


NTPC	EQUIPMENT :		STANDARD FIELD QUALITY PLAN				QP NO. 0000-999-QOE-T-002		REVISED BY		
	LT SWITCHGEAR		CONFORMING TO CODE : IS 8623				REV NO. 0		AM		
S No	Activity & Operation	Characteristics / Instrument	Class of Check #	Type of Check	Quantum of Check	Reference Document	Acceptance Norms	Format Of Records			
1	2	3	4	5	6	7	8	9			

Note for quantum of check: For "A" and "B" type checks quantum of check defined under column # 6 is for NTPC only. However contractor will carry out 100% quantum of check against all activities and operations identified in the SFQP								
A MATERIAL RECEIPT & UNLOADING								
	Visual Inspection	Check identification marking on cases & quantity	C	Visual	100%	Challan / Packing slip	Challan / Packing slip	
		Check physical / external damages to packing for breakage	C	Visual	100%			
		If packing found damaged then check physical / external damages to panels for breakage, distortion or dents, cracks, scratches / removal of paint and rusting etc.	C	Visual	100%			
		Ensure availability & use of proper material handling equipment (fork lift or suitable crane)	B	Visual	At random	Manufacturer's Manual	Manufacturer's Manual	
		Check for slinging points or handling instructions marked on the packing for proper handling	B	Visual	At random	Manufacturer's Manual	Manufacturer's Manual	
	Report theft / damages during transit	Report missing cases / equipment during transit and damages to panels / equipment for insurance claims	B	Visual	100%	Challan / Packing slip	Challan / Packing slip	
B STORAGE OF EQUIPMENT								
	Storage Area	Storage area should be preferably covered or elevated floor (not prone to flooding), non-corrosive & ventilated, safe, secure, clean and preferably vermin proof	B	Visual	100%			
	Storage handling	Panels to be covered with polythene sheet	C	Visual	100%			
		Panels should preferably be stored on wooden batons for further transportation or handling	C	Visual	100%			
C PRE-ERECTION CHECKS								
	Availability of Documents	Ensure the availability of NTPC approved layout drg., GA drg., BOM etc.	C	Visual	100%			

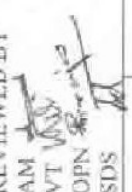
LEGEND : * RECORDS IDENTIFIED WITH "TICK" (✓) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. LEGEND TO BE USED : C = CONTRACTOR, N = NTPC, CLASS # A = CRITICAL, B = MAJOR, C = MINOR, *A* SHALL BE WITNESSED BY NTPC FQA, *B* SHALL BE WITNESSED BY NTPC ERECTION / CONSTRUCTION DEPT., *C* SHALL BE WITNESSED BY CONTRACTOR (A & B CHECK SHALL BE NTPC CIP STAGE) FORMAT NO. : QS-01-QA-I-P-10F4-R0

EQUIPMENT :		STANDARD FIELD QUALITY PLAN			QP NO. 0000-999-QOE-T-002		REVIEWED BY		APPROVED BY	
NTPC		CONFORMING TO CODE : IS 8623			REV NO. 0		AM		APPROVED BY	
LT SWITCHGEAR					DATE : 26-12-2006		VT		(UR/KH/08/00)	
					PAGE 2 OF 4		OPN		#HOD (QA-SPL)	
					Valid upto : 25-12-2009		SDS		APPROVED BY	

S No	Activity & Operation	Characteristics / Instrument	Class of Check #	Type of Check	Quantum of Check	Reference Document	Acceptance Norms	Format Of Records
1	2	3	4	5	6	7	8	9
	Civil works & structures	Check readiness of switchgear location i.e., cut-outs, embedments have been provided at required locations	C	Visual	100%	NTPC appd. Drgs	NTPC appd. Drgs	
		Check the civil construction and ensure that there is no hindrance for erection of Switchgear panels	C	Visual	100%	NTPC appd. Drgs	NTPC appd. Drgs	
		Check civil work dimensions i.e. of floors, various openings, beams, columns, wall etc. as per NTPC approved drg.	C	Measure	100%	NTPC appd. Drgs	NTPC appd. Drgs	
	Check transportation route	Panel transportation route suitability / clearance	C	Visual	100%			
	Tools and tackles	Ensure availability of Tools, Tackles, erection hardware	C	Visual	100%	Manufacturer's Manual	Manufacturer's Manual	
	Transport panels to location	Ensure availability & use of proper material handling equipment (fork lift or suitable crane)	B	Visual	At random	Manufacturer's Manual	Manufacturer's Manual	
		Check for slinging points or handling instructions marked on the packing for proper handling	B	Visual	At random	Manufacturer's Manual	Manufacturer's Manual	
D ERECTION CHECKS								
	Unpacking of panels	Check completeness of supply / availability of items	C	Visual	100%			
	Visual inspection	Verify Name plate, Label, caution plate	C	Visual	100%			
		Check physical / external damages to panels / component / equipments for breakage, distortion or dents, cracks, scratches and removal of paint/rusting etc.	C	Visual	100%			
	Handling of panels	Preferably use fork lifts for placing the panels onto foundations or if panels are rolled on, to foundation then retain base plank to avoid damage to base frame	B	Visual	At random	Manufacturer's Manual	Manufacturer's Manual	
	Location of panels	Check for mounting of each panel as per NTPC approved layout drg.	B	Visual	100%	NTPC Appd Drg	NTPC Appd Drg	
	Alignment check	Check alignment of panels and accuracy of placement use shims if required	C	Visual	100%	Manufacturer's Manual	Manufacturer's Manual	

