Laboratory	**NTPC Energy Technology Research Alliance (NETRA), NTPC Ltd., Plot No. E-3, Ecotech-II, Greater Noida, Gautam Budh Nagar, Uttar Pradesh**		
Accreditation Standard	**ISO/IEC 17025: 2005**		
Discipline	**Non-Destructive Testing**	**Issue Date**	**09.12.2016**
Certificate Number	**T-0302**	**Valid Until**	**08.12.2018**
Last Amended on	**-**	**Page**	**1 of 2**

S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
I.	**METALS & ALLOYS**			
1.	**Ferrous & Non-Ferrous Metals & Alloys**	Ultrasonic Testing (Contact Pulse-Echo Type)	ASME BPVC, Sec V Articles 4,5 & 23: 2015 ASME SA-388: 2015 ASME SA-435: 2015 ASME SA-577: 2015 ASME SA-578: 2015 ASME SA-609: 2015 ASME SA-213: 2015 ASME SA-273: 2015	Welds- 5 mm to 150 mm Forging- Diameter 25 mm to 500 mm Plates-Thickness 5 mm to 300 mm Casting-Thickness 10 mm to 200 mm Pipes & tubing: Diameter above 25.4 mm, Thickness 5 mm to 200 mm Qualitative
		Dye-Penetrant Test (Fluorescent & Visible)	ASME BPVC, Sec V: 2015, Article 6, 24, SE 165-12	Qualitative Detection of flaws open to surface
		Ultrasonic Thickness Measurement	ASME BPVC, Sec V Articles 23: 2015 SE 797-10	1 mm to 200 mm
		In-Situ Metallography	ASTME 1351-01(reprint 2012)	Qualitative Monitoring of material degradation based on morphological changes of phases and void formation
2.	**Ferromagnetic Materials**	Magnetic Particle Inspection Yoke Type (Fluorescent & Visible)	ASME BPVC, Sec V: 2015 SE 709-08	Qualitative Surface and subsurface flaws of depth less than 4 mm

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S. No.	Product / Material of Test	Specific Test Performed	Test Method Specification against which tests are performed	Range of Testing / Limits of Detection
3.	**Non-Ferromagnetic Heat Exchanger Tubing**	Eddy Current Testing	ASME BPVC, Sec V Article VIII,2015, Mandatory Appendix VIII	Qualitative Heat exchanger tubes of ID 16 mm to 30 mm
4.	**Metallic Materials**	Rebound Hardness Testing Method	ASTM A 956: (2012)	Qualitative Leeb Hardness: 150 HL to 1000 HL Converted hardness : Vickers hardness range-75 HV to 1000 HV Rockwell : Hardness range: 20.0 HRC to 70 HRC Rockwell : Hardness range 35 HRB to 100 HRB

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