



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



Issue No. 01	Rev. No: 01	Effective Date: 07.07.2017	SOP/Elect /036
Issued By:		Approved By: HOD - ELECTRICAL	
SOP For Overhead Electrical Insulators cleaning			

Scope/Purpose : This Procedure to establish and ensure safe method of Overhead Electrical Insulators cleaning in Substation.

Responsibility : Section Engineer – Electrical

Accountability : Head-Electrical

PPE:

1. Safety helmet,
2. Safety shoe,
3. Tested Electrical Rubber Hand Gloves
4. Nose mask
5. Safety belt

Tools:

1. Cotton cloth/cotton waste

Hazard Analysis:

Risks associated

Fall from height
Dust

Mitigating Measures

Use of Safety belt
Nose mask

Training needs:

1. PEP TALK about Nature of Hazards
2. Awareness about electrical circuits
3. Usage of PPEs



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Procedure:

- 1) Get work permit from the concerned Electrical section in-charge.
- 2) Take LOTO permit as per procedure SOP 03
- 3) Ensure the overhead lines are physically isolated.
- 4) Discharge the Overhead lines and earth the system thru' earth rods till the job is completed.
- 5) Barricade the cleaning area from others.
- 6) Tool box instruction to be given to the contract workers including contract supervisor before entering the switch yard.
- 7) Use ladder to approach the insulators.
- 8) Use Hand gloves & Safety belt during cleaning.
- 9) Supervisor must present at the site during the work for monitoring the people for safe activities / conditions.
- 10) Clean the insulators.
- 11) Remove the foreign materials from the work site after cleaning.
- 12) Remove the ladder and Barricades.
- 13) Remove the Discharge rods.
- 14) Return the Work permit.

Emergency / Emergency Shut OFF:

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.

Records/Annexure:

1. JSA is enclosed below.
2. LOTO Electrical Isolation permit
3. Isolation matrix.



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JOB SAFETY ANALYSIS: (JSA)

Job Safety Analysis	Job: Overhead Electrical insulators cleaning	Date: 05.05.2013	Analysis by: SE	Reviewed by: SH
Title of employee doing job: Electrician & Contract helpers	Supervisor: Section Supervisor	Department: Electrical	Section: Plant	Approved by: HOD
Reqd./recommended PPE: Safety helmet, Safety shoe, Rubber Gloves, Nose mask & Safety belt.				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Insulator Cleaning	Injury due fall from height	Use /Good condition Ladder	Slip from ladder/ Damage ladder	Usage of proper ladder
		Use safety belt/ Check belt condition before use	Not wearing safety belt/Not checked belt condition.	Ensuring proper lock arrangement/ Height work training
	Eye irritation of dust.	Wear goggles	Damaged goggles/non standard goggles/ Not wearing goggle	Periodic replacement / Proper training / Follow SOP
	Respiration problem of dust	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/ Proper training / Follow SOP



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Insulator Cleaning	Electric shock due to live circuit	Proper Barricading & physical isolation of live areas	Lack of knowledge about Live circuit	Work permit with LOTO system & Appropriate Tool box instruction
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Isolation Matrix

Activity	Isolation Type	Tag /Name of the Equipment							
		Electrical Energy					Other Energy		
Maintenance of 25/30 MVA Power transformer	Name and Tag for the Equipment	1.Open CB -8 at CMBH LC	2.Open Incoming SF 6 breaker at switch yard	3.Open Incoming Isolator at switch yard	4.Open 11 KV breaker at 110 KV control room	nil	nil	nil	nil