cable lugs, SS304 bolts/ nuts/ plain and spring washers shall be in vendor scope of supply. Termination shall be carried out using appropriate tools and torque setting as per BHEL/CUSTOMER approval.

II. Identification marking of cables using cable tags

- Cable tags shall be provided at both ends of the cables: at SPV modules, string Inverters, data loggers, ACCB boxes, LTPDB panels and so on.
- Cable tag shall be of rectangular shape.



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- Cable tag shall be of 2mm thick aluminum with number punched (embossed) on it and securely attached to the cable by not less than two turns of 20 SWG GI wire conforming to IS:280.
- Reference shall be made to “Cable installation methodology” of this specification. Vendor shall submit the technical details of cable tags, ID numbering scheme for BHEL/CUSTOMER approval during detailed engineering.

2. Installation of AC combiner boxes(ACCB/ACDB)

Supply of AC Combiner boxes(ACCB/ACDB) is in BHEL scope. Vendor shall be responsible for safe keeping of BHEL supplied ACDB/ACCB. This also include the minor shifting of ACCB (with in NBCC permis).)

a) Installation of ACCB/ACDB on Roof:

- On roof tops, ACCB/ACDB shall be mounted on MS stand that shall be attached by welding to the Roof top MMS.
- Minimum ground clearance shall be 500mm.
- All galvanizing shall be minimum 80 microns and as per IS: 4759, IS: 2629, IS: 2633
- Vendor shall submit GA of the mounting structure along with stability calculations (STAAD.pro etc) for BHEL/CUSTOMER approval during detailed engineering.
- All structure/pedestal items including hardware shall be in vendor scope of supply.

b) Installation of ACCB/ACDB on Wall:

- On wall, Inverter shall be mounted on mounting plate.
- Minimum wall clearance shall be 50mm.
- All galvanizing shall be minimum 80 microns and as per IS: 4759, IS: 2629, IS: 2633
- All structure items including hardware shall be in vendor scope of supply.

3. Supply and installation of canopy:

Canopy shall be used to cover DCDB, ACDB & inverter. Canopy shall be installed at roof of residential block.

Specification: -

1. 10 mm thick polycarbonate sheet shall be used for canopy.
2. M-12x100 anchor fastener(chemical) shall be used for proper placement of canopy leg. Padistal shall be make on fastener to avoid water leakage in roof. Bidder to make sure that there should not any water seepage in the roof.
3. Kindly refer attached drawing (drawing no. 33041700014, 04 page) for reference.
4. Bidder to take utmost precaution while working as these blocks are already occupied by VIPs.

