**WORK INSTRUCTIONS FOR** **HOT METAL TRANSFER FROM LADLE TO LADLE**

**Responsibility: PCM Incharge, PCM Pourers**

**Identified Hazards:**

1. Contact with hot Metal
2. Fall of ladle due to snapping of wire rope
3. Fall of ladle due to resting on another ladle
4. Spillage of metal due to collision of cranes
5. Spillage of hot metal due to boiling of metal
6. Spillage of metal due to overflow of ladle
7. Spillage of metal due to ladle puncture
8. Explosion due to spillage of metal
9. Explosion due to water clogging
10. Fire
11. Impact with ladle
12. Improper house keeping
13. Inadequate local illumination.
14. heat
15. Ladle puncture
16. Damage of crane due to metal splashing

**Human Hazards**

1. Nonadherence to PPE
2. Nonadherence to Work instructions

**Significant Aspect:**

Heat generation

Dust generation

1. Unauthorized operation or repair of any equipment is a punishable offence.
2. Ensure that only trained operators are operating the Hot Metal crane.
3. This activity should be compulsorily done under personal supervision of the PCM Incharge (unless done in emergency cases viz. ladle puncture)
4. This activity should be compulsorily done with the help of remote operation of crane
5. Personnel working in the area (PCM runner preparation) must wear safety goggle safety helmet, safety shoes.
6. Ensure that ladle in which metal is being transferred does not have cold metal jams in it.
7. Ensure that area is barricaded with link chains from all the side
8. Ensure that no person is standing in the vicinity of the ladle.
9. Ensure that there is no water clogging in the vicinity of the ladle.
10. Crane operator should stand at the safe distance ensuring that both the ladles are clearly visible to him.
11. Lift the ladle with the help of 50-ton hot metal crane.
12. Engage 10-ton hook.
13. Pour the metal slowly in to another ladle once ladle is half filled time gap of 5 min. to be kept to release trapped moisture, do not fill the ladle to the top rim.
14. Ensure that spout of ladle being poured is not touching to other ladle or the ladle that is lifted does not rest on the ladle placed on the ground at any point of time.
15. Ensure that ladle does not overflow.
16. Lower 10-ton hook slowly simultaneously taking the ladle slightly backwards.
17. Do not carry ladle in horizontal position.
18. Ensure that the area is properly illuminated.
19. Ensure that Ladle in which metal to be transferred should not have cover on top otherwise spillage will occur.
20. Access control normalized (immediate)
21. Log/register to be maintained for entry to restricted areas
22. GEO fencing system to be explored.
23. Ensure that crane box should not touch the tray platform at bf1side while transferring metal from one ladle to other

|  |  |  |
| --- | --- | --- |
| **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** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Amendment Record** | | | |
| **Revision date** | **Manual Section ref. and para** | **Brief details of revision** | **New Revision No.** |
| 12.07.2021 | Procedure for Hot metal transfer from ladle to ladle | Point no 23 | 05 |
| 15.07.2022 | Procedure for Hot metal transfer from ladle to ladle | Change in format | 06 |