



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



|  |             |                                 |             |
|--|-------------|---------------------------------|-------------|
| Issue No. 02                               | Rev. No: 01 | Effective Date: 22.05.2015      | SOP/ELEC/14 |
| Issued By: S & P                           |             | Approved By: Elect. & Inst Head |             |
| SOP FOR USAGE AND MAINTENANCE OF BATTERIES |             |                                 |             |

**Scope/Purpose** : This SOP is applicable to Safe working for usage and maintenance of Batteries.

**Responsibility** : Electrician / Supervisor

**Accountability** : Section In-Charge

**PPE:**

1. Goggle
2. Nose mask
3. Hand gloves
4. Safety Shoes

**Tools:**

1. Hydrometer
2. Insulated Spanners / Tools
3. Voltmeter

**Hazard Analysis:**

**Risks associated**

Burn injury due to flammable gases  
Burn injury due to acid  
Suffocation due to toxic gases  
Electric shock

**Mitigating Measures**

Exhaust fan should run while doing job  
Usage of acid proof gloves  
Usage of nose mask  
Usage of Insulated tools and Safety shoes

**Training needs:**

1. Fire fighting
2. Emergency preparedness
3. First aid procedure
4. Battery maintenance procedures

**Procedure:**

1. Use Proper PPE & tools
2. Take proper work permit from electrical & safety dept as per the work condition.



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3. Before enter into room, ensure the Exhaust fan in the Battery room is continuously running.
4. Ensure Room lighting is good.
5. Ensure the battery is isolated from the incoming supply.
6. Ensure the battery is isolated from the outgoing supply (or) ensure the battery is not in discharge mode.
7. Keep entrance door open for emergency exit.
8. Don't wear watches or rings made of metals.
9. Don't smoke in the battery room.
10. Don't short battery terminals.
11. Check the battery as per maintenance procedure.
12. During maintenance avoid electrolyte & acid spillage.
13. After the job completion clean the room and exit.

**Emergency / Emergency Shut OFF:**

1. If burn injury or electric shock is there, First aid will be given and inform to the Electrical department or Safety department or Call Emergency number 251 / 523 / 222 / 98651 77444.

**Records/Annexure:**

1. Refer Line clearance in Electrical department.
2. JSA is enclosed below.



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**JOB SAFETY ANALYSIS: (JSA)**

| <b>Job Safety Analysis</b>  | Job: Usage and Maintenance of batteries | Date: 15 – 06 - 2012                          | Analysis by:  | Reviewed by:                                   |
|---|---|---|---|--|
| Title of employee doing job: Electrician                            | Supervisor: Section Engineer            | Department: Electrical                        | Section: Load centre  | Approved by:                                   |
| Req'd/recommended PPE: Goggle, Nose mask, Hand gloves, Safety shoes |   |   |   |  |
| <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>                       |
| Open the entrance door  | Suffocation                             | Ensure Exhaust fan is running                 | Toxic gases must present                                    | Exhaust fan should run continuously            |
| Cleaning the Batteries  | Electric shock / Burn injury            | Use acid proof hand gloves / use safety shoes | Acid spillage / Touching the terminals                      | Leak proof breather plugs / Use of hand gloves |
| Checking the electrolyte condition                                  | Acid spillage / Burn injury             | Use acid proof hand gloves                    | Acid spillage   | Leak proof breather plugs                      |
| Checking the Battery / Cell voltage                                 | Electric shock                          | Use Proper Instruments & Insulated Tools      | Improper Electrical Insulation & wrong measuring instrument | Use proper instruments & safety shoes          |

HEAD E & I

HEAD TECHNICAL