



BHEL- CFP, RUDRAPUR  
ROOF TOP SOLAR - CHECK LIST (After Installation)

Format No: BHEL/RU/QLTY/RTS/CHECKLIST/01, Rev 00  
(Eff. from: 4th Sept'2019)

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**1. GENERAL DETAILS:**

Customer Name:	Contractor: M/s
Rating & Location of plant:	Contact Person : Mr.
No. of roof at Site: 01 Nos	
BHEL- ROD Contact Person:	
Customer Representative Contact No.:	

A	Ref. Erection Drawing/Document No:	
B	Layout Designer:	
C	Erection Engineer:	
D	Pedestal Strength Testing witnessed/ Inspected by BHEL/ Contractor:	
E	Erection/ Layout verification	
F	BOQ details:	

S.No	Components	Qty.	UoM (No./ Mtr/ SET)	Make	Remarks
F1	PV Modules				
F2	PV Module Mounting structure				
F3	DCDB/Array JB				
F4	Grid Connected String Inverters				
F5	ACDB				
F6	Cables and Wires				
F7	Lightning Arrester				
F8	Earthing systems				
F9	Danger board & signage				
F10	Misc - Cable tray, Conduit Pipe, etc				
F11	Energy/Solar Meter (Uni-directional)				
F12	Cleaning system				
F13	Water Proofing				
F14	DG synchronization system				
F15	Fire Extinguisher				
F16	Isolation Transformer				
F17	Data Loggers for each building				
F18	Weather Monitoring System				
F19	Bi directional Energy meter				
F20	String Monitoring Unit (SMU)				
F21	Optimiser				
F22	SCADA for Local monitoring				
G	Site offered for Quality Inspection by REG:			Dated	

Any Special Instructions/ Checks recommended by REG.



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	OK	NOT OK	OK	NOT OK	
<b>2. Structure Installation</b>					
a) Location as per layout					
b) Pedestal Mounting on Roof					
c) Pedestal Hardware Size and mounting arrgt.					
d) MMS (Module mounting Structure)					
e) MMS Galvanization visual check (Check TC also)					
f) Galvanization visual check - Found. Bolt of Pedestal.					
g) Tightning of Hardware as per Torque requirement.					
<b>3. Module Mounting</b>					
a) Modules are properly aligned with each other.					
b) No damage to module back side & front side					
c) No damage on module frame					
d) Angle (in Degree) /Facing of Module					
e) Direction (Facing) of Module with Orientation (Portrait/ Landscape)					
f) Modules under shadow					
<b>4 .Mounting Clamps</b>					
a) All clamps are available as per drawing( Module to Module)					
b) All clamps are available as per drawing (Module to frame)					
c) Module clamps are properly tightened. No loose clamps.					
<b>5. Fastener / Bolting of Module</b>					
a) Check the tightness of the fasteners( As per torque requirement)					
<b>6. Civil Foundation</b>					
a) Pedestal Dimension as per drawing					
b) Colouring on Pedestal (if applicable)					
c) Pedestal bonding (Nitto Bond) with roof (if applicable)					
<b>7. Earthing / Grounding Verification</b>					
<b>a) Earthing Strips</b>					
i) Size of earthing Strip(as per dwg)					
ii) Galvanization visually OK ?					
iii) All structural parts are connected to strips /wires as per dwg					
<b>b) Earthing Pit</b>					
i) Check for loaction & size(as per dwg)					
ii) Check earthing pit/cover installed properly					
iii) Earth strip/wire connections to Earth pit properly & tightened completely					
<b>c) Continuity Test (Earthing)</b>					
i) Check continuity between earth pit & joint point?					
ii) Check for ground faults by testing continuity between +ve and ground, -ve and Ground /Megger(Value to be recorded)					
<b>8. Cable Laying &amp; Routing Verification</b>					
a) Check for any burn marks on the cables					
b) Cable laying done as per sequence specified in the drawing?					
c) Ensure Unarmored cables laid using PVC pipes?					
d) Connections through connectors (DC side to DCDB)					
e) Cable ends are provided with suitable lugs? Tightness/Crimping properly					
f) Overall cable routing found proper? (Dressing)					
g) Ferrule identification of incoming cable					
<b>9. DCDB Verification</b>					
a) DCDB boxes are mounted on wall and in healthy condition					
b) BOM verification (Connector, MCB, Glands, Rails) with proper mounting check					
c) Check for burn marks inside the DCDB					
d) Check for proper grounding of DCDB body					
e) Opening & closing of Panel door is proper & Panels are sealed properly					
f) Check cable termination is proper.					
g) Check DCDB/AJB Internal cable tagging proper? Ferrule marking? (if applicable)					
h) Check string DCDB/AJB mounting arrangement is proper?					



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<b>10. Inverters</b>						
a)	Make verification					
b)	Cable connection ,Marking & Routing done as per layout					
c)	Cable termination / Lug tightness / Ferrule Identification					
d)	No physical damage of the Inverter. No discoloration, no scratches on the surface					
e)	Neutral is connected to the Earthing properly					
f)	Protective Earth (PE) is connected properly to Earthing					
g)	Inverter installation is upright without any inclination (Check mounting on wall )					
h)	Inverters are in working condition					
<b>11. LT Panel /ACDB</b>						
a)	LT panel is without any damage & installed as per layout?					
b)	BOM verification (Connector, MCB, Glands, Rails) with proper mounting check					
c)	Meters are in working condition (if applicable)- RECORD the Display reading					
d)	Earthing connection made properly					
e)	Cable routings are done properly and Ferrules / Marking done.					
f)	Cable terminations are done with proper tightness					
g)	Opening & closing of Panel door is proper & Panels are sealed properly					
h)	Indicator lamps are working normally					
<b>12 .Lightening Arrestor (LA)</b>						
a)	LA installation is proper (Size,location as per layout)					
b)	Lightening arrestor earthing done properly					
<b>13. Sensors &amp; Instruments (if applicable)</b>						
a)	Irradiation sensor available					
b)	Sensor mounting position is suitable or not					
c)	The sensor is mounted at the same tilt angle as the modules					
d)	No shadows on the Sensor thoroughout the day					
e)	Sensor box is properly installed					
f)	Connections are properly done at the sensor box					
g)	No scratches, paints or soil on the sensor					
h)	Temperature sensors are installaed as per design & connected to the sensor box					
<b>14. Communication Box</b>						
a)	Communication box installed					
b)	Data logger installed as per design (RECORD the Display reading, if applicable)					
c)	Communication box is in working condition					
d)	SIM card avaialble and in working condition / Ethernet connection is working					
<b>Display Board</b>						
a)	Check for Display Board and its contents (above 25KWP) -if in scope of BHEL					
<b>16. General points to be verified</b>						
a)	No joints in cables between running length from one end to another					
b)	If joint are coming in DC cable ,it will be done through MC4 connector with prior permission from BHEL.					