



	BIHAR STATE POWER TRANSMISSION COMPANY LIMITED												
	MANUFACTURING QUALITY PLAN -- BATTERY CHARGER												
MANUFACTURER:		CUSTOMER:		VENDOR'S CODE		ITEM:	Q.P. NO.001			Valid From: 15.01.2016			
		BSPTCL					Rev: 00			Valid Upto: Till Revision			
							DATE : 02.01.2016						
Sr. No.	Components/ Operations & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference Document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
							1	2	3	4	5	6	
A. Section : RAW MATERIAL INSPECTION													
1.0	ELECTRONIC COMPONENTS												
1.1	RESISTORS (Metal Film, Wire Wound)	Electrical / Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	N	N	Review of EM/CM TC by BSPTCL during final inspection
1.2	POTENTIOMETERS	Electrical / Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	N	N	do
1.3	CAPACITORS (Polystyrene, electrolytic)	Electrical / Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	N	N	do
1.4	TRANSISTORS	Electrical / Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	N	N	do
1.5	L E D	Electrical / Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	N	N	do
1.6	INTEGRATED CIRCUITS (LINEAR)	Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
1.7	THYRISTORS/SCR AND POWER DIODES / BLOCKING DIODES	Visual Check	100%	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
2.0	CRGO LAMINATIONS	Visual Check	100%	EM norms/ BSPTCL Specn	EM norms/ BSPTCL Specn	As per BSPTCL	A	J	S	W	E	N	do
3.0	ENAMELED WIRE	Electrical/Visual & Mechanical Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
4.0	POWER TRANSFORMERS/ AUX. TRANSFORMER			EM/BSPTCL specs	EM/BSPTCL specs						E		
a)	IR Measurement	Electrical	100%	IS : 2026/ EM norms/ BSPTCL Specn.	IS : 2026/ EM norms/ BSPTCL Specn.	As per BSPTCL	A	J	S	W		N	do
b)	H.V.Test	Electrical	100%	IS : 2026/ EM norms/ BSPTCL Specn.	IS : 2026/ EM norms/ BSPTCL Specn.	As per BSPTCL	A	J	S	W		N	Review of EM/CM TC by BSPTCL during final inspection
c)	Double Voltage / Double frequency test (For Power Transformers Only)	Electrical	100%	IS : 2026/ EM norms/ BSPTCL Specn.	IS : 2026/ EM norms/ BSPTCL Specn.	As per BSPTCL	A	J	S	W		N	do
5.0	CONNECTORS	Electrical / Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	N	N	do
6.0	RELAYS	Electrical / Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
7.0	PCB (GLASS EPOXY)	Visual & Mechanical Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	N	N	do

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8.0	Switches (TOGGLE)/ROTARY)	Electrical/Visual & Mechanical Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
9.0	METER (VOLTMETER, AMMETER)	Electrical/Mechanical/Visual Check	100%	Sub-vendor's Catalogue/ IS:1248 EM norms/BSPTCL Specn	Sub-vendor's Catalogue/ IS:1248 EM norms/BSPTCL Specn	As per BSPTCL	A	J	S	W	E	N	do
10.0	CHOKE										E		
a)	Inductance	Electrical	100%	EM norms/BSPTCL Specn	EM norms/BSPTCL Specn	As per BSPTCL	A	J	S	W		N	do
b)	H.V. Test	Electrical	100%	EM norms/BSPTCL Specn	EM norms/BSPTCL Specn	As per BSPTCL	A	J	S	W		N	do
c)	Insulation Resistance measurement	Electrical	100%	EM norms/BSPTCL Specn	EM norms/BSPTCL Specn	As per BSPTCL	A	J	S	W		N	do
11.0	Over Load Relay	Electrical/Visual Check	100%	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
12.0	Rotary Switch	Electrical/Visual Check	100%	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
13.0	Current Shunt	Electrical/Visual Check	100%	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
14.0	MCB	Electrical/Visual & Mechanical Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
15.0	MCCB	Electrical/Visual & Mechanical Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
16.0	WIRES/ CABLES	Electrical/Mechanical/Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	N	N	ISI marked
17.0	SLEEVES	Mechanical/Visual Check	100%	EM norms/BSPTCL Specn	EM norms/BSPTCL Specn	As per BSPTCL	A	J	S	W	N	N	Review of EM/CM TC by BSPTCL during final inspection
18.0	TERMINAL BLOCKS	Electrical/Visual & Mechanical Check	100%	Sub-vendor's Catalogue/ EM norms/BSPTCL Specn	Sub-vendor's Catalogue/ EM norms/BSPTCL Specn	As per BSPTCL	A	J	S	W	E	N	do
19.0	FRONT PANEL & CARD GUIDE	Mechanical/Visual Check	100%	EM norms/BSPTCL Specn	EM norms/BSPTCL Specn	As per BSPTCL	A	J	S	W	N	N	do
20.0	HEAT SINK	Mechanical/Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	N	N	do
21.0	FUSE & FUSE HOLDERS	Electrical/Visual & Mechanical Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do

