



## DALMIA CEMENT (B) LIMITED – ARIYALUR

### JSA

Issue No. 02	Rev. No: 00	Effective Date: 01.11.2019	SOP/MEC/011
Issued By: M.R		Approved By: HOD MECHANICAL	
VERTICAL ROLLER MILL GENERAL INSPECTION			

**Scope:** General Inspection of VRM (Pfeiffer Mill)

**Responsibility:** Section engineer

**Accountability:** Section in charge

**PPE:**

1. Safety helmet.
2. Safety shoe.
3. Nose Mask.
4. Hand Gloves.

**TOOLS:**

1. Box spanner set.
2. Ring spanner set.

**Hazard Analysis:**

Risks associated:

Mitigating Measures

Material or Gases entry Chutes.	: 1) Ensure Emptied / don't engage other gangs to clear
	: 2) Ensure all material incoming Drives & Ducts Isolated.
Oxygen deficiency	: Confined space permit is essential to enter in to the mill.
Heat	: Confined space permit is essential to enter in to the mill

### **SOP FOR VRM GENARAL INSPECTION**

1. Open the mill manual inspection door, scrapper chamber manual door, classifier manual inspection door and torque support buffer cap inspection doors.
2. Cool the mill to ambient temperature.
1. Take the Electrical line clearance for the following. (Follow LOTO)
  - a) Mill feed RAL/triple flap gate
  - b) Mill main drive (ensure chain is not connected in auxiliary drive)
  - c) Classifier drive
  - d) Mill booster (Hot Air) fan
  - e) Mill fan
  - f) Hydraulic tension unit (optional)**



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g) Inlet damper for hot gas entry (Should in close condition).

h) water spray pump

### 3) Attain the confined space Permit

a) The temperature inside the mill should not be more than 5°C to the ambient 45 Deg temperature

b) Oxygen % should be 20(+ 0r-1)

c) The roller position should not be in lifted condition. Ensure from CCR.

4. The following entities must be checked.

a) Top & bottom pins and Lock washers in its position for INNER strap.

b) Check for wear in the Torque support bolts, Liners & Grease.

c) Check the Gas chamber & Scrapers condition.

d) Check the Body Liners & Bolts Condition.

e) Check all the false air Entry Sources & arrest.

f) Check the Roller for Oil leakage from seal.

g) Check the Feed chute & Grit cone discharge pipe (feed pipe).

h) Check the pressure frame liners & Bolts condition.

i) Check the Classifier drive station condition & Oil level.

j) Check the seal air pipe condition.

k) Check the accumulator pressure as specified. (Ensure Hydraulic pressure '0" before check)

l) Check Dam ring condition

m) Nozzle ring dummy plate condition

n) Water injection Nozzles Jam / condition

5) If any of the above have some abnormality, the same has to be rectified.

6) Confirm Man/Material not left inside the Mill / scraper chamber & discharge chute, before

BOXUP THE MILL

7) Before closing the door I bolt position to be ensured

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8) Clear Permits & Electrical Line Clearance.

9) Take Trail runs if required.

10) Give Clearance to start the Mill.

**Emergency / Emergency Shut OFF:**

1. If any injury takes place, provide First aid and inform to the Safety department or Call Emergency number 3108/9865152222.

**Reference Documents:**

1. Job safety Analysis.
2. Isolation Matrix.

<b>Job Safety Analysis</b>	Job: VRM Inspection	Date: 27/10/2012	Analysis by: Section Engineer	Reviewed by: Section Head
Title of employee doing job: Mill Internals inspection	Supervisor: Section Engineer	Department: Mechanical	Section: RVRM; CVRM; Coal VRM	Approved by: HOD-Mechanical
Req'd/recommended PPE:				
<b>Sequence of Basic Job Steps</b>	<b>Potential Hazards</b>	<b>Recommended Safe Job Procedure</b>	<b>What Could Go Wrong</b>	<b>Corrective Action</b>



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Opening of mill doors	Hand injury / Leg injury	Use Proper tools and tackles and PPE	Tools may slip and fall	Ensure proper tools & tackles condition
Cool The Mill	Body injury	Barricade the Mill inspection doors Way	Heavy suction from the Mill doors may suck you or your belonging	Keep yourself away from the Inspection doors during(Mill Cooling) Fan running condition
Hydraulic Tension Unit LOTO optional	People legs/Hands may entrap between Table& Roller	Always Keep yourself & Team away from NIP points(Table – Rollers)	Rollers May Down slowly	Keep always Rollers down condition during maintenance.
Mill Internals Inspection	Burning injury	Always use hand Glove(must) during Mill internals inspection	Other parts of the Body may touch with Hot surfaces of the mill	Competent person only allowed for Mill inspection.
Mill Internals Inspection	Body injury	Use Wooden Flanks on the( walking area) TOP of the table Use safety belt for working above the pressure frame	Person may slip	Ensure packing condition Ensure the usage of safety belt
Mill box up	Hand injury / Leg injury	Use Proper tools and tackles and PPE	Tools may slip and fall	Ensure proper tools & tackles condition



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S L N o	Activity			Tag / Name of the Equipment							
				Isolation Type							
				Electrical Energy				Other Energy			
1	VERTICAL ROLLER MILL GENERAL INSPECTION	Name and Tag for the Equipme nt	361 MD2 Mill Main Motor	361SR1 Classifi er	361FN3 Mill Fan	361AS1u xiliary drive Chain not to be connecte d					
		Name and Tag for the Equipme nt	331BC1 Mill feed Belt	361FN3/ Booster fan	361 LD4 hot gas inlet louwer damper (In closed Conditio n)						
		Name and Tag for the Equipme nt	361SD2 hot gas inlet shut off damper (Inc losed Conditio n)	361LD5 Raw mill fan Out let Louwer Damper (Closed Conditio n)	Triple flap gate						