





		SUPPLIER'S NAME AND ADDRESS: BHEL, CFP RUDRAPUR		FIELD QUALITY PLAN				PROJECT : VINDHYACHAL STPP STAGE-V (1X500 MW)				
				ITEM : ISOLATED PHASE BUSDUCT SUB-SYSTEM:		QP NO.: BHE/RU/QP/IP/NTPC/VSTPP REV. NO.: 00 DATE: 14.05.2014 PAGE: 1 of 3		PACKAGE : BUSDUCT CONTRACT NO. : CS-2260-207-2-FC-COA-5910 DT 26.04.2013 MAIN-SUPPLIER : BHEL				
SL. NO	ACTIVITY AND OPERATION	CHARACTERISTICS / INSTRUMENTS	CLASS OF CHECK #	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		REMARKS	
					BHEL	CUSTOMER				D*		
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	10.	
1	CHECKS ON ARRIVAL AT SITE	Unloading with use of strap belt	C	V	100%	---	Erection Manual	---	---		Approved Drawings and Approved data sheet will be available with site to kick start erection activities.	
2		Check for damages (puncture, bend, scratch etc)	C	V	100%	---		---	Site register / Site MDR			
3	CHECKS DURING STORAGE	Ensure that bus duct should not be laid directly on ground	C	V	100%	---		Storage	---	---		
4		Ensure that BOIs, hardware, copper, electrical items etc are stored in concealed areas	C	V	100%	---			---	---		
5	CHECKS DURING ERECTION & COMMISSIONING (contd...)	Dimensional checking of foundation (Tape)	B	M	100%	---	Drawing	Drawing	Handing over protocols from Civil		Before erection of the structure	
6		Layout of Bus Ducts (Tape)	B	M	100%	---	Drawing	Drawing				
7		Check the equipment for their physical condition and cleanliness	C	V	100%	---	---	---				
8		Verticality of structure (plumb bob)	B	M	100%	Random	Drawing	Drawing				
9		Ensure that eye-bolts are used for lifting of cubicles & generator adopters	C	V	During erection	---	Erection Manual	---				
10		Ensure enclosures/ cubicles are properly aligned.	B	V	During erection	During erection	Drawing	Drawing	IR & erection protocols			
11		Check physically insulators after fixing busbars in the Adopter box.	C	V	100%	5%	Crack free clear insulator surface	IS 9431				
12	Continuity of Bus bars after welding (Multimeter)	A	T	100%	Once	Drawing	---			One time after erection in every route		

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MANUFACTURER/ SUB-SUPPLIER	MAIN-SUPPLIER						
SIGNATURE				REVIEWED BY	APPROVED BY	APPROVAL SEAL	

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				ITEM : ISOLATED PHASE BUSDUCT		QP NO.: BHE/RU/QP/IP/NTPC/VSTPP REV. NO.: 00 DATE: 14.05.2014 PAGE: 2 of 3		PACKAGE : BUSDUCT CONTRACT NO. : CS-2260-207-2-FC-COA-5910 DT 26.04.2013 MAIN-SUPPLIER : BHEL			
13		Clearance between phase conductor and enclosure before welding (Tape)	B	M	100%	5%	Drawing	Drawing			% age of joints for each run of IPBD
14	CHECKS DURING ERECTION & COMMISSIONING (contd...)	Welding and NDT: DPT 100% to be done for conductor & enclosure butt weld joints. (a) Root Welding (b) Final welding For conductors, both (a) and (b) will be applicable For enclosures, only (b) will be applicable (DP Test kit)	A	T	100%	5%	Welding Manual	Welding Manual	Welding Protocols		Test results for 100% welded joints shall be submitted in protocols. NTPC will witness 5% DPT on randomly selected welded joints. For this, inspection call shall be given by BHEL before carrying out DPT/Final welding.
					10% Radiography for all site welded joints of conductor to be witnessed by NTPC						
15		Positioning of Shunts and welding	C	V	100%	---	Drawing	Drawing			
16		Dimensional and alignment checking of wall frames	C	V	100%	---	Drawing	Drawing			
17		Polarity and ratio tests of CTs and their placement	A	T	100%	100%	Layout Drawing/ Testing Procedure	IS 2705	CT Testing protocol		
18		Check CTs secondaries are kept shorted until connected to respective instrument /relays.	B	V	100%	100%	Drawing	Drawing			
19		Secondary wiring & clamping of CTs	B	V	100%	Once	CT wiring diag.	CT wiring diag.			
20		Crimping, ferrule numbering and check of wiring (as per wiring diagram) inside CT Terminal box	C	V	100%	---	CT wiring diag.	CT wiring diag.			
21		Positioning of rubber bellows	C	V	100%	---	Drawing	Drawing			
22	Checks that all wiring is done as per wiring diagram	B	V	100%	Once	Wiring diag.	Wiring diag.				

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23		Earthing of busducts, structure, NG cubicles & shunt	B	V	100%	Once	Erection manual	Erection manual			
24		IR value of each bus conductor before erection (2.5 KV Insulation Tester)	A	T	100%	10%	IS 8084	IS 8084		✓	
25	CHECKS DURING ERECTION & COMMISSIONING	Specified size of Gaskets being used	C	V	Once	---	Drawing	Drawing			
26		Setting of thermostats	C	M	100%	---	Erection manual			✓	
27		Trial Run and operation of Air Pressurization Equipment / Hot Air Blowing Equipment		V	Once	Once	Drawing	Drawing			
28	COMMISSIONING TESTS	Resistance check (or mV drop test) of welded and bolted joints of bus bar	A	T	100%	Once	Erection manual	Erection manual	Testing Protocol	✓	
29		High Voltage testing of Busduct at specified voltage for each route (HV Test kit)	A	T	Once	Once	Erection manual	IS 8084	Testing Protocol	✓	Once for each route after erection
30	CHECKS FOR NEUTRAL GROUNDING CUBICLE	Bus bar connections to NG Transformer & NGR	C	V	100%	---	Drawing	Drawing			
31		Function of heaters	C	V	100%	---	Drawing	Drawing			
32		Free movement of panel doors	C	V	100%	---	Drawing	Drawing			
33		Check for earthing connections of Neutral Grounding Cubicles and Busduct / associated equipment	C	V	100%	---	Drawing	Drawing			
34		Checking IR value of NGT (Insulation tester)	B	T	100%	Once	Erection manual	Erection manual		✓	
35	CHECKS FOR LAVT CUBICLE	Wiring and continuity check	C	V	100%	---	Drawing	Drawing		✓	
36		Movement of trolleys	C	V	100%	---	Drawing	Drawing			
37		Check of proper shrouding and size of bolts	C	V	100%	---	Drawing	Drawing			
38		Limit switch operation	B	V	100%	Once	Drawing	Drawing			

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