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22.0	NEOPRENE GASKET	Mechanical/Visual Check	100%	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	As per BSPTCL	A	J	S	W	E	N	do
23.0	LUGS & CRIMPED TERMINAL	Mechanical/Visual Check	IS 2500	EM/BSPTCL specs	EM/BSPTCL specs	As per BSPTCL	A	J	S	W	E	N	do
24.0	FERRULES	Mechanical/Visual Check	10%	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	As per BSPTCL	A	J	S	W	N	N	do
25.0	IC & RELAY SOCKET	Electrical/Visual & Mechanical Check	100%	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	As per BSPTCL	A	J	S	W	N		Review of EM/CM TC by BSPTCL during final inspection
26.0	ANNUNCIATOR/HOOTER	Electrical/Visual & Mechanical Check	100%	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	As per BSPTCL	A	J	S	W	E	N	do
27.0	FASTNERS & SPACERS	Visual & Mechanical Check	100%	Sub - vendor's Catalogue/ IS:1365/2016/1366/2269 /EM norms / BSPTCL Specn.	Sub - vendor's Catalogue/ IS:1365/2016/1366/2269 /EM norms / BSPTCL Specn.	As per BSPTCL	A	J	S	W	N	N	do
28.0	CABLE CONDUITS	Visual & Mechanical Check	100%	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	As per BSPTCL	A	J	S	W	N	N	do
29.0	PANEL From BSPTCL Approved Vendor					As per BSPTCL					E		
a)	Type and Make	Visual Check	100%	BSPTCL Specn.	BSPTCL Specn.	As per BSPTCL	A	J	S	Y		N	do
b)	Dimensional Check	Mechanical	100%	BSPTCL Specn.	BSPTCL Specn.	As per BSPTCL	A	J	S	Y		N	do
c)	Finish	Visual Check	100%	BSPTCL Specn.	BSPTCL Specn.	As per BSPTCL	A	J	S	Y		N	do


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30.0	CRCA SHEET From BSPTCL Approved Vendor										E		
a)	Type and Make	Visual Check	100%	Sub - vendor's Catalogue/ IS:513 /BSPTCL Specn.	Sub - vendor's Catalogue/ IS:513 / BSPTCL Specn.	As per BSPTCL	B	K	P	W		N	Review of Test records by BSPTCL during final inspection
b)	Chemical Analysis	Chemical	One Sample/ Lot	Sub - vendor's Catalogue/ IS:513 /BSPTCL Specn.	Sub - vendor's Catalogue/ IS:513 / BSPTCL Specn.		B	K	P	W		N	do
c)	Tensile Test	Mechanical	One Sample/ Lot	Sub - vendor's Catalogue/ IS:513 /BSPTCL Specn.	Sub - vendor's Catalogue/ IS:513 / BSPTCL Specn.		B	K	P	W		N	do
d)	Thickness of the Sheet	Mechanical	One Sample/ Lot	Sub - vendor's Catalogue/ IS:513 /BSPTCL Specn.	Sub - vendor's Catalogue/ IS:513 / BSPTCL Specn.	As per BSPTCL	B	K	P	W		N	do
31.0	INDICATION LAMPS & HOLDERS	Electrical/Visual & Mechanical Check	100%	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	As per BSPTCL	A	J	S	W	N	N	do
32.0	PUSH BUTTONS	Electrical/Visual & Mechanical Check	100%	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	As per BSPTCL	A	J	S	W	E	N	do
33.0	CONTACTORS	Electrical/Visual & Mechanical Check	100%	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	Sub - vendor's Catalogue/ EM norms / BSPTCL Specn.	As per BSPTCL	A	J	S	W	E	N	Review of EM/CM TC by BSPTCL during final inspection


