



**BHARAT HEAVY ELECTRICALS LIMITED**  
 PIPING CENTRE, CHENNAI-17  
 QUALITY ASSURANCE & CONTROL DEPT.

**PAINTING SCHEME FOR LP PIPING**

( CW / ACW / ECW / Plant water, Air Piping, etc..., )

**PROJECT NAME : - SURATGARH TPS UNIT 7 & 8 - 2 X 660 MW**  
**BHEL CUSTOMER Nos : 7198, 7199, 7215 (AUX. BOILER).**

**QPNo: 7198:QPC:12**  
**REV.No: 03**  
**Dt : 11.12.2013**

SI. NO	PGMA / Description	Surface Preparation & Surface Profile	Primer coat		Intermediate coat			Finish coat			REMARKS	
			Primer	No of coats	Paint	No of coats	Shade	Paint	No of coats	Shade		Total DFT Microns (Min.)
1	2	3	4	5	6	7	8	9	10	11	12	13
1	(a) Internal Surface - CW Pipe (for pipe - dia - 1000 mm and above)	Blast Cleaning SSPC SP-10 SA 2½ (Refer Note 1)	Epoxy based Zinc rich Primer (Refer Note 2)	1 (50 Microns Min. per coat)	----	----	----	Coal tar epoxy (Refer Note 2)	2 (75 Microns Min. per coat)	----	200 Microns (Refer Note 3)	
	(b) Holiday test (Refer Note 3)	Holiday testing by low voltage ( 75 Volts Min. ) wet sponge Holiday detector or by High voltage ( Voltage per micron of DFT is as recommended by Paint Manufacturer subjected to minimum of 5V / Micron). Holiday test Equipment to be calibrated before testing.										
2	External Surface of CW --Buried Piping / Encased in concrete (For pipe dia- 1000 mm and above) (Temporary Protection for transportation from works to site). Further protection to be done by BHEL Erection Group as per Contract requirement.	SSPC-SP3 / Power Tool Cleaning	Red Oxide Zinc Phosphate (Alkyd base to IS 12744)	1 (30 Microns per coat)	----	----	----	----	----	----	30 Microns	
3	External Surface (over ground piping) of CW,ACW.( For all diameters)	SSPC-SP3 / Power Tool Cleaning	Red Oxide - Zinc Phosphate (Alkyd base to IS: 12744)	2 (25 Microns per coat)	----	----	----	Synthetic enamel Long oil Alkyd to IS: 2932	3** (35 microns per coat)	Smoke Grey (Shade No. 692 of IS: 5)	120 at shop + 35 at site	** (2 coat at shop + 1 coat at site)
4	External Surface of ECW, Plant water ( For all diameters)	SSPC-SP3 / Power Tool Cleaning	Red Oxide - Zinc Phosphate (Alkyd base to IS: 12744)	2 (25 Microns per coat)	----	----	----	Synthetic enamel Long oil Alkyd to IS: 2932	3** (35 microns per coat)	Smoke Grey (Shade No. 692 of IS: 5)	120 at shop + 35 at site	** (2 coat at shop + 1 coat at site)
5	Galvanised and Stainless steel Piping	No painting										

**Notes:**  
 1. Blast cleaning to near white metal to obtain roughness as per epoxy paint data sheet.  
 2. Application of Epoxy based Zinc rich Primer, Coal Tar Epoxy shall be done as per manufacturer's data sheet / recommendation, meeting the thickness requirements as per this document.

