



QA 03

BHARAT HEAVY ELECTRICALS LIMITED
PIPING CENTRE CHENNAI – 17
QUALITY DEPARTMENT.

QUALITY PLAN FOR LP PIPING FABRICATION

(Circulating Water, Cooling Water, Misc Water, Instrument Air, Service....)

PROJECT NAME: - ENNORE SEZ STPP - (2X660MW)

BHEL CUSTOMER Nos: 7270, 7271, 7272(Aux.Boiler) & 7273(Outside TG Hall).

QP NO : 7270 : QPC : 03

Rev : 01

DATE : 17.08.2015

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SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY		REMARKS
									M	B	
1	2	3	4	5	6	7	8	9	10		11

1.0	RAW MATERIAL	All Raw material shall be sourced from BHEL approved sources.									
1.1	WELDED PIPE -IS:3589, (longitudinal / Spiral) IS -1239 . (Black / Galvanised) or as per drawing.	Correctness of Material Specn.	Minor	Verification of Specification	100%	Material Specification as per BHEL Drawing.	HC	P	V		Material procured as per specification
1.2	FITTINGS										
1.2.1	IS 1239 Fittings Black/Galvanised Screwed & Socketed. or as per drawing.	Correctness of Material Specn.	Minor	Verification of Specification	100%	Material Specification as per BHEL Drawing.	HC	P	V		Material procured as per specification
1.2.2	Forged / BW Fitting/ Flanges as per IS-1239 Part-II, SA 234, SA105, SA182 or as per drawing.	Correctness of Material Specn.	Minor	Verification of Specification	100%	Material Specification as per BHEL Drawing.	HC	P	V		Material procured as per specification
1.3	Plates:IS2062 or as per drg.	Correctness of Material Specn.	Minor	Verification of Specification	100%	Material Specification as per BHEL Drawing.	HC	P	V		Material procured as per specification
2.0	INPROCESS CONTROL										
2.1	Welding	Procedure and performance Qualification details.	Major	Verification @	Each welder	ASME SEC - IX	WPS / PQR	P	V		@Review of WPS /PQR by BHEL.


Prepared By. **VIVEKANANDA YELLU**
Sr.Engr/QA

LEGEND: M : BHEL/BHEL Approved Vendor P : Perform
B: BHEL/BHEL Authorized Inspection Agency W : Witness
WPS – Welding procedure Specification V : Verification
PQR – Procedure Qualification Report R : Review of RT film.
HC – History Card / Register.


Reviewed and Approved By **PRADEEP KUMAR.V**
Dy.Mgr/QC.



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2.2.	Mitre bends, Branch Reducer, Tees, Flange.	Fit-up	Major	Dimension & Root-gap	100%	BHEL Drawing	HC		P	V	
2.2.1	NDE: for Weld	a) Weld fusion	Major	Root back Chip and LPI for OD 1000mm and above. Visual	100%	No linear indication	HC		P	V	
		b) Weld Profile & Surface defects	Major		-do-	ASME Sec V/ASME B 31.1 Cl . 136.4.2	HC		P	W	
		c) Butt, mitre joints	Major	RT	10%*	ASME Sec V/ASME B 31.1 Cl 136.4.5.	HC		P	R	
2.3	Rolled and Welded Pipe Spools using IS 2062 plates	a) Circumferential Seam welds	Major	RT	10%*	-do--	HC		P	R	*Inclusive of all T- joints.
		b)Long Seamwelds	Major	RT	10%**	-do--	HC		P	R	
2.4	Piping Fabrication	a) Butt Joints	Major	RT	10%*	-do--	HC		P	R	** Including ends.
		b) Fillet Welds	Major	LPT/MPT	100%	ASME B 31.1 Cl .136.4.4/ ASME B 31.1 Cl .136.4.3	HC		P	R	
2.5	Dimension	Measurement (including ovality)	Major	Visual & Measurement	100%	BHEL Drawing	HC		P	W	
3.0	Surface preparation and painting	Painting & DFT	Major	Visual & Measurement	100%	QP NO: 7270:QPC:12	HC		P	W	
4.0	Marking & Identification	Workorder DU Number. Maker's Identification	Major	Visual	100%	Paint stenciling & Hard Stamping as per BHEL drg./ GMS	HC		P	V	
5.0	Documentation Review	Verification of Reports	Major	Visual	100%	QP NO: 7270:QPC:03	IR, Report , HC*		P	V	BHEL will Submit certificate of Compliance (COC)

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