



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT
ARIYALUR
INSTRUMENTATION MANUAL**



Issue No. 01	Rev. No: 02	Effective Date: 20.09.2017	SOP/INST/012
Issued By: M.R		Approved By: HOD - INSTRUMENTATION	
SOP for Checking of Silo Extraction gates			

Scope: Checking of Silo Extraction gates.

Responsibility: Instrumentation technician.

Accountability: Instrumentation - Section Engineer.

PPE:

- Safety helmet
- Safety shoe
- Nose Mask
- Goggles
- Hand gloves

Tools required:

- Multimeter
- Tester
- Insulated Screw Driver
- Hand Blower
- Allen Key

Hazard Analysis:

Risks associated

Electrocution

Mitigating Measures

Use Insulated hand glove



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Procedure:

1. Get work permit and line clearance if required.
2. If the working height is more than 1.5 meters, follow the work at height permit system.
3. Use PPE.
4. Carry all the necessary tools in a tool bag.
5. Ensure the signal interlocks and block the interlock if necessary.
6. Blow/ clean the junction box and limit switches box.
7. Check the limit switch contacts by using multi meter with insulated probes.
8. Use manual wheel and declutch to operate the dosing valve for full open and full close and Observe limit switches operation.
9. Check all the terminal block / connection tightness
10. Ensure 4 mA in Position feedback converter output when dosing valve is fully closed condition and 20 mA in fully opened condition.
11. Check the torque switches operation.
12. Return clearance to Electrical.
13. Operate Dosing gate from local push button station to ensure full open and full close.
14. Operate Dosing gate and Compare position feedback converter output and CCR indication with respect to physical opening at site.
15. Retrieve the blocked signals interlocks.
16. Give the clearance for operation.

Emergency / Emergency Shut OFF:

1. If any unconsciousness is there, give First aid and inform to the Safety department or Call Emergency number 3108/9865152222/9750963761.



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Records/Annexure:

1. JSA as enclosed below.

JOB SAFETY ANALYSIS :(JSA)

Job Safety Analysis	Job: CHECKING OF SILO EXTRACTION GATES	Date:20.09.2017	Analysis by:	Reviewed by:
Title of employee doing job: INST - TECHNICIAN	Supervisor: SECTION ENGINEER	Department: INSTRUMENTATION	Section: PYRO, CEMENT MILL &PACKING PLANT	Approved by: HOD INSTRUMENTATION
Req'd/recommended PPE: SAFETY HELMET, SAFETY SHOES, GOGGLES, DUST MASK, HAND GLOVES				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
1. OPEN THE JUNCTION BOX & BLOW THE TERMINAL BLOCKS.	DUST MAY COME OUT OF THE JUNCTION BOX ELECTROCUTION	WEAR GOOGLES , HAND GLOVES & NOSE MASK BEFORE BLOWING ENSURE THE FITNESS CERTIFICATION FOR PORTABLE INSTRUMENTS	COUGHING,EYE IRRITATION MAY OCCUR RESULTING ELECTROCUTION	USE GOGGLES, DUST MASK AND HAND GLOVES CHECK THE INSTRUMENTS HEALTHINESS AND FITNESS CERTIFICATE VALIDITY
2. CHECK THE OPEN/CLOSE LIMIT & TORQUE SWITCHES BY USING MULTIMETER WITH INSULATED PROBES.	LIVE SUPPLY IS EXPOSED AT THE MEASURING POINT NEAR THE PROBE	ENSURE THE PROBE IS PROPERLY INSULATED	RESULT IN ELECTROCUTED	USE INSULATED TOOLS & PROBES
3. CHECK THE TERMINAL BLOCKS TIGHTNESS	LIVE SUPPLY IS EXPOSED AT THE METTALIC PART OF THE SCREW DRIVER/TESTER.	ENSURE THE METTALIC PART OF THE TESTER/SCREW DRIVER IS INSULATED PROPERLY.	RESULT IN ELECTROCUTED	USE INSULATED TOOLS & PROBES
4. OPERATE THE GATE & CHECK THE OUTPUT mA	PHYSICAL INJURY DURING GATE MOVEMENT	STAY AWAY FROM MOVING PARTS	PHYSICAL INJURY	STAY AWAY FROM MOVING PARTS