



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



|  |             |                               |                |
|--|-------------|-------------------------------|----------------|
| Issue No. 01                                 | Rev. No: 02 | Effective Date: 07.07.2017    | SOP/Elect /055 |
| Issued By:                                   |             | Approved By: HOD - ELECTRICAL |                |
| SOP For LTMR Replacement and Program Loading |             |                               |                |

**Scope** : This Procedure to establish and ensure safe method of LTMR Replacement and Programming.

**Responsibility** : Section Engineer/Shift Engineer – Electrical

**Accountability** : Section Head-Electrical

**PPE:**

1. Nose mask
2. Goggles
3. Cotton Gloves
4. Safety shoes
5. Safety helmet
6. Electrical Rubber Hand gloves

**Tools:**

1. Insulated tools
2. Hand Blower
3. Laptop with Communication cables
4. MCC Feeder Rack in/ out handle

**Materials:**

1. LTMR

**Hazard Analysis:**

**Risks associated**

Injury  
Electric shock

**Mitigating Measures**

Use of proper Handling tools  
Use of Proper Isolating, Testing procedure & Insulated tools

**Training needs:**

1. Emergency preparedness
2. First aid training
3. LTMR Program Knowledge



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**Procedure:**

1. Take Electrical Work permit for LTMR Replacement and programming.
2. Switch OFF the Power Supply (Control MCB remains ON condition) and Remove the Feeder HMI port in LTMR
3. Plug the Laptop HMI port in LTMR.
4. Communicate the LTMR through Laptop by selecting Connect icon in Power suite software.
5. Click "LTMR to PC" for Download data's to Laptop.
6. Save as the Setting's file in Laptop Desktop with Corresponding feeder Name.
7. If required Download Logic file also ( DOL or RDOL)
8. Note down the HMI, Node address, Contactor Rating and FLC like major data's.
9. By selecting Disconnect icon to disconnect the LTMR Communication to Laptop in power suite software then Unplug Laptop HMI port in LTMR.
10. Switch OFF Control MCB and Plug out the control cable to Door.
11. Rack out Feeder Module by using rack out handle. While rack out use PPEs like goggles and Electrical Rubber Hand gloves.
12. Clean the Feeder Module with Hand Blower & Cloth, while cleaning use PPEs like Nose mask, goggles and hand Gloves.
13. Note down the connection details for Power and Control terminals.
14. Remove the Control Connection (Plugs) in LTMR and Power Cable From Power Contactor.  
(Power cable was taken through LTMR).
15. Replace Old LTMR with Same Model New LTMR in Feeder Module with Proper tools.
16. Connect Control and Power Connections in LTMR and power Contactor with proper tools.
17. Cross Check the connections with earlier noted data.
18. Remove the Profibus connection plug in LTMR.
19. Rack in the Feeder by using rack out handle. While rack in use of PPEs like goggles and Electrical Rubber Hand gloves.



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20. Ensure the Profibus connection plug in LTMR (Should be removed condition).
21. Plug in the Control cable to Door and Switch ON Control MCB. While switch on use of PPEs like goggles and Electrical Rubber Hand gloves.
22. Plug the Laptop HMI port in LTMR.
23. Communicate the LTMR through Laptop by selecting Connect icon in Power suite software.
24. Browse and select the setting file which was downloaded for particular feeder then Click “PC to LTMR” for Upload data’s from Laptop.
25. If required Upload Logic file also ( DOL or RDOL)
26. By selecting Disconnect icon to disconnect the LTMR Communication to Laptop in power suite software.
27. Communicate the LTMR through Laptop by selecting Connect icon in Power suite software.
28. Click “LTMR to PC” for Download data’s to Laptop.
29. Cross check the Settings, Node Address and HMI address with earlier noted data.
30. By selecting Disconnect icon to disconnect the LTMR Communication to Laptop in power suite software.
31. Switch OFF control MCB and Connect Profibus Connector in LTMR.
32. Switch ON the Control MCB and Check the Bus Fault Status, if appears check Profibus connection otherwise Remove the Laptop HMI plug and Connect the Feeder HMI plug in LTMR.
33. Switch ON the Power Supply and take trial Run through DCS.
34. Defeat the Feeder and Remove the Feeder HMI port in LTMR.
35. Plug the Laptop HMI port in LTMR.
36. Communicate the LTMR through Laptop by selecting Connect icon in Power suite software.
37. Click LTMR to PC for Download data’s to Laptop.
38. Check the Running parameter of the motor.
39. By selecting Disconnect icon to disconnect the LTMR Communication to Laptop in power suite software.



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40. Remove the Laptop HMI plug and connect the Feeder HMI plug in LTMR.

41. Close the Feeder door carefully and give clearance for operation.

**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.

**Records/Annexure:**

1. JSA as enclosed below.

**JOB SAFETY ANALYSIS: (JSA)**

| <b>Job Safety Analysis</b>  | Job: LTMR replacement and Program loading    | Date:  | Analysis by:   | Reviewed by:   |
|---|--|--|--|--|
| Title of employee doing job: Electrician  | Supervisor: Section Engineer/ Shift Engineer | Department: Electrical                         | Section: Plant   | Approved by:   |
| Reqd./recommended PPE: Safety helmet, Safety shoe, Rubber Gloves, Cotton hand gloves & Full body harness with double lanyard. |  |  |  |  |
| Sequence of Basic Job Steps   | Potential Hazards                            | Recommended Safe Job Procedure                 | What Could Go Wrong  | Corrective Action                                    |
| Feeder Rack in/Out  | Electrical Shock                             | Wear Tested Electrical Rubber Hand gloves      | Damaged Gloves/ Not checked before use                       | Periodic replacement/ To check for Damage before use |
| Cleaning of Feeder Module   | Eye irritation,                              | Wear goggles                                   | Damaged goggles / non standard goggles / Not wearing Goggle. | Periodic replacement / Proper training               |
|   | Respiration problem                          | Wear Nose mask                                 | Damaged nose mask/ Not wearing Nose mask                     | Periodic replacement / Proper training               |
|   | Body injury                                  | Wear safety helmet, safety shoes , hand gloves | Tools and material may fall on human body                    | Without PPE don't perform the job                    |
| Changing of LTMR  | Tools slip                                   | Use suitable tools                             | Tool may be damaged  | Tool box talk<br>Periodic replacement                |