



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



Issue No. 01	Rev. No: 02	Effective Date: 07.07.2017	ELEC/SOP/013
Issued By: M.R		Approved By: HOD - ELECTRICAL	
SOP for Maintenance of Slip Rings of Packer and Stacker / Reclaimer			

SCOPE : Describing Slip Rings maintenance of Packer & stacker /Reclaimer

Responsibility : Electrician /Engineer

Accountability : Section In-charge

PPE:

1. Nose mask
2. Goggles
3. Cotton Gloves
4. Safety shoes
5. Safety helmet

Tools:

1. Megger
2. Multi meters
3. Wire brush
4. Hand Blower
5. Waste Cloth
6. Suitable spanner
7. Hammer
8. Insulated Screw driver

Hazards:

Risk Associated
Electrical Shock
Minor body injury

Mitigating Measures
Tested Electrical Rubber Hand Gloves
Safety shoes, gloves, helmet, goggles

Training needs:

1. Electrical shock recovery Training
2. Emergency preparedness
3. First aid including CPR training



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Procedure:

1. Take the LOTO for the particular equipment as per ELEC/SOP/003.
2. Clean the Slip ring Chamber body with Wire Brush, Hand Blower & Cloth. While cleaning, use PPEs like Nose mask, goggles and hand Gloves.
3. Open the Slip ring Cover. While opening, handle the covers firmly.
4. Discharge the Power terminals after opening the Covers.
5. Check the Power Cable Connection Tightness & Condition of Terminal Block with proper tools.
6. Clean the Slip Ring Chamber, Carbon Brushes & Holders with hand blower and cloth. While cleaning use PPEs like Nose mask, goggles and hand Gloves.
7. Check the Condition of Carbon Brushes, Measure the Length of Carbon Brushes.
8. Replace the Carbon Brushes, if worn out.
9. Check the Spring Tension of the Carbon Brush Holders properly.
10. Check the Condition of Insulators in all the Slip Ring & Carbon Brush Holders.
11. Check the Insulation Resistance of the Slip rings. After checking the Insulation resistances again discharge the slip ring power terminals.
12. Close the Slip ring cover and box up with Silicon Paste to restrict the dust entry.
13. Check the Slip ring Chamber body earthing.
14. Clear the LOTO as per ELEC/SOP/004.
15. Take Trial if Possible and record all Check point in the concern Check list.

Emergency / Emergency Shut OFF:

1. If electrical shock injury or body injury 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. Refer Line clearance certificates.
2. JSA as enclosed below.

JOB SAFETY ANALYSIS:(JSA)

Job Safety Analysis	Job: Slip ring maintenance	Date:	Analysis by:	Reviewed by:
Title of employee doing job: Electrician	Supervisor: Section Engineer	Department: Electrical	Section: Plant	Approved by:
Reqd./recommended PPE: Nose mask, Goggles, Cotton Gloves, Safety shoes, Safety helmet.				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Put on PPE, Take Permit				
Cleaning of Slip Rings	Eye irritation,	Wear goggles	Damaged goggles/non standard goggles/ Not wearing goggle	Periodic replacement / Proper training/ Follow SOP
	Respiration problem	Wear Nose mask	Damaged nose mask/Not wearing Nose mask	Periodic replacement/ Proper training/ Follow SOP
	Body injury	Wear safety helmet, safety shoes , hand gloves	Tools and material may fall on human body	Without PPE don't perform the job
Open the Slip Ring box cover and discharge	Electrical shock	Use Tested electrical rubber hand gloves	Damaged Gloves/ Not checked before use	Periodic replacement/ To check for Damage before use
		Use proper tools	Tool may be damaged PPE damaged	Periodic replacement. Check before use
	Tool slip and minor injury	Use proper tools	Nonstandard /damaged tools	Training for tools handling/ Periodic replacement
Check the tightness of terminals	Body injury	Wear safety helmet, safety shoes , hand gloves	PPE Damaged	Periodic replacement. Check before use
Check the insulation resistance and discharge	Electrical shock	Use good meter with good probes	Faulty meters / Damaged probes	Meter shall be calibrated periodically. Check the condition before use.
Checking Carbon Brush Tension	Cut injury in finger	Use proper tools	Tools faulty	Check tools before use.