



DALMIA CEMENT (B) LIMITED – DALMIAPURAM



PRODUCTION DEPARTMENT

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| Issue No. 02 | Rev. No: 01 | Effective Date: 22.05.2015 | SOP/PROD/17 |
| Issued By: S & P | | Approved By: Head – Production | |
| SOLID FUEL TRANSPORTATION, GRINDING & STORAGE OF PULVERISED FUEL – FLS VERTICAL COAL MILL | | | |

SCOPE : SOLID FUEL TRANSPORTATION, GRINDING & STORAGE OF PULVERISED FUEL – FLS VERTICAL COAL MILL

RESPONSIBILITY : CCR executive.

Accountability : Section Head – Coal mill.

PPE:

1. Safety goggles,
2. Safety helmet,
3. Safety shoe,
4. Mask,
5. Cotton Gloves.
6. Safety harness(Full body)

TOOLS:

1. Poking bar,
2. Hammer.
3. Showel

Hazard:

Risks associated:

Fall from height,

Fall of tools;

Hit of Hammer in hand;

Mitigating Measures

Use of safety harness

Carry the tools in tool bags

Trained to be engaged

Procedure:

1. Get clearance from Maintenance if coal mill had been stopped for long stoppage.
2. Get the clearance from FLS Coal Reclaimer and Coal Mill Machinery Attendant in accordance with Work Instruction for starting Coal Transport L2N Group & ensure that the clearance is obtained as per the same.



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3. Start the group L2N and ensure that all the drives are running.
4. Check and ensure from Coal bin weights that Raw Coal and other fuel (Lignite etc. if any) are adequately available for starting the Coal Mill.
5. Get the clearance from Coal Mill M/A in accordance with Work Instruction for starting the Coal Mill plant and ensure that clearance is obtained as per Work Instruction.
6. Inform the Switch Board or electrical charge hand or shift supervisor about starting of coal mill.
7. Check and ensure that recirculation damper is in closed position.
8. Ensure that FLS Kiln is running.
9. Select the bin loading group with either to Kiln fine coal bin or PC fine coal bin depending upon the coal bin level.
10. Start the coal dust storage bin loading group L5N and ensure that all drives are running.
11. Start the coal mill auxiliaries L4N group and ensure that all drives are running.
12. Ensure operating pressure between 50-75bar and rollers are lifted. Set the classifier speed min. 500 rpm.
13. Start the coal mill fan group L4B and ensure that Mill Inlet, B/F Inlet and B/F Outlet quick acting flaps are opened and ensure coal mill fan started and running normally.
14. Start the coal mill waste gas fan and ensure that the fan is started and running normally.
15. Increase the Coal Mill fan speed slowly to 600 rpm.
16. Start the Coal Mill and ensure that Mill is started and running normally.
17. Monitor the fan load and after mill temperature.
18. Draw the hot gas by opening the waste gas fan inlet dampers one by one slowly. Watch the raise in the mill outlet temperature.
19. Set the chain feeder speeds of CF1,2,3 & 4 depending on the fuel mix required and available.



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20. Start the Mill group L4D when mill outlet temperature is 75°C and ensure that all drives are running.
21. Monitor mill load, mill outlet temperature, DP across the mill and ensure that the rollers are lowered.
22. Operate the Plant at steady state and increase the feed rate to optimum level by altering the hot air quantity and maintaining mill outlet temperature by adjusting the B/F fan speed, waste gas fan speed and recirculation damper and also by maintaining operating parameters as
 - a. Mill outlet temperature - around 75°C to 95°C
 - b. Mill vibration - below 18mm/sec
 - c. Mill differential pressure - 450-750 mmwG
 - d. Mill inlet draught - 40 to 90 mmwG
 - e. Coal B/F Inlet temperature - < 95 deg C
 - f. If the operating parameter goes beyond the suggested range, take appropriate action to bring it back to the optimum range.
23. Adjust the classifier speed to maintain fineness of coal dust residue below 20% on 90 micron sieve.
24. Divert the recirculation air after coal mill fan to mill inlet to maintain air volume or process parameters.
25. When the B/F inlet temperature goes beyond 100°C if N₂ is not purged on automatically, ask the coal mill Machinery Attendant to purge N₂ manually.
26. Operate the coal mill at optimum level and ensure that the parameters are recorded automatically and monitor the parameters. In case of any problem in the auto recording, inform the concerned engineer and get the problem is corrected.
27. Get the laboratory information as reported and record the same in the laboratory report and take corrective action to maintain the operating parameters in the suggested range.
28. Record the stop and starting time of the mill with the probable reasons in the stoppage report.
29. Record the fault details of equipment in fault register and inform the same to the concerned supervisor in shift.
30. Change the coal dust loading to other bin as required or when bin level is full ie 90 MT



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31. Check and ensure that work instructions to coal mill Machinery Attdt. are carried out properly and take corrective steps if deviations are observed.

32. Coal mill plant will be stopped due to any one of the following reasons

33. Preventive maintenance

34. Break down

35. Power failure / Power change

36. Planned maintenance

37. Restart the Plant after getting clearance from maintenance or other related personnel.

Procedure for stoppage of FLS Coal Mill Plant

- Stop the chain feeders group L3N
- Stop the mill group L4D after rollers are raised.
- Stop the waste gas fan
- Stop the Coal mill fan group L4B
- Stop the Coal mill auxiliaries group L4N after 10-15 minutes
- Stop coal dust conveyor group L5N
- Ensure that recirculation damper is to zero position

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| Job Safety Analysis | Job :SOLID FUEL TRANSPORTATION, GRINDING & STORAGE OF PULVERISED FUEL | Date: 01 – 09 - 2013 | Analysis by: Section Incharge | Reviewed by: Section Head |
| Title of employee doing job: | Supervisor: Sec. Incharge | Department: production | Section: Coal mill | Approved by: Department Head |
| Req'd/recommended PPE: | | | | |
| Sequence of Basic Job Steps | Potential Hazards | Recommended Safe Job Procedure | What Could Go Wrong | Corrective Action |



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| Cleaning of the Coating at belt discharge chute | pipe hit to the person | Hold the Pipe properly, if there any possible tie it one end. | Pipe may hit the person while cleaning the chute. | Hazards to be explain to the people who are working in that area by safety PP talk, tool box talk. |
| Inspecting the chute | Fall of the person | While inspecting the chute use safety belt and make proper approach to view the chute. | Person may fall on to the chute due to slip. | Use Proper safety belt to inspect the chute. |
| Cleaning of coal spillage in belt conveyor bottom | Showel may entrapped into conveyor | Ensure showel should not touch the conveyor while cleaning | Person may entrapped into conveyor if he hold strongly | Stop the conveyor and start the conveyor after clean the spillage material |

Emergency Shut- off:

1. In case of belt is moving, Emergency pull chord switch should be activated by the person.
2. If body injury is there, First aid will be given and inform to the Safety department or Call Emergency number 233/555/9865125176/9865177444.

Records/Annexure:

1. Refer Line clearance certificates.
2. JSA as enclosed below.

HOD PRODUCTION

HOD TECHNICAL