**WORK INSTRUCTIONS FOR CLEANING UNDER THE BELTS, JAM & SPILLAGES**

**Responsibility:** Area In charge/Raw material authorized company workmen &in charge General Shift/ Company authorized General shift contractor supervisor

**IDENTIFIED HAZARDS**:-

1. Mechanical (falling /trip) Fall of return rollers

2. Person getting entangled with conveyor belt

3. Suffocation with dust

4. Fall of material from top

5. Non-use of PPE & WI

6. Improper house keeping

7. Inadequate local lighting

1. Dust
2. Chances of entanglement of cleaning tools with running belts
3. Human behaviour- Horseplay
4. Slippery surface

**Significant Aspects:**

1. Generation of dust

**PROCEDURE for cleaning below CB4 , CB6 , CB7, CB8\_1 & CB8\_2 belt in both furnaces**

1. Unauthorized operation or repair of any equipment is a punishable offence
2. The cleaning Supervisor should ensure that no member of the cleaning group is wearing loose clothes, and everyone has safety shoes, helmet, dust mask and white goggles and Hand gloves on.
3. If required switch on the lights for proper illumination.
4. The group should be equipped with their cleaning tools like ‘pawdas’ ‘ghamelas’, Pickaxe, crow bar etc. for this activity. Two persons should carry the stool provided and place it at the above location
5. Before starting the cleaning activity (especially between two belts running very close) one should ensure that he/she is at a safe distance from the running belt, and that there is no possibility of coming in contact with moving parts, in the course of the cleaning activity.
6. Area in charge has to contact control room engineer and put the belt in cleaning mode in PLC so that the belt keeps on running to perform the cleaning activity.
7. This cleaning should be done without removing the conveyor guards.
8. In the case of excess jamming of fines that requires removing the rollers, first conveyor belt has to be stopped by taking electrical shutdown by mechanical engineer. Proper safety to be taken for removing conveyor belt guard.In this case presence of Raw material In charge or Raw Material company authorized workmen/in charge General Shift/ Company authorized General shift contractor supervisor is required till the cleaning is done and then Mech engg. Is told to fit the roller & clear the electrical shutdown and removed conveyor belt guard is put into its place.
9. Fill the ghamelas with the spilled ore fines and pass it along from person to person. One person should empty the ghamela on to the conveyor standing on a stool, taking extreme care to ensure that no part of his body or clothes is likely to come in contact with the conveyor, If the ghamela accidently falls on the belt, immediately stop the belt by activating the pull chord, and retrieve it.
10. If for any reason, it is not possible to use the conveyor belt for clearing the fines, it should be accumulated in a heap in an open space
11. DO NOT go under the belt to collect it. The spillage has to be pulled out with the help of the ‘pawda’ or other tools by the person sitting at a safe distance away from the belt. If required, a longer bamboo handle has to be fitted to the ‘pawda’
12. For any emergency concerned with the conveyors, people should be familiar with the operation of pull chords.
13. While cleaning in congested areas, with limited space/headroom, one should ensure that one does not collide with different structures.
14. After the job is over if for any reason conveyor belt guard was removed, it should be put back into the place before starting the belt. After completion of job control room engineer has to be informed to put the conveyor belt back to normal mode in PLC.
15. HORSEPLAY IS STRICTLY FORBIDDEN. VIOLATORS WILL BE DEALT WITH VERY FIRMLY.
16. **THE BELTS/TAIL END/DRIVE END, WHICH DOES NOT REQUIRE TO REMOVE THE CONVEYOR GUARD FOR CLEANING PURPOSE.**
17. **IRON ORE SECTION**
    1. **Scrap Belt tail end drum, CB7 tail end drum of both furnaces-** Not required to remove the conveyor guards but in case of belt jamming with materials roller removal may be required. In that case above mentioned procedure (point no. 07 for roller removal) to be followed.
    2. **CB4 & CB6 both furnaces, -** Cleaning should be done without removing the conveyor guard.
18. **COKE SECTION- Tail End**
    1. **CB1 tail end, CB2 tail end, CB11 tail end, CB 8-1, CB 8-2, CB 3-1-1**
19. All the above doesn’t require removing the conveyor guard for cleaning; however, for CB 8-1 & CB 3-1-1 cleaned fines should be disposed at CB 8 -1 chute with properly provided platform arrangement. Care to be taken that during disposal of fines the equipment should not fall into chute & on to the running belt. Pull cord to be operated for retrieving the fallen object.
20. **THE BELTS/TAIL END/DRIVE END, WHICH REQUIRE TO REMOVE THE CONVEYOR GUARD FOR CLEANING PURPOSE.**
    1. **IRON ORE SECTION**
    2. **CB5 Tail end both furnaces**
    3. **COKE SECTION- Tail End**
    4. **CB 3-1, CB 3-2, CB 12**
    5. **COKE SECTION- Drive End**
    6. **CB 11, CB 8-1, CB 8-2, CB1 drive end, CB2 drive end**
21. **SIZER PLANT**
    1. **Sizer Plant fines Chut before & after sizer screen in both the furnaces**
    2. Inclusive of above-mentioned belt, if cleaning of other belts also required to remove the conveyor guard following procedure should be followed.
    3. When conveyor guard is required to remove, proper shutdown of conveyor belt should be done by pulling pull cord or by stopping with push button. In this case presence of Raw material In charge or Raw Material company authorized workmen/in charge General Shift/ Company authorized General shift contractor supervisor is required till the removed conveyor belt is put into its place. However, if roller removal is required proper electrical shutdown of the conveyor belt by mech. Engineer has to be taken.

All activities should be in adherence with VSS 360 conveyor guarding.

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| **Prepared By:**  Head – Production PID I | **Reviewed & Issued By:**  Management Representative | **Approved By:**  Head – Pig Iron Division |
| **Signature:** | **Signature:** | **Signature:** |
| **Date: 15.07.2022** | **Date: 15.07.2022** | **Date: 15.07.2022** |

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