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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.:** | **03** |
| **Page No.:** | **1 of 1** |

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| **Departmental Use Only** | |
| **Revision No: 02** | **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: | Isolation of BF1 flare stack  As and when required |
| 2) | Location (s) where the work is carried out. | Gas holder area |
| 3) | Who normally/occasionally carried out the task? | Company employees & 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. | VL/IMS/PID1/PROD/WI/06I |
| 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, | Nil |
| 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: | Water, BFG |
| 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. | No |
| 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): | Liquid, Gaseous (Blast furnace gas) |
| 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 05.08.2011, BF1 flare stack bypass line was isolated for clamping on weak points. Line was isolated by water sealing bypass and additional bypass water seal. It was observed that though work permit was taken LOTO system was not followed i.e., wheel pads were not put for the water seal.

**Hazards identified**

1. BF Gas poisoning
2. Human Behavior -Failure to keep relief valves open
3. Water seal failure due to pressurizing of line.
4. Human Behavior -Unintentional dropping of water seal due to human error.
5. Human Behavior -Miscommunication between engineers
6. Fall of person and getting hurt while running in hurry
7. Fire & explosion
8. Human Behavior -Not adhering to work instruction/use of PPE
9. Human Behavior -Improper house keeping
10. Inadequate local lighting
11. Human Behavior -LOTO system not being followed

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