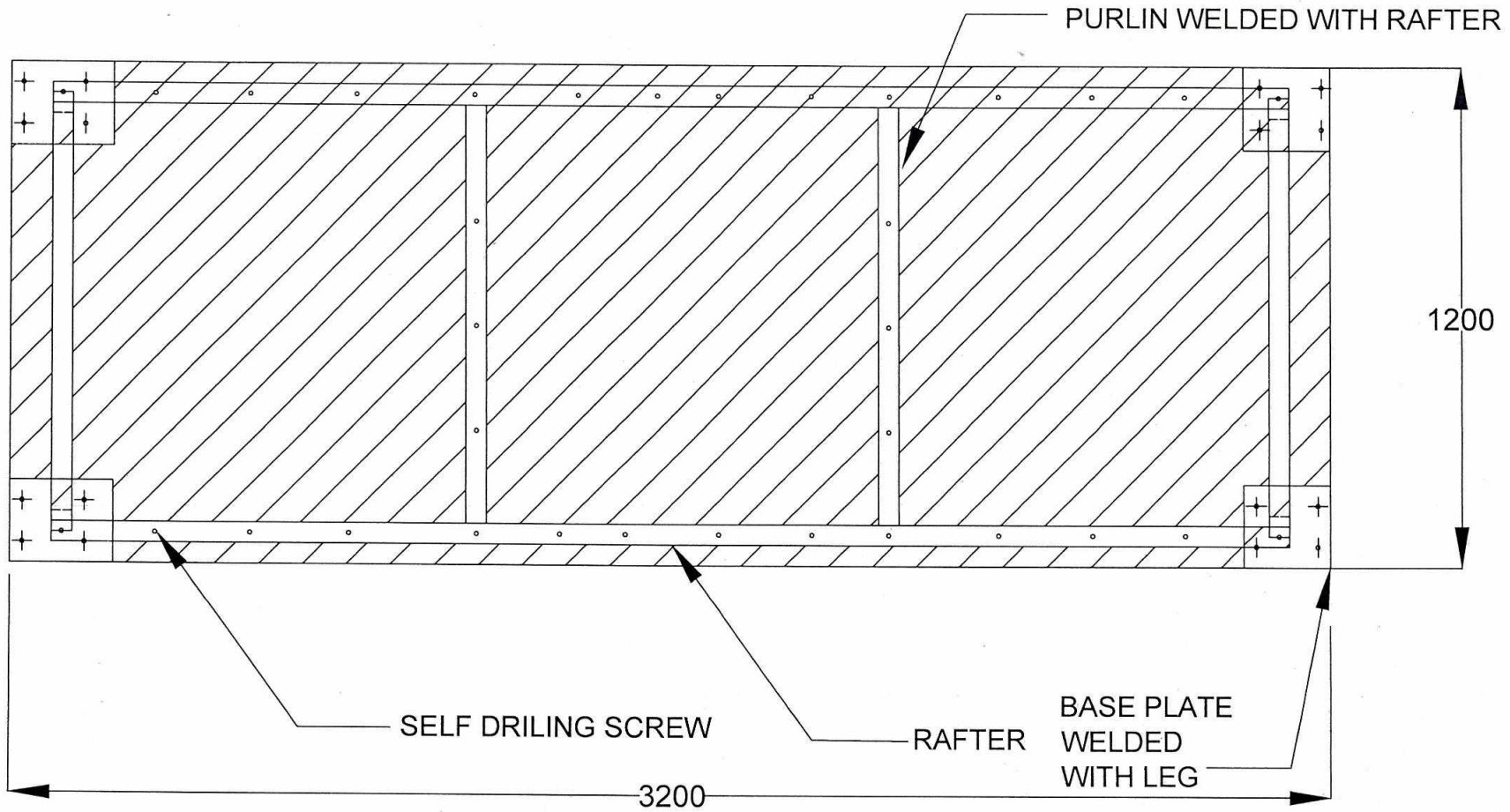


DRAWING NO.

FIRST ANGLE PROJECTION

ALL DIMENSIONS IN MILLIMETER


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TOP VIEW

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Handwritten mark

CUSTOMER		PROJECT/PRODUCT	
NBCC KIDWAI NAGAR		1250KW SPV RTS at NBCC	
 BHARAT HEAVY ELECTRICALS LIMITED RUDRAPUR		DRN.	NAME
DEPTT.	UNTOL.DIM.GR.	CKD.	SIGN.
REG	—	APPD.	DATE
		REF.TO ASSY.DRG.	NO. OF VAR.
		IT.NO.	NO. OF ITEM
TITLE		DRAWING NO.	
CANOPY FOR DCDB ,INVERTER, ACDB at RESIDENTIAL BLOCK		33041700014	
REV.		REV.	
DATE	ALTERD CHECKED	00	
		SHEET NO.- 02 NO.OF SHEETS- 04 SIZE- A3	

REV.	DATE	ALTERD CHECKED	DEPTT. REG	UNTOL.DIM.GR.	SCALE	WEIGHT-KG
					N.T.S	

DRAWING NO.

