**ACTIVITY: MAINTENANCE OF DEDUSTING FAN**

**Objective : -** Safe Maintenance of CA fans For Optimum performance

**Scope : -** Sinter plant.

**Ref. : -**

**Responsibility : -**Engineer In charge and workmen on the job

**PPEs to be used**

Helmet, Safety shoes, hand gloves, Dust mask and safety goggle.

**WORK NO 1: CLEANING OF CA FAN IMPELLER**

**WORK NO 2 : REPLACEMENT OF CA FAN IMPELLER**

**WORK NO 3: BALANCING OF CA FAN**

**Aspect - impact**

Dust Generation Resource Depletion.

Scrap generation Air pollution, Resource depletion**.**

**Hazards identified -**

**Mechanical hazard:**

Inhaling of dust.

Fall of material.

Fire/Heat hazard.

Exposure to excessive noise.

Failure of sling, chain pulley block, improper hooks welding.

Fall of a person.

Presence of CO

**Electrical hazard**

Electrical shock in welding,

**Procedure –**

**Work No. 1: WORK NO 1: CLEANING OF CA FAN IMPELLER**

1. Take clearance from production before starting of work
2. Take electrical shut-down of require CA fan
3. If more than one worker is relying on the protection of an isolation, then all workers should apply their own locks in master lock out box
4. Press local push emergency button of the Fan.
5. Discharge valve of the CA fan has to be closed
6. Wait till impeller gets stopped.
7. Remove the impeller casing front cover
8. Clean accumulated dust of impeller
9. After cleaning impeller fix casing front cover
10. After completion of the job restore all safety guards, take electrical clearance and complete the restoration of equipment as per shut down procedure.
11. Follow housekeeping procedure as per instruction specified by WI/MAINT/91.
12. Take trial, check vibrations, if within limit hand over to operation or get it corrected.

**WORK NO 2 : REPLACEMENT OF CA FAN IMPELLER**

1. Take clearance from production before starting of work
2. Take electrical shut-down of require CA fan
3. If more than one worker is relying on the protection of an isolation, then all workers should apply their own locks in master lock out box
4. Press local push emergency button of the Fan.
5. Discharge valve of the CA fan has to be closed
6. Wait till impeller gets stopped.
7. Remove the cone
8. Remove the impeller casing front cover
9. Remove impeller by puller
10. Fix the new impeller
11. Fix the cone and maintain equal gap
12. After completion of the job restore all safety guards, take electrical clearance and complete the restoration of equipment as per shut down procedure.
13. Follow housekeeping procedure as per instruction specified by WI/MAINT/91.
14. Take trial, check vibrations, if within limit hand over to operation or get it corrected.

**WORK NO 3: BALANCING OF CA FAN**

1. Take clearance from production before starting of work
2. Take electrical shut-down of require CA fan
3. If more than one worker is relying on the protection of an isolation, then all workers should apply their own locks in master lock out box
4. Press local push emergency button of the Fan.
5. Discharge valve of the CA fan has to be closed
6. Before starting the work, fan should be in stand still state. No external devise to be used to stop the fan to zero state.
7. Wait till impeller gets stopped.
8. Remove the impeller casing front cover
9. Weld excitation/test/correction mass as per instruction by CBM expert.
10. Close the casing cover.
11. Clear the S/D of CA fan & give clearance to start the fan.
12. Once fan started only 1 person along with CBM engineer will go to capture vibration readings under closed supervision of Engineer.
13. After capturing vibration readings stop CA Fan.
14. Take shutdown of CA Fan & wait till the impeller comes stand still
15. After vibration analysis open the casing & Weld correction mass as per CBM expert & close the casing.
16. Clear the electrical shutdown fan and take trials as per above procedure if vibration readings are satisfactory then take shutdown of fan.
17. Weld the piece fully and close the door.
18. If vibration readings were not satisfactory, then 2/3 more trials to taken as per CBM report.
19. Normalize the system, ensure all the safety guards are in place and release all equipment shutdowns and close the work permit.