**WORK INSTRUCTIONS FOR\_** **BLOW DOWN OF COOLING TOWER**

**Criteria: Flushing of the settled dust particles in the Cooling Tower sump / basin.**

**Overall Responsibility**: **Cooling Tower Officer/HBS Engineer**

**Identified Hazards:**

1. Contact with cooling tower water on pressure
2. Fall of person causing injury
3. Miscommunication between engineers at control room & area engg.
4. Nonuse of PPE
5. Improper house keeping
6. Inadequate local lighting

**Significant Aspect**:

Wastage of water

Slurry Generation

**PROCEDURE FOR BLOW DOWN OF COOLING TOWER:**

 Person doing the activity should wear all PPE’s (Safety goggles, safety shoes, hand gloves etc.) before starting the activity.

1. Unauthorized operation or repair of any equipment is a punishable offence
2. Before starting the activity, the shift in charge should be informed about the activity. Also, it should be carried out in the presence of a mechanical engineer.
3. First of all, the person doing the activity will coordinate with the control room engineer to check the water level of cooling tower, which has to be maintained at 1.55m3, the blow down cannot be started if the cooling tower level is below this mark.
4. If water level goes below this mark, the makeup water (addition) has to be started to bring the water level up to 1.55m3. This level has to be maintained throughout the activity and even after it. Thus, the control room engineer should continuously inform the person in charge about the water level.
5. Once the water level is maintained the valves of each cell of the cooling tower have to be opened one at a time.
6. Water has to be drained form each cell of the cooling tower and also through the valve at the pump area of the cooling tower. Arrangement of cutting set to be made before opening flanges, in case of failure in removing the nut bolt.
7. The flange of valve should be opened by the mechanical employee in the presence of mechanical engineer and water should be drained out for about 1-2 minutes (until the blackish slurry is blown out). Immediately inform to the mechanical engineer to close the valve. Each valve needs to be closed properly so that there are no leakages and further preventing the tank level from crossing the danger level.
8. The persons operating the valves should work in a calm and composed manner so as to avoid any accident. Also, the persons should not stand in front of the exit valve as the water comes out with pressure. Every person should be aware of all the safety rules and regulations.
9. In case of an emergency as in valve closing failure, the shift in charge should be informed and necessary emergency operation (viz. shutdown of furnaces) should be started. Ensure healthiness of bandara pump before starting of blowing activity, so as to maintain the o/h tank level.
10. Overhead tank level should be above 4.0-meter level before the above activity is to be started.

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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: 10.07.2023** | **Date: 10.07.2023** | **Date: 10.07.2023** |

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| 12.07.2021 | Procedure for blow down of cooling tower | Point no. 6,9 | 05 |
| 15.07.2022 | Procedure for blowdown of cooling tower | Change in format | 06 |