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|  | **VEDANTA LIMITED –**  **VALUE ADDED BUSINESS** | **Format No.:** | **FRMT/MR/10** |
| **INTEGRATED MANAGEMENT SYSTEM** | **Revision Date:** | **10.07.2023** |
| **HAZARD IDENTIFICATION** | **Revision No.:** | **02** |
| **Page No.:** | **1 of 1** |

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| **Departmental Use Only** | |
| **Revision No: 01** | **Unit: PID1** |
| **Revision Date: 10.07.2023** | **Dept.: Production** |

A. Work activity information

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| **Sr.No.** | **Details** | **Remark** |
| 1) | Task being carried out, their duration and Frequency: | Inspection of ladle by standing on ladle cleaning platform during ladle cleaning process, daily |
| 2) | Location (s) where the work is carried out. | Ladle pit next to PCM 04 |
| 3) | Who normally/occasionally carried out the task? | Company employees, Contractor labors & Supervisors |
| 4) | Who else may be affected by the work (For example visitors, subcontractors? the public) | Visitors |
| 5) | a) Has the personnel trained for performing the task  b) Any special training required | Yes  No |
| 6) | Is the written systems of work mandatory? If yes state, the procedure no. | Yes,  VL/IMS/PID1/PROD/WI/62 |
| 7) | Is the work permit required for the task? | No |
| 8) | Plant and machinery that may be used:  Eg : crusher, conveyor, crane, heavy earthing equipment, Truck etc, | Ladle,25t,12t crane, anchor & backhoe |
| 9) | Any electrically operated hand tools are used | NIL |
| 10) | Manufacturers or supplier’s instructions for operation and maintenance plant machinery and powered hand tools are available or not: | NIL |
| 11) | Chain block, tools and shackles such as wire rope, hydraulic jack etc are used. | No |
| 12) | What materials are handled? Size, shape, surface character and weight of materials that may be handled: | Solid debris, Solid & liquid metal |
| 13) | Is the material is required to be moved by hand. If yes Distance and heights of the place where materials have to move by hand. | NIL |
| 14) | Services used Eg: compressed air, oxygen, acetylene,  LPG gas, hydraulic oil, welding electrode for welding | NIL |
| 15) | Physical form of substances encountered during the work (For example fume, gas, vapour, liquid, dust/powder, solid): | Graphite flakes, solid debris ,liquid metal |
| 16) | Content and recommendations of safety data sheets relating to substances used or encountered:  (This is applicable in case of chemical material) | NIL |
| 17) | a) Relevant acts, regulations and standards relating to the work being done, the plant and machinery used, and the materials used or encountered:  b) Is the activity is reviewed for compliance to statutory requirement | Factory Act  Yes |
| 18) | What is the data (s) required to be monitored during the activity and the frequency of monitoring? | NIL |
| 19) | Any information available from within and outside the organization on incident, accident and ill health experience associated with the work being done, equipment and substances used: | Yes |

2. From the above activity information hazards are to be identified and recorded below using Appendix 'A' of SP/41

1. On 16.04.2022 at PID1 in Hot Metal Handling area (PCM) at around 08:45 hrs, after closing 1st cast of BF2,2nd spout ladle L33 was lifted for pouring after some time ladle developed a small hole below top ring due to which little spillage of hot metal occurred on floor, immediately pouring stop, ladle made empty and taken out, no damage to property, no injury to anyone.

Root cause: Difficulty in assessing / inspection after ladle cleaning due to red hot condition Hitting of the Hitachi to the bottom jam ladle which caused ladle refractory dislodging of top rings.

CAPA: 1. Pouring done immediately by lifting ladle, ladle made empty and taken out from circulation for relining

2.L33 ladle complete relining to be done after taking to ladle refractory shop

3.Judicious hitting with Hitachi breaker during ladle cleaning activity giving due attention to ladle wall refractory bricks. Necessary repair is to be taken up if required before taking in circulation.

4.Though Ladle shell temp is being monitored after completion of 350 heats below ladle trunnion the same needs to be monitored above trunnion for temperature uniformity on shell.

5.Feasibility of ladle thermography after completing 350 heats for better monitoring.

**Hazards identified**

**Mechanical**

1. Fall of castable, steel, hammer, etc on human body.
2. Trapping in between objects.
3. Impact due to object
4. Snapping of wire rope of slings
5. Splashing of castable, mortar into eyes
6. Tripping of person
7. Cut due to sharp object
8. Tripping due to poor house keeping
9. Slip/Trip/Fall of a person
10. Fall of object
11. Contact with hot surface
12. Ladle puncture
13. Molten Metal eruption due to spillage on ground
14. Fire due to splashing of metal

**Physical**

1. Temperature.
2. Noise
3. Dust inhalation
4. Darkness

**Electrical**

* 1. Electrical shock from punctured cable.

**Behavioral Hazard:**

1. Workmen under influence of alcohol
2. Violation of procedure
3. Not wearing PPE’s
4. Not concentrating while working

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| **Prepared By:** | **Reviewed By:** |
| **Signature:** | **Signature:** |
| **Review Date: 10.07.2023** | **Review Date: 10.07.2023** |