PREPARED BY : VIVEKANANDA YELLU Sr.Engr / QA  
 APPROVED BY : A.P.MADHAVAN KUTTY, AGM/Q

For Customer use

**DATA CONSULTING ENGINEERS LIMITED**  
**VENDOR DOCUMENT REVIEW STATUS**  
 A Drawing/Document approved as submitted. Proceed with fabrication/construction.  
 B Drawing/Document approved subject to comments noted. Proceed with fabrication/assembly considering our comments.  
 C Our comments are noted on this work for print.  
 D Our comments are noted in memo attached to the forwarding transmittal letter No. \_\_\_\_\_ Dated: 12/12/2013.  
 E Correct original of this drawing/document to reflect our comments and resubmit for approval.  
 F Correct original of this drawing/document to reflect our comments and resubmit for records.  
 G Drawings/Documents of this category are for information only and not for approval.  
 H Drawing/Document reviewed against our previous comments and other revisions highlighted and identified by the vendor.  
 I Drawing/Document returned without review.  
 J Print not enclosed.  
 Approval conveyed herein neither relieves the Vendor/Contractor of his contractual obligations and his responsibilities for correctness of dimensions, materials of construction, weights, quantities, design details, assembly fits, performance requirements and conformity of the supplies with the Indian Statutory Laws as may be applicable, nor does it limit the purchaser's rights under the contract.

Reviewed by: *gak* Date: 12/12/2013



**LETTER OF TRANSMITTAL FOR VENDOR DOCUMENTS**

To, BHARAT HEAVY ELECTRICALS LTD Power Sector-PMG First Floor, Vasant Square Mall, Sect-B Vasant Kunj, New Delhi-110 070 Attn.: Mr SK Gupta-GM/ Mr Tamal S	JOB NO: TCE. 5750A	YOUR REF: PEDM
	CLIENT: Rajasthan Rajya Vidyut Utpadan Nigam Ltd	DATE: 11-12-2013
	PROJECT: 2X660MW Super Critical TPS, Stage-V, Units #7&8 at Suratgarh Rajasthan	OUR REF: TCE.5750A-ME-540- VDT-234
	SUBJECT: QA for WIND BOX & SOFA	DATE: 12-12-2013
		SH. 1 OF 2

We are herein conveying our approval/comments on the documents listed below. Approval/comments conveyed herein neither relieves the vendor/contractor of his contractual obligations and his responsibilities for correctness of dimensions, materials of construction, weights, quantities, design details, assembly fits, performance requirements and conformity of the supplies with the Indian Statutory Laws as may be applicable, nor does it limit the purchaser's rights under the contract.

  
 .....  
 PROJECT MANAGER/ENGINEER

<b>CODES</b>	
<b>A:</b> Document approved as submitted; proceed with fabrication/construction.	<b>F:</b> Correct original of the document to reflect our comments and resubmit for records.
<b>B:</b> Document approved subject to comments noted; proceed with fabrication/construction considering our comments.	<b>G:</b> Documents of this category are for information only and not for approval. Information furnished on the document is noted.
<b>C:</b> Our comments are noted on the enclosed marked-up print.	<b>H:</b> Document reviewed only against our previous comments and other revisions highlighted and identified by the vendor.
<b>D:</b> Our comments are noted in the memo attached to this transmittal.	<b>I:</b> Document returned without review.
<b>E:</b> Correct original of the document to reflect our comments and resubmit for approval.	<b>J:</b> Print not enclosed.

SL. NO.	VENDOR'S DOCUMENT NO.	TCE NO.	TITLE	CODE
1.	QP No: 7198 QPC:01 Rev. 02	-	QUALITY PLAN FOR PIPING FABRICATION (NON-IBR)	A, H
2.	QP No: 7198 QPC:02 Rev. 03	-	QUALITY PLAN FOR TANKS & VESSELS (CW STORAGE TANK, IMPURE CONDENSATE TANK ETC.)	A, H
3.	QP No: 7198 QPC:03 Rev. 03	-	PAINTING SCHEME FOR LP PIPING (CW / ACW / ECW / PLANT WATER, AIR PIPING ETC.)	A, H



**LETTER OF TRANSMITTAL FOR VENDOR DOCUMENTS**

YOUR REF: PEDM	DATE: 11-12-2013	SH. 2 OF 2
OUR REF: TCE.5750A-ME-540-VDT-234	DATE: 12-12-2013	

COPY TO :
File: TCE.
Cc: RRVUNL-Jaipur Attn Mr M G Gurjar ,SE (TD-III) with/without encl.-One copy
CC: Attn: Chief Engineer (const-supercritical), Suratgarh Super Thermal Power Station, Administrative building,Prabhat Nagar, Dist Sri Ganganagar , Suratgarh-335804 Ph01509-245458 Mr P C Sharma Email: conststps@yahoo.co.in -one copy