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34.0	PANEL OF BSPTCL Approved Vendor										E		
a)	Degreasing including water rinsing	Chemical	100%	IS:6005 and EM Norms/ BSPTCL Specn.	IS:6005 and EM Norms/ BSPTCL Specn.		B	K	P	W		N	do
b)	Descaling	Chemical	100%	IS:6005 and EM Norms/ BSPTCL Specn.	IS:6005 and EM Norms/ BSPTCL Specn.		B	K	P	W		N	Review of EM/CM TC by BSPTCL during final inspection
c)	Water Rinsing	Chemical	100%	IS:6005 and EM Norms/ BSPTCL Specn.	IS:6005 and EM Norms/ BSPTCL Specn.		B	K	P	W		N	do
d)	Phosphating	Chemical	100%	IS:6005 and EM Norms/ BSPTCL Specn.	IS:6005 and EM Norms/ BSPTCL Specn.		B	K	P	W		N	do
e)	Water Rinsing	Chemical	100%	IS:6005 and EM Norms/ BSPTCL Specn.	IS:6005 and EM Norms/ BSPTCL Specn.		B	K	P	W		N	do
f)	Hot Chromating	Chemical	100%	IS:6005 and EM Norms/ BSPTCL Specn.	IS:6005 and EM Norms/ BSPTCL Specn.		B	K	P	W		N	do
g)	Sealing	Chemical	100%	IS:6005 and EM Norms/ BSPTCL Specn.	IS:6005 and EM Norms/ BSPTCL Specn.		B	K	P	W		N	do
35.0	PRIMER COATING										E		
a)	1st Coat	Chemical	100%	BSPTCL Specn./ BSPTCL Approved Drgs.	BSPTCL Specn./ BSPTCL Approved Drgs.		B	K	P	W		N	do
b)	Oven Drying	Chemical	100%	BSPTCL Specn./ BSPTCL Approved Drgs.	BSPTCL Specn./ BSPTCL Approved Drgs.		B	K	P	W		N	Review of Test records by BSPTCL during final inspection

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							1	2	3	4	5	6	
c)	2nd Coat	Chemical	100%	BSPTCL Specn./ BSPTCL Approved Drgs.	BSPTCL Specn./ BSPTCL Approved Drgs.		B	K	P	W		N	do
d)	Oven Drying	Chemical	100%	BSPTCL Specn./ BSPTCL Approved Drgs.	BSPTCL Specn./ BSPTCL Approved Drgs.		B	K	P	W		N	do
36.0	PAINTING (SPRAY)											E	
a)	1st Coat	Chemical	100%	BSPTCL Specn./ BSPTCL Approved Drgs.	BSPTCL Specn./ BSPTCL Approved Drgs.		B	K	P	W		N	do
b)	Oven Drying	Chemical	100%	BSPTCL Specn./ BSPTCL Approved Drgs.	BSPTCL Specn./ BSPTCL Approved Drgs.		B	K	P	W		N	do
c)	2nd Coat	Chemical	100%	BSPTCL Specn./ BSPTCL Approved Drgs.	BSPTCL Specn./ BSPTCL Approved Drgs.		B	K	P	W		N	do
d)	Oven Drying	Chemical	100%	BSPTCL Specn./ BSPTCL Approved Drgs.	BSPTCL Specn./ BSPTCL Approved Drgs.		B	K	P	W		N	do
37.0	IN CASE OF DRY POWDER COATING											E	
a)	Powder Coating	Chemical	100%	Coating process as per acceptance norms, paints thickness etc. as per BSPTCL approved Drg/Tech. Specn/ DFT 60 microns min .	Coating process as per acceptance norms, paints thickness etc. as per BSPTCL approved Drg/Tech. Specn/ 60 microns min for .		B	K	P	W		N	Review of EM/CM TC by BSPTCL during final inspection


