

CONTRACTOR'S NAME & ADDRESS			MANUFACTURING QUALITY PLAN			PROJECT: RAYALASEEMA - TPS - Stage III 1 X 210MW Unit - 3					
BHEL PIPING CENTRE - CHENNAI - 600 017 QUALITY ASSURANCE & CONTROL DEPT. QA 03			ITEM: CW PIPING Straight Pipes			SYSTEM: CW PIPING CUSTOMER NO: 0393, 6928					
			QIP No: 6928, OPC: 04 REV: 00 DATE: 05.12.2007 PAGE: 1 OF 2								
SC No	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY	REMARKS	
								9	10	11	
								M	B	C	
1.0	STRAIGHT PIPE, IS3589 (Longitudinal / spiral welded pipes)	Chemical Mechanical Soundness	Major Major Major	Verification Tensile test Hydraulic test or Radiography Measurement	As per Mail spec 100%	IS 3589 IS 3589 IS 3589	TC TC TC	P P P	V W W	R R W*	10% witness by BHEL
2.0	Surface preparation of pipes	Dimension	Major	Visual	Random	IS 3589	TC	P	W	R	TC Test certificate HC History
2.1	Coating (internal surfaces) for pipes OD 1000mm and above	Degree of cleanliness	Major	Visual	100%	SA 2 1/2	HC	P	W*	R	*Random Witness Paint Brands Berger Shalimar Asian Jenson & Nicholson
(a)	PRIMER	Coal tar Primer	Major	visual measurement	Each pipe	Minimum DFT: 30 microns	HC	P	V	R	
(b)	OVER COAT	Coal tar epoxy	Major	Visual & measurement	Each pipe	2 coats: DFT: 60 microns min Per coat. Total DFT: Primer + Over coat = 150 microns min.	HC	P	W	R	
(c)	Inspection of Coating	Dry film thickness (DFT)	Major	Visual & Elcometer Measurement	Each pipe	DFT 150 microns min.	HC	P	W	W*	
	Holiday detection	Holiday detection	Major	Visual	100%	No Holiday	HC	P	W	W*	

PREPARED BY
P. ELANGOVARAN

REVIEWED & APPROVED BY
P. ELANGOVARAN

** M: MANUFACTURER / SUBCONTRACTOR. B: BHEL
C: Customer (APGENCO)
INDICATE "P" PERFORM, "W" WITNESS, AND "V" VERIFICATION
AS APPROPRIATE.
R: Record Review W*: Witness (Random)

CHIEF ENGINEER,
Central Projects Const.,
APGENCO Vidvut Soudha,
Hyderabad - 500 082.

18/12/2007

CONTRACTOR'S NAME & ADDRESS BHEL PIPING CENTRE - CHENNAI - 600 017 QUALITY ASSURANCE & CONTROL DEPT. QA 03			MANUFACTURING QUALITY PLAN			PROJECT: RAYALASEEMA- TPS - Stage III 1 X 210MW Unit - 5 SYSTEM: CW PIPING CUSTOMER NO : 0393 , 6928		
ITEM : CW PIPING Straight Pipes			OP No: 6928 : QPC: 04 REV: 00 DATE : 05.12.2007 PAGE : 2 OF 2					

SL No	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD			AGENCY			REMARKS
								9	M	B	C	10	11	
3.0	Coating (External surfaces) Over ground piping.													
3.1	Surface preparation of out side surface	Power tool cleaning/	Major	Visual	100%	Free from all dirt, oil, grease, rust, scale, welding, fluxdeposit, foreign matters etc		HC	P	V	R			
	Primer	Red Oxide Zinc Chromate (Alkyd base IS 2074)	Major	Visual & Measurement	100%	2 coats, DFT 25 microns minimum per coat.		HC	P	V	W*			
	Finish paint	Synthetic enamel IS2932 smoke grey shade No.692 As per IS: 5	Major	Visual & Measurement	100%	2 Coats, DFT 50 microns minimum per coat. Total DFT: Primer + Finish =150 microns minimum.		HC	P	W	W*			
3.2	Coating (External Surfaces) Pipes buried (under ground), Temporary protection - (as Coal Tar Tape wrapping shall be carried out at site by Erection Agency.)	Power tool cleaning	Major	Visual	100%	Free from all dirt, oil, grease, rust, scale, weldslag, fluxdeposit, foreign matters etc		HC	P	V	R			
	Surface preparation of out side surface	Red oxide zinc chromate Primer IS 2074	Major	Visual & Measurement	100%	Minimum DFT: 25 microns		HC	P	W	W*			
4.0	Marking & Identification	Work order NO, Du No, Length, Makers Identification	Major	Visual	100%	Each pipe punched & stenciled As per P.O		HC	P	W				
CHIEF ENGINEER, Thermal Projects Const., AP GENCO, Widyut Soudha														
14/02/18/18														


 CHIEF ENGINEER,
 Thermal Projects Const.,
 AP GENCO, Widyut Soudha,
 Hyderabad - 500 082.

14/12
 18/12