



## PULVERISERS ENGINEERING

October 13, 2018

**PATRATU VIDYUT UTPADAN NIGAM LIMITED, PHASE-I, 3x800 MW**  
**HP 1103 Bowl Mill**

**PAINTING SCHEDULE FOR HP 1103 (DC) BOWL MILLS**  
**NTPC Doc No. 9585-001-102-PVM-H-006, REV 01**

Reference: Reference: null102:723 date 31.08.2018

Sl. No.	NTPC COMMENTS	HYD (MILLS) REPLY
1.	Same revision-00 has been re-submitted without incorporation of the comments	Due to oversight, Rev 00 has been uploaded in place of Rev 01.  Now it is incorporated in Rev 02.



## PULVERISERS ENGINEERING

August 25, 2018

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**HP 1103 Bowl Mill**

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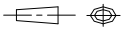
Reference: Reference: null102:683 date 23.08.2018

Sl. No.	NTPC COMMENTS	HYD (MILLS) REPLY
1.	Mill sizing is not yet approved. Any change in mill sizing will have to be incorporated in this document also. ( Page 1 of 6)	The Mill sizing calculation and related parameters does not affect the Mill painting schedule. As Mill is already finalized HP 1103 DC Bowl Mill for this project.
2	Include component details from sub-vendors. (Page 3 of 6)	Major sub-vendor component for painting is 1. Knife Gate Valve 2. Mill Handling system.
3	Heat resistant Aluminium paint.  Two coats  Also, mention the Surface Preparation scheme. (Page 3 of 6)	The primer of Heat resistant Aluminium paint (High temperature primer Aluminium paint) to IS-13183 Gr.-1 of Total DFT is 40-µm min. (with 2 coats, each coats is 20-µm)  Noted and incorporated in Rev 01
4	Interior Surfaces of Mill All Surfaces 95°C or less <del>which are not insulated</del> ( Page 5 of 6)	Noted and incorporated in Rev01
5	Interior Surfaces of Mill All Surfaces 95°C or (Above 95 °C) above <del>which are not insulated</del> ( Page 5 of 6)	Noted and incorporated in Rev01
	High Temperature Paint (Aluminium paint to IS-13183 Gr.-1) ( Page 5 of 6)	The primer of Heat resistant Aluminium paint (High temperature primer Aluminium paint) to IS-13183 Gr.-1
7	1 Coat to 20-µm min DFT Total Finish coat of same paint and DFT to be applied as per technical specifications. Total DFT shall be 40 µm. ( Page 5 of 6)	Noted and incorporated in Rev01
8	Exterior Surfaces of Mill below 95 °C (95 °C or less) (All surfaces except the Mill Side Assembly and bowl & bowl hub assembly?) ( Page 5 of 6)	Noted and incorporated in Rev01
9	1 coats to 40 - µm Min DFT Total (at Site) ( Page 5 of 6)	Noted and incorporated in Rev 01
10	Heat resistant Aluminium paint ( Page 6 of 6)	The primer of Heat resistant Aluminium paint (High temperature primer Aluminium paint) to IS-13183 Gr.-1

# NTPC LTD.

## PATRATU SUPER THERMAL POWER STATION EXPANSION, PHASE- I (3 X 800 MW)

### HP 1103 BOWL MILLS (DC) – 9 NOS. / BOILER

										NTPC DRG. No.: <b>9585-001-102-PVM-H-006 Rev 01</b>									
JOB NO :										<b>EPC PACKAGE FOR</b> <b>PATRATU SUPER THERMAL POWER STATION EXPANSION, PHASE-I</b> <b>(3x800 MW)</b> <b>OF</b> <b>PATRATU VIDYUT UTPADAN NIGAM LIMITED</b> <b>(A Subsidiary of NTPC Ltd in Joint Venture with Jharkhand Bijli Vitran Nigam Ltd)</b>									
STATUS: CONTRACT																			
DISTRIBUTION																			
TO										 <b>BHARAT HEAVY ELECTRICAL LIMITED</b> HYDERABAD-502032	Dept Code		Name	Sign	Date				
No. of												DRN							
Rev	Date	ALTD	CHD	APPD								DESN	ABUL	-Sd-	09.08.18				
	25.08.2018	ABUL	RR	S Ghatge								CHD	RR	-Sd-	09.08.18				
Rev 01	Reference: null102:683 date 23.08.2018 Cat: II: Reply											APPD	SG	-Sd-	09.08.18				
Rev 02	Reference: null102:723 date 31.08.2018 Cat: III: Reply									<b>TITLE :PAINTING SCHEDULE FOR HP 1103 (DC) BOWL MILLS</b>									
										SCALE		DRAWING NO. <b>BA-PS-PATRATU-00</b>							
												SHEET 1 OF 6							
												REV 02							
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## **SECTION 1: SCOPE**

This specification applies to the **Patratu Super Thermal Power Station Expansion Phase-I 3x800 MW** contract. Included are all parts and assemblies manufactured by BHEL, its sister units and its subvendors/subcontractors.