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INPROCESS INSPECTION													
1.0	PANEL OF BSPTCL Approved Vendor										E		
a)	Paint Type and Make	Visual Check	100%	Of reputed make / BSPTCLspec.	Of reputed make / BSPTCLspec.		B	K	P	W		N	do
b)	Finish	Visual Check	100%	Approved EM Drg./ BSPTCL Specn./ BSPTCL Drgs.	Approved EM Drg./ BSPTCL Specn./ BSPTCL Drgs.		B	K	P	W		N	do
c)	Paint Thickness	Mechanical	100%	Approved EM Drg./ BSPTCL Specn./ BSPTCL Drgs/DFT 60 microns min for powder coat.	Approved EM Drg./ BSPTCL Specn./ BSPTCL Drgs/DFT 60 microns min for powder coat.		B	K	P	W		N	do
2.0	COMPONENT KITTING (PCB)										N		
a)	Quantity	Visual Check	100%	EM norms/ BSPTCL Specn.	EM norms/ BSPTCL Specn.		A	J	S	W		N	do
b)	Identification	Visual	100%	EM norms/ BSPTCL Specn.	EM norms/ BSPTCL Specn.		A	J	S	W		N	do
3.0	COMPONENT PREPARATION	Visual Check	100%	EM norms/ BSPTCL Specn.	EM norms/ BSPTCL Specn.		A	J	S	W	N	N	do
4.0	COMPONENT (PCB) PLACEMENT/ASSEMBLY	Visual Check	100%	EM norms/ BSPTCL Specn.	EM norms/ BSPTCL Specn.		A	J	S	W	N	N	do
5.0	SOLDERING	Visual Check	100%	EM norms/ BSPTCL Specn.	EM norms/ BSPTCL Specn.		A	J	S	W	N	N	do
6.0	PCB TESTING										N		
a)	Visual Check for missing components, orientation of component etc.	Visual Check	100%	EM procedures EM norms/ BSPTCL Specn.	EM procedures EM norms/ BSPTCL Specn.		A	J	S	W		N	Review of EM/CM TC by BSPTCLduring final inspection

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b)	Functional Check on test jig	Electrical	100%	EM procedures EM norms/ BSPTCL Specn.	EM procedures EM norms/ BSPTCL Specn.		A	J	S	W	N	do	
7.0	SOAK (BURN IN) TEST						A	J	S	W	N	do	
a)	On assembled cards at 70± 5deg. for 120 Hrs. and functional test after burn in	Environmental	100%	test procedures EM norms/ BSPTCL Specn.	test procedures EM norms/ BSPTCL Specn.	As per BSPTCL	A	J	S	W	N	do	
8.0	MODULE ASSEMBLY									N			
a)	Component Fitting	Visual Check	100%	EM norms/ BSPTCL Specn.	EM norms/ BSPTCL Specn.	As per BSPTCL	A	J	S	W	N	do	
9.0	ROUTINE TESTS												
a)	Full load testing of the Completed assembled Equipment for 48 hours (Observed for no failure of the output of the charger)	Electrical	100%	IS:4540/8623/ BSPTCL Apprd data sheets/ BSPTCL Specn./ BSPTCL approved Drgs.	IS:4540/8623/ BSPTCL Apprd data sheets/ BSPTCL Specn./ BSPTCL approved Drgs.	As per BSPTCL	A	J	S	W	N	Review of EM/CM TC by BSPTCL during final inspection	
b)	All the acceptance tests	Electrical	100%	IS:4540/8623/ BSPTCL Apprd data sheets/ BSPTCL Specn./ BSPTCL approved Drgs.	IS:4540/8623/ BSPTCL Apprd data sheets/ BSPTCL Specn./ BSPTCL approved Drgs.		A	J	S	W	N	do	

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INSPECTION & TESTING													
1.0 ACCEPTANCE TESTS													
1.1	Check on the assembly & wiring (complete physical examination) and BOM check.	Visual Check	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn./BSPTCL approved Drgs.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn./BSPTCL approved Drgs.	Test report	A	J	U	Z	Y	Dispatch Instructions/ Clearance by BSPTCL	
1.2	Insulation Resistance Test on the complete Equipment	Electrical	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z	Y	Dispatch Instructions/ Clearance by BSPTCL	
1.3	H.V. TEST	Electrical	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z	Y	Dispatch Instructions/ Clearance by BSPTCL	
1.4	DC output voltage stability for the specified variation in mains input and DC load variation for 0 to 100% (Regulation Test)	Electrical	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z	Y	Dispatch Instructions/ Clearance by BSPTCL	
1.5	Ripple voltage test on full load output condition/ half load/ no load	Electrical	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z	Y	Dispatch Instructions/Clearance by BSPTCL	
1.6	Over current limit test at 105% load (voltage drooping test/load limiter operator)	Electrical	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z	Y	Dispatch Instructions/Clearance by BSPTCL	
1.7	Under/Over voltage adjustable limit test	Electrical	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z	Y	Dispatch Instructions/Clearance by BSPTCL	