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FRONT VIEW

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Handwritten initials

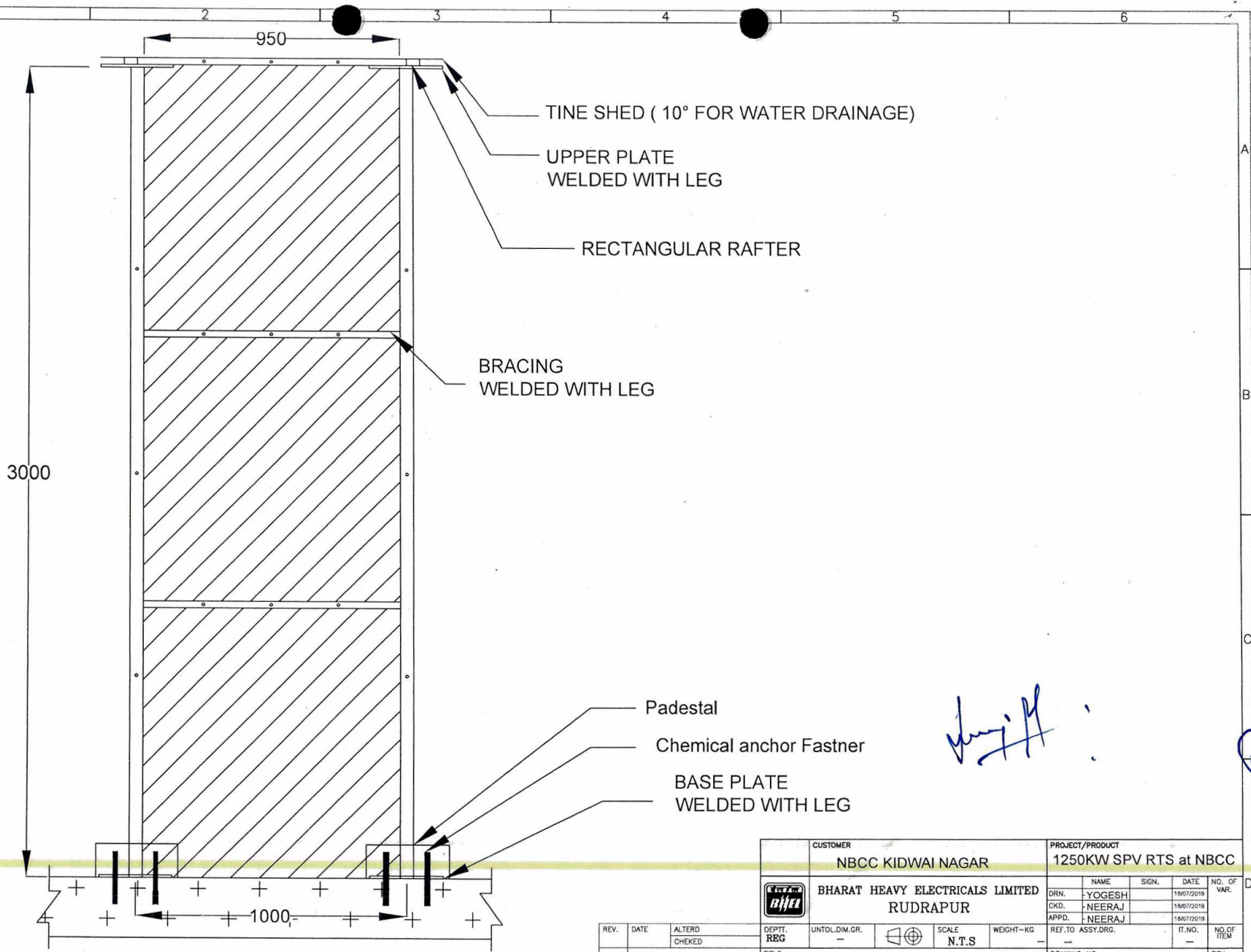
REV.		DATE	ALTERD CHECKED	DEPT. REG	UNTOL.DIM.GR.	SCALE N.T.S	WEIGHT-KG	CUSTOMER NBCC KIDWAI NAGAR				PROJECT/PRODUCT 1250 KW SPV RTS at NBCC										
BHARAT HEAVY ELECTRICALS LIMITED RUDRAPUR								DRN.	YOGESH	SIGN.	DATE	NO. OF VAR.	<table border="1"> <tr> <td>18/07/2019</td> <td></td> </tr> <tr> <td>18/07/2019</td> <td></td> </tr> <tr> <td>18/07/2019</td> <td></td> </tr> </table>				18/07/2019		18/07/2019		18/07/2019	
18/07/2019																						
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18/07/2019																						
TITLE CANOPY FOR DCDB ,INVERTER, ACDB at RESIDENTIAL BLOCK								APPD.	NEERAJ	REF. TO ASSY.DRG.				IT.NO.	NO. OF ITEM							
DRAWING NO. 33041700014								REV. 00														
SHEET NO.- 01								NO.OF SHEETS- 04				SIZE- A3										