## **SECTION 2: ALL INTERIOR SURFACES OF THE MILL**

### **Interior surfaces:**

Those surfaces inside the pulverizer exposed to the mill airflow and coal. Also included are those surfaces inside the pulverizer and not exposed to mill airflow and coal, such as the inside of the Planetary Gearbox, Journal Housing, and the inside of the Spring Housing. ***No finish paint is envisaged on these surfaces.***

- A) **Surface preparation:** Commercial Blast SSPC-SP 3/ SP 4 (Swedish Std St. 3)
- B) **Primer:** Red Oxide Zinc Phosphate primer (Alkyd base) to IS 12744 Minimum DFT 60 microns in two coats. Shop applied immediately after **Power Tool Cleaning to SSPC-SP3 (SSI-St3).**

## **SECTION 3: EXTERIOR SURFACES OF THE MILL WITH SURFACE TEMPERATURE GREATER THAN 95°C AND INSULATED**

### **Exterior surfaces:**

Those surfaces visible by someone outside the fully assembled pulveriser.

### **Components with Surfaces Greater Than 95 °C:**

Mill Side Housing Assembly (Externally Insulated) and Bowl & Bowl Hub Assembly

- A) **Surface preparation:** Commercial Blast SSPC-SP 3/ SP 4 (Swedish Std St. 3)
- B) **Primer:** Heat resistant Aluminium (High temperature primer Aluminium paint) paint to IS-13183 Gr.-1 (2 coats of Total DFT 40 microns)

#### **SECTION 4: EXTERIOR SURFACES OF THE MILL WITH SURFACE TEMPERATURES LESS THAN 95 °C**

##### **Exterior surfaces:**

Those surfaces visible by someone outside the fully assembled pulverizer.

##### **Components with Surfaces Less Than 95 C:**

All mill components, except the Mill Side Housing Assembly and Bowl and Bowl Hub Assembly.

- A. **Primer**: Red Oxide Zinc Phosphate primer (Alkyd base) to IS 12744 Minimum DFT 60 microns in two coats. Shop applied immediately after **Power Tool Cleaning** to **SSPC-SP3 (SSI-St3)**.
- A) **Finish Coat (Shop)**: Synthetic Enamel (long oil alkyd) to IS 2932. Minimum DFT 20 microns.
- B) **Finish –Finish Coat (After Erection)**: Synthetic Enamel (long oil alkyd) to IS 2932. Minimum DFT 20 microns.

#### **SECTION 5: GENERAL NOTES:**

- A. **Grease and Oil Removal**: Special care shall be taken to remove grease and oil by means of suitable solvents.
- B. **SP3** Power tool cleaning
- C. **SP4** Shot blasting (shot blasting shall be used as surface preparation method for hot worked pipes prior to application of primer)
- D. **Machined surfaces are not painted.**
- E. Bought-out items shall be as per BHEL painting standards. This painting scheme shall be applicable for Mills components as mentioned.

## SECTION 6: PAINT SCHEDULE

Sl No	Surface Location	Surface Preparation	Primer		Intermediate		Finish Coat			Total DFT
			Paint	No. of Coats	Paint	No. of Coats	Paint	No. of Coats	Shade	µm min
01	Interior Surfaces of Mill All Surfaces 95°C or less.	SP3/SP4	Red Oxide Zinc Phosphate primer (Alkyd base) to IS 12744	2 coats to 60 µm min DFT Total	NA	-	-	-	-	60 µm min.
	Interior Surfaces of Mill All Surfaces temperature above 95°C	SP3/SP4	Heat resistant Aluminium (High Temperature primer Aluminium Paint) to IS-13183 Gr.-1)	2 Coat to 20 min DFT Total	NA	-	-	-	-	40 µm min
02	Exterior Surfaces of Mill below 95 °C or less (All surfaces except the Mill Side Assembly and Bowl and bowl Hub assembly)  Includes: Separator Body Assembly, Journal Opening Cover, Spring Assembly, Separator Top, Dynamic Classifier Assembly, Discharge Valve Components, Outlet Pipes, Seal Air Piping, Planetary Gearbox, Pulveriser Top Platform, Lube Oil System)	SP3/SP4	Red Oxide Zinc Phosphate primer (Alkyd base) to IS 12744	2 coats to 60 µm min DFT Total	NA	-	Synthetic Enamel (long oil alkyd) to IS 2932  (HY5610026 997)	1 coat to 20 µm min DFT Total (at Shop)  -----  1 coats to 20 µm min DFT Total (at Site)	Gray RAL 9002	80 µm DFT  -----  100 µm DFT min. (total after erection paint)

03	<p>Exterior Surfaces of Mill above 95 °C</p> <p>(Mill Side Assembly &amp; Bowl &amp; Bowl Hub Assembly)</p> <p>Exterior Surface of the Mill Side Assembly is insulated</p>	SP3/SP4	Heat resistant Aluminium Paint (High Temperature primer Aluminium Paint) to IS-13183 Gr.-1	1 coats to 20 µm DFT Total	NA	-	Heat resistant Aluminium Paint (High Temperature primer Aluminium Paint) to IS-13183 Gr.-1	1 coat to 20 µm min DFT Total	Gray RAL 9006	40 µm DFT.
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