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Sr. No.	Components/ Operations & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference Document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
							1	2	3	4	5	6	
1.8	Short circuit test (DC output side)	Electrical	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z		Y	Dispatch Instructions/Clearance by BSPTCL
1.9	Annunciation circuit test by simulation fault condition for :	Electrical	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z		Y	Dispatch Instructions/Clearance by BSPTCL
a)	AC incoming supply failure	Electrical				Test report	A	J	U	Z		Y	
b)	SCR/Diode fuse failure	Electrical				Test report	A	J	U	Z		Y	
c)	Over voltage across the battery under boost charging	Electrical				Test report	A	J	U	Z		Y	
d)	Charger Fail	Electrical				Test report	A	J	U	Z		Y	
1.10	Heat run temperature rise test for minimum 8 hrs on following test points.	Environmental	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z		Y	Dispatch Instructions/Clearance by BSPTCL
a)	Main transformer (one Coil)					Test report	A	J	U	Z		Y	
b)	Rectifier diode/SCR (One number each)					Test report	A	J	U	Z		Y	
c)	Filter Choke					Test report	A	J	U	Z		Y	
d)	Core of Transformer					Test report	A	J	U	Z		Y	
e)	Blocking Diode					Test report	A	J	U	Z		Y	
f)	Mid Zone of panel inside					Test report	A	J	U	Z		Y	
1.11	Spares- check for make/ type etc	Visual Check	100%	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	IS:4540/8623/BSPTCL Apprd data sheets/BSPTCL Specn.	Test report	A	J	U	Z		Y	Dispatch Instructions/Clearance by BSPTCL
1.12	Functional check on Temperature sensor for battery Bank.	Electrical	100%	BSPTCL Specs	BSPTCL Specs	Test report	A	J	U	Z		Y	Dispatch Instructions/Clearance by BSPTCL

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED													
MANUFACTURING QUALITY PLAN -- BATTERY CHARGER													
MANUFACTURER:		CUSTOMER:		VENDOR'S CODE		ITEM:	Q.P. NO. 001			Valid From: 15.01.2016			
		BSPTCL					Rev: 00			Valid Upto: Till Revision			
							DATE : 02.01.2016						
Sr. No.	Components/ Operations & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference Document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
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1.13	Mechanical Interlock check for two no of input MCCB's .	Mechanical	100%	BSPTCL Specs	BSPTCL Specs	Test report	A	J	U	Z		Y	Dispatch Instructions/Clearance by BSPTCL
1.14	Paint shade and thickness check	visual/mechanical check	random	BSPTCL Specs/60 microns min for powder coating	BSPTCL Specs/60 microns min for powder coating	Test report	A	J	U	Z		Y	Dispatch Instructions/Clearance by BSPTCL
2.0 TYPE TESTS													
1.1		All Type Tests required as per contract in question need to be conducted/ approval from BSPTCL Engg. to be obtained	As agreed with BSPTCL Engg.	As agreed with BSPTCL Engg.	As agreed with BSPTCL Engg.	Test Report							

	BIHAR STATE POWER TRANSMISSION COMPANY LIMITED												
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		BSPTCL					Rev: 00						
							DATE : 02.01.2016			Valid Upto: Till Revision			
Sr. No.	Components/ Operations & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference Document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks
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1.0	PACKING & DESPATCH												
1.1	Checking for completeness of the equipment and accessories including spares as per order	Visual	100%	As per packing list	As per packing Standard		A	J	S	W		N	
1.2	Check for proper packing	Visual	100%	As per packing	As per packing Standard		A	J	S	W		N	
1.3	Ensure supply of operation manual, packing list and test reports along with copy of	Visual	100%	As per packing Standard	As per packing Standard		A	J	S	W		N	
1.4	Checking for Dispatch Instructions/Clearance by BSPTCL number on the packing	Visual	300%	As per packing Standard	As per packing Standard		A	J	S	W		N	

