



**DALMIA CEMENT (B) LIMITED – CEMENT PLANT
DALMIAPURAM**



Issue No. 02	Rev. No: 01	Effective Date: 22.05.2015	SOP/Elect /07
Issued By: S & P		Approved By: Elect. & Inst Head	
SOP For Bulk Oil Circuit Breaker Maintenance			

Scope/Purpose : This Procedure to establish and ensure safe method of Bulk Oil Circuit Breaker Maintenance

Responsibility : Section Supervisor – Electrical

Accountability : Head-Electrical

PPE:

1. Safety shoe,
2. Rubber Gloves

Tools:

1. Insulated tools

Hazard Analysis:

Risks associated	Mitigating Measures
Injury due to charged spring	Proper handling methods
Injury due to tip over of breaker	Proper handling methods
Slip Injury due to oil	Proper housekeeping / cleaning methods

Training needs:

1. Usage of tools and Nature of Hazards
2. Usage of PPEs

Procedure:

- a) Get work permit from the concerned Electrical section in-charge.
- b) Draw out the breaker from cubicle.
- c) Ensure Spring in discharged condition before starting the maintenance.
- d) Clean the circuit breaker.
- e) Check the physical condition of oil bottles.
- f) Check the oil level/oil quantity in the oil bottles.



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- g) Check the BDV value of the oil.
- h) Check the fixed & moving contacts.
- i) Check, clean & lubricate the spring and spring charging mechanism.
- j) Check the auxiliary contacts & limit switches.
- k) Check the opening/closing coil and measure its resistance value.
- l) Check contact resistance value at closed condition.
- m) Check the close/open operation manually.
- n) Check the close/open operation electrically in Test position.
- o) Switch off the AC & DC sources and ensure the spring in discharged condition.
- p) Restore the breaker in cubicle.
- q) Return the Work permit.

Emergency / Emergency Shut OFF:

1. If any injury is there, and inform to the safety department or call Emergency number 251 / 254 / 568 /9842994062.

Records/Annexure:

1. JSA is enclosed below.



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JOB SAFETY ANALYSIS: (JSA)

Job Safety Analysis	Job: Bulk oil Circuit Breaker maintenance	Date:	Analysis by:	Reviewed by:
Title of employee doing job: Electrician	Supervisor: Section Supervisor	Department: Electrical	Section: Plant	Approved by:
Req'd/recommended PPE: Safety shoe & Rubber Gloves.				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Cleaning / checking of circuit breaker	Injury due to Bounce of handle	Ensuring proper engagement of manual spring charging handle	Slip of handle if not engaged properly / lock mechanism in not in tact	Usage of proper handle / ensuring proper lock mechanism
Cleaning / checking of circuit breaker	Injury due to release of charged spring	Ensuring spring is discharged before assessing any moving part	Mishandling / Improper flag operation	Proper handling & ensuring flag operating mechanism
Lifting /shifting of circuit breaker	Injury due to slipping	Ensuring proper holding position & usage of suitable material for lifting & shifting of breaker	Improper holding methods / inferior lifting arrangement	Before handling, refer manual for proper holding methods & use tested and approved lifting accessories
Cleaning / checking of circuit breaker	Injury due to slipping	Proper cleaning methods & housekeeping practices	Oil spillage during maintenance work	Proper handling methods

HEAD E & I

HEAD TECHNICAL