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FORMAT NO : QS-01-QALP-1014-RO

NTPC	EQUIPMENT:		STANDARD FIELD QUALITY PLAN				QP NO. 0000-999-QOE - T-002		REVIEWED BY		APPROVED BY	
	LT SWITCHGEAR		CONFORMING TO CODE : IS 8623				REV NO. 0		AM VT OPN SDS		 R. R. KHOSLA HOD (QA/SPH)	
S No	Activity & Operation	Characteristics / Instrument	Class of Check #	Type of Check	Quantum of Check	Reference Document	Acceptance Norms	Format of Records	Remarks			
1	2	3	4	5	6	7	8	9	10			

		Check alignment of all operating handles for all switches and CBs	B	Visual	At random						
		Check alignment of all power & control draw out contacts	D	Visual	At random						
	Installation checks	Check that insulators and conductors are thoroughly cleaned with dry air or scrubbed & cleaned suitably as required	B	Visual	At random						
		Ensure that insulators are handled carefully	C	Visual	100%						
		Remove oxide film preferably with sand paper or fine wire brush from the joint surfaces and then clean with Carbon Tetrachloride (CCl ₄) or equivalent liquid	B	Visual	At random	Manufacturer's Manual	Manufacturer's Manual				
		Check alignment of busbars	C	Visual	100%	NTPC Appd Drg	NTPC Appd Drg				
		Verify use of proper washers Belleville / star / spring type	C	Visual	100%						
		Check tightness of bolts of joints of main bus bars, auxiliary buses	B	Visual	At random	NTPC approved drgs.	NTPC approved drgs.				
		Check connectors & tightness of connection of busduct entry. If these connections are to be done later, then ensure that the enclosure ends are kept closed / covered preventing entry of dust, water etc.	B	Visual	At random	NTPC approved drgs.	NTPC approved drgs.				
		Check that inter panels earthing busbar is properly connected and board is connected to station earth	B	Visual	At random						
		Check CT secondary shorting links & remove them where required for connection to relays & meters	B	Visual	At random	NTPC approved drgs.	NTPC approved drgs.				
		Check for inter panel gaskets	C	Visual	100%						
		Check alignment of MCC doors and free movement as well as interchangeability of similar modules	B	Visual	At random						
		Check operating mechanism physically for any looseness of links etc.	B	Visual	At random	Manufacturer's Manual	Manufacturer's Manual				

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FORMAT NO. : QS-01-QAL-P-1004-R0

NTPC	EQUIPMENT :		STANDARD FIELD QUALITY PLAN				QP NO. 0000-999-QOE-T-002		REVIEWED BY		APPROVED BY	
	LT SWITCHGEAR		CONFORMING TO CODE : IS 8623				REV NO. 0		AM		HOD (QA-SPL)	
S			Activity & Operation		Characteristics / Instrument		Class of Check #		Type of Check		Quantum of Check	
1			2		3		4		5		6	
											7	
											8	
											9	
											10	

		Check Degree of protection by paper insertion method at the gasketed joints for IP 5X sections	B	Visual	At random							
		Check caution / danger plate provided	C	Visual	100%							
	Continuity check	Check continuity of main & auxiliary circuits	A	Elec	100%			NTPC approved drgs.	NTPC approved drgs.			
	IR check	Perform IR of main & auxiliary circuits with 500 V Meggar	A	Elec	100%			IS 8623	IS 8623			
	Earthing	Check earthing with grid	A	Visual	100%			NTPC approved drgs.	NTPC approved drgs.			
	Cabling checks	Check for completeness of control cable terminations	B	Visual	At random			NTPC approved drgs.	NTPC approved drgs.			
		Check for completeness of power cable terminations	B	Visual	At random			NTPC approved drgs.	NTPC approved drgs.			
		Check for completeness of communication cable terminations, if applicable	B	Visual	At random			NTPC approved drgs.	NTPC approved drgs.			
		Do not earth shielding on communication cable in MCC	B	Visual	At random			NTPC approved drgs.	NTPC approved drgs.			
		Check control and power cables are properly secured or clamped	B	Visual	At random							
		Check tightness of control and power cable terminations	B	Visual	At random			Manufacturer's Manual	Manufacturer's Manual			
		Plug all unused holes and openings including those for cable entries	C	Visual	100%							
E	FINAL VISUAL INSPECTION	Check no loose tools or hardware or any other unwanted material etc are left inside the Panels	B	Visual	100%							
		Check for any damage to paint finish and ensure touch up.	B	Visual	100%							
		Check all switches and CBs are in OFF position	C	Visual	100%							
		Check completeness of installation of Switchgear panels	B	Visual	100%							

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FORMAT NO : QS-01-QA/P-10/F4-R0