FIRST ANGLE PROJECTION

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DRAWING NO.



3000

950

1000

SIDE VIEW

TINE SHED (10° FOR WATER DRAINAGE)

UPPER PLATE WELDED WITH LEG

RECTANGULAR RAFTER

BRACING WELDED WITH LEG

Padestal

Chemical anchor Fastner

BASE PLATE WELDED WITH LEG

Handwritten signature

Handwritten mark

CUSTOMER		NBCC KIDWAI NAGAR		PROJECT/PRODUCT				1250KW SPV RTS at NBCC			
DEPTT. REG		BHARAT HEAVY ELECTRICALS LIMITED RUDRAPUR		DRN.	NAME	SIGN.	DATE	NO. OF	VAR.		
				CKD.	YOGESH		18/07/2019				
				APPD.	NEERAJ		18/07/2019				
REV.	DATE	ALTERD CHECKED	DEPTT. REG	UNTOL.DIM.GR.	SCALE	WEIGHT-KG	REF.TO ASSY.DRG.	IT.NO.	NO. OF ITEM		
				-	N.T.S	-	-	-	-		
TITLE								DRAWING NO.		REV.	
CANOPY FOR DCDB ,INVERTER, ACDB at RESIDENTIAL BLOCK								33041700014		00	
				SHEET NO.- 03		NO.OF SHEETS- 04		SIZE- A3			

DRAWING NO.

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Detail of Frame

Member	Quantity	Grade/Standard	Size	Thickness	Length	Weight/ Meter	Total Weight
Column(Square pipe)	4	YST 310	50*50	4.5	3000	6.02	72.24
Rafter(Square pipe)	3	YST 310	50*50	3.6	3000	4.98	44.82
Purlin (Square pipe)	4	YST 310	50*50	3.6	1000	4.98	19.92
Side Bracing (Square pipe)	4	YST 310	50*50	3.6	1000	4.98	19.92
Base Plate Bottom	4	YST 310	300*300	10		28.3	33.96
Base Plate Top	4	YST 310	200*200	12		15.7	12.56
Selp Tapping Screw	120	Zylon Coated	M8		40		
Anchor Fastener (Chemical)	24		M12		200		
Covering Pedestal	4	M20	350*350	200			

Detail of Polycarbonate Sheet

Top	1	1.20 Meter	10 mm	3.20 Meter
Front	1	0.06 Meter	10 mm	3.00 Meter
Side walls	2	1.00 Meter	10 mm	3.00 Meter
Corner Flushing	8			1.00 Meter
Jointer	8			1.00 Meter

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CUSTOMER				PROJECT/PRODUCT			
NBCC KIDWAI NAGAR				1250 KW SPV RTS at NBCC			
 BHARAT HEAVY ELECTRICALS LIMITED RUDRAPUR				DRN.	NAME	SIGN.	DATE
				CKD.	YOGESH		18/07/2019
				APPD.	NEERAJ		18/07/2019
REV.	DATE	ALTERD CHEKED	DEPTT. REG	UNTOL.DIM.GR.	SCALE	WEIGHT-KG	REF.TO ASSY.DRG.
					N.T.S		
TITLE				DRAWING NO.		REV.	
CANOPY FOR DCDB ,INVERTER, ACDB at RESIDENTIAL BLOCK				33041700014		00	
				SHEET NO.- 04		NO.OF SHEETS- 04	
				SIZE- A3			

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