



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



Issue No. 01	Rev. No: 02	Effective Date: 07.07.2017	SOP/ELEC/020
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Issued By:	Approved By:
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SOP FOR USAGE AND MAINTENANCE OF BATTERIES

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

Responsibility : Electrician / Engineer

Accountability : Section Head

PPE:

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

Tools:

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

Hazard Analysis:

Risks associated

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

Mitigating Measures

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
5. MSDS training



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Procedure:

1. Take proper work permit from electrical & safety dept as per the work condition.
2. Clean the all Batteries with cloth / hand blower while cleaning, use PPEs like Nose mask, acid resistant Hand Gloves and Goggles.
3. Remove the corrosion at the terminal connection of the battery. While removing, use acid resistant hand gloves.
4. Check the specific gravity of electrolyte with hydro meter.
5. Top up the electrolyte with de-mineralized water / battery water if required. While top up, avoid spillage of water.
6. Check the individual voltage of each batteries with multi meter.
7. Replace the battery if voltage is not there in the individual battery.
8. If battery is replaced, old battery is to be returned to store for recycling as per SOP / ELEC / 022.
9. Check the tightness of power cable with proper tool while checking the tightness, use PPEs like acid resistant hand gloves.
10. Discharge the batteries for not more than five hours if required.
11. Then check the individual batteries voltage total voltage of battery bank
12. Record the all check points in the concern check list

Emergency / Emergency Shut OFF:

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 3108/9865152222 / 9750963761.



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Records/Annexure:

JSA is enclosed below.

JOB SAFETY ANALYSIS: (JSA)

Job Safety Analysis	Job: Usage and Maintenance of batteries	Date:	Analysis by:	Reviewed by:
Title of employee doing job: Electrician	Supervisor: Section Engineer	Department: Electrical	Section:	Approved by:
Req'd/recommended PPE: Goggle, Nose mask, acid resistant Hand gloves, Safety shoes, PVC Apron				
Sequence of Basic Job Steps	Potential Hazards	Recommended Safe Job Procedure	What Could Go Wrong	Corrective Action
Cleaning the Batteries	Electric shock / Burn injury	Use acid proof hand gloves / use safety shoes/ PVC Apron	Gloves may be not in good condition	Re-check before use.
Checking the electrolyte condition	Acid spillage / Burn injury	Use acid proof hand gloves/ PVC Apron	Gloves may be not in good condition	Re-check before use.
Checking the Battery / Cell voltage	Electric shock	Use Proper Instruments & Insulated Tools	Improper Electrical Insulation & wrong measuring instrument	Re-check the measuring instrument before use.