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							1	2	3	4	5	6	
Code 1	Indicates place where testing is planned to be performed i.e.			Code 2	Indicates who has to perform the tests i.e. Testing Agency								
A	At Equipment Manufacturer's works			J	The Equipment Manufacturer								
B	At Component Manufacturer's works			K	The Component Manufacturer								
C	At Authorised Distributor's place			L	The Third Party								
D	At Independent Lab			M	The Turnkey Contractor								
E	At Turn Key Contractor's location												
F	Not specified												
Code 3	Indicates who shall witness the tests i.e. Witnessing Agency			Code 4	Review of Test Reports/Certificates								
P	Component Manufacturer itself			W	By Equipment manufacturer during raw mate								
Q	Component Manufacturer and Equipment Manufacturer			X	By Contractor during product/proce								
R	Component Manufacturer, Equipment Manufacturer and Contractor			Y	By BSPTCL during product/process insr								
S	Equipment Manufacturer itself			Z	By Contractor and/or BSPTCL during produc								
T	Equipment Manufacturer and Contractor												
U	Equipment Manufacturer, Contractor and BSPTCL												
V	Third Party itself												
Code 5	Whether specific approval of sub-vendor / Component make is			Code 6	Whether test records required to be submitted after final								
E	Envisaged			Y	Yes								
N	Not Envisaged			N	No								



MANUFACTURING QUALITY PLAN -- BATTERY CHARGER

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Sr. No.	Components/ Operations & Description of Test	Type of Check	Quantum of Check / Sampling with basis	Reference Document for Testing	Acceptance Norms	Format of Record	Applicable Codes						Remarks	
							1	2	3	4	5	6		
Notes :														
1. The MQP should be read in conjunction with BSPTCL specification and shall deem to include additional tests if any required as per the contract.														
2. BSPTCL specification shall include provisions of letter of Award , BSPTCL approved drawings /technical data sheet / BOM / test schedule / test procedure applicable to the specific contract.														
3. In case of any contradiction between the manufacturer's plant standards , this MQP and BSPTCL specification following precedence shall be followed :-														
a) BSPTCL specification .														
b) This Manufacturing Quality plan .														
c) Manufacturer's plant standards .														
4. It is the responsibility of the manufacturer to ensure that this document is readily available at their works , as well as at the works of their sub vendors in order to avoid any delay at the time of inspection														
5. The manufacturer shall ensure that their as well as their sub vendors control , metering & testing instruments are duly calibrated and should have calibration certificates traceable to Indian / International standards . Calibration records should be available during inspection by BSPTCL . Key testing instruments will be calibrated only by NABL accredited laboratories.														
6. In case of any tests being carried out at third party lab , such lab / facility should be NABL accredited / accepted by BSPTCL.														
7. The manufacturer shall maintain the proper co-relation of test certificates from raw material stage to finished product stage and the records should be available during inspection by BSPTCL.														
8. Manufacturer shall show the approval of BSPTCL engineering for all contract specific type tests , including specific type tests if any as per the BSPTCL specification at the time of final inspection.														
9. All packing cases should be marked with BSPTCL LOA details , name of project , item description and Dispatch Instructions/Clearance by BSPTCL (by which material has been cleared for dispatch) .														
10. One copy of test report , Dispatch Instructions/Clearance by BSPTCL shall also be sent along with consignment .														
11. Inspection of spare items ordered by BSPTCL shall also be governed by the provisions of this MQP . Items if not governed under MQP shall be offered for inspection as per BSPTCL specifications / Relevant-Indian / International Specification														
12. The manufacturer shall align their quality system and that of their sub-vendors to the requirements of latest ISO 9000 quality standards in a time bound manner.														
13. The relevant details of plant standards and quality plan for different ratings are shown in attached Annexure.														
14. BSPTCL may review the effective implementation of the processes during the product-inspection / process-inspection														
In case any violation in process or process parameters are observed, the reason along with corrective & preventive measures shall be conveyed to BSPTCL within 2 weeks														
EM : Equipment Manufacturer				CM : Component Manufacturer										