**WORK INSTRUCTIONS FOR\_** **DIRECT LOADING OF PIGS IN TRUCKS**

**Responsibility:**

**Criteria:** To maintain Quality of Pig Iron by safe operation.

**Responsibility**: - Pig shifting in charge

**Identified Hazard**

1. Contact with hot water
2. Contact with hot fumes.
3. Contact with Metal chips
4. Pig falling on person
5. Fall of a person
6. Truck catching fire
7. Noise pollution leading to deafness.
8. Metal chips/Pigs falling on Truck glasses
9. Collision of trucks carrying pigs with JCB/Hitachi
10. Fall of loose material from walkways/ person getting struck with hand tool
11. Misjudging while lifting the pig
12. Misjudgment from driver
13. Heat
14. Minor metal eruption in the truck

**Significant aspect**

1. Depletion of Natural resources
2. Noise generation

**Procedure:**

1. Unauthorized operation or repair of any equipment is a punishable offence
2. Person involved in this activity should wear Safety shoe, Helmet, spectacle, Hand gloves, and Ear plugs/muffs.
3. Pig shifting in charge should ensure that truck availability and sufficient water is available in both the pig cooling tank viz. Bag House as well as Pig cooling recirculation tank, in case of any of pump failure.
4. Truck for direct loading at discharge end to be placed by giving proper guidance to truck driver with the help of whistle by standing towards driver side and both side visibility should be clear to the person giving direction.
5. During positioning /guiding of truck there should be no baghouse crane/wheel loader movement in way of the moving truck.
6. After placing truck driver should get down from truck and ensure that the ignition keys are taken out by the driver and are in his possession whenever the truck is parked.
7. If only one side truck is placed ensure that diverting chute is towards the truck.
8. After placing truck and ensuring the diverter chute is appropriately placed, pig shifting in charge should give clearance to pourer to start the pouring.
9. Start all the water sprays above truck before falling of pigs into trucks for proper cooling of pigs and avoid damage of truck lift.
10. PCM in charge should ensure hot metal sampling is done immediately after start of pouring to avoid delay of trucks.

10. Once the truck is full approximately 10.5t which is to be monitored physically, divert the chute in other side truck or if truck is not available pouring to be stopped.

11. Pig shifting in charge should ensure pigs are sufficiently cooled before the dispatch of the truck and ensure that water has been drained fully to avoid land contamination and burn injuries through water coming out from drainpipes.

12. If Second truck is not available in time due to some reason pig shifting in charge should ask pourer to stop the pouring /PCM till second truck is made available.

13. Once pouring is over, PCM to be cleaned of stickers immediately and truck to be released. Pig quality to be physically checked before vehicle released.

14. Truck placement area to be cleaned of chipping once in shift to avoid tyre puncture by ensuring diverter chute is in the opposite direction to the place which requires cleaning and by Locking PCM by lotto lock. Ensure loose pigs from chute are removed with help of lancing pipe to avoid accidental fall of pigs.

15. In case of accidental fire, pouring should be immediately stopped and fire extinguishing apparatus to be activated to extinguish the fire.

16. In case of accidental fire en route, the truck driver should use his portable fire extinguisher or should stop at any near fire hydrant point and extinguish the fire.

17. Beside the safety devices truck should be checked for effective self-starting, no truck should be deployed without effective self-starting system.

18. The truck can be towed away by using proper safe tow lines in case of failure of self-starting system, this should be done under the supervision of the concerned area in charge.

19.To avoid any damage to trucks and eliminate the risk of pigs falling out of the truck carrier all PCM discharge end chutes have been modified to ensure that no pigs fall out during pouring and regular checks (every shift) needs to be done to identify gaps if any.

20. Minimum distance to be ensured between shifters involved in removing pigs  
21. Damaged moulds to be removed periodically to remove sticking.

22. Return pigs that are generated during pouring under the PCM are to be shifted after the end of pouring in the same cast.

23. If return pigs generated during pouring under PCM are not able to be shifted in the same cast then the pigs must be collected under the PCM where they can be loaded in wheel loader bucket and sent to dispatch yard as MIXED PIGS.

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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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| **Amendment Record** | | | |
| **Revision date** | **Manual Section ref. and para** | **Brief details of revision** | **New Revision No.** |
| 12.07.2021 | Procedure for direct loading of pigs in Truck | Point 13 9Hazard), point no.13 | 08 |
| 15.07.2022 | Procedure for direct loading of Pigs in truck | Hazard 14 identified | 09 |
| 21.04.2023 | Procedure for direct loading of Pigs in Truck | Point no. 22 & 23 added | 10 |