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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: | Charging of BFG for GEL Operation  Continuous |
| 2) | Location (s) where the work is carried out. | Gas line from SIL Boiler to GEL |
| 3) | Who normally/occasionally carried out the task? | Production Personnel |
| 4) | Who else may be affected by the work (For example visitors, subcontractors? the public) | Visitors, subcontractors |
| 5) | a) Has the personnel trained for performing the task  b) Any special training required | Yes |
| 6) | Is the written systems of work mandatory? If yes state, the procedure no. | SP 11 |
| 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, | No |
| 9) | Any electrically operated hand tools are used | No |
| 10) | Manufacturers or supplier’s instructions for operation and maintenance plant machinery and powered hand tools are available or not: | NO |
| 11) | Chain block, tools and shackles such as wire rope, hydraulic jack etc are used. | NA |
| 12) | What materials are handled? Size, shape, surface character and weight of materials that may be handled: | NA |
| 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 | No |
| 15) | Physical form of substances encountered during the work (For example fume, gas, vapour, liquid, dust/powder, solid): | BF 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? | CO level in ambient air, Continuous |
| 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 12.07.2008 at around 07.30 hrs. MCD engineer informed that there is BF gas leakage near GEL blower fan area. Immediately GEL informed to withdraw gas & gas line was isolated to GEL. When site was inspected it was found that there was leakage of gas from drip pot and also from blower fan gland. Drip pot was filled, and blower fan bypassed by GEL.
2. On 11-01-2012 at 15:45 hrs. It was noticed that since GEL had reduced gas so there was gas observed from BF1 and GEL flare stack which was not flaring. The control room in-charge informed the same to the slag dryer plant’s in-charge, when he observed the CO level at the drip pot of slag drier plant is approx. 500 ppm. Immediately the slag drier plant was stopped. Same was reported to Shift In-charge. Later both the flare stacks were flared, and no gas presence was observed at the slag dryer plant area.
3. On 03/04/12 at around 11:10 hrs, gas leakage was observed from gas line U seal drip pot near BF1 blower house entrance. It was noticed that the Online CO monitor was not giving any alarm. Gas level, checked with portable CO monitor, was found as 700 ppm outside BF1 blower house and as 800 – 1200 ppm inside blower house. No person was affected by CO gas, as immediately the area was evacuated.

**Hazards identified**

1. BF Gas poisoning
2. Fire & Explosion
3. Drip pot leakages
4. Water seal breakage
5. Human Behavior -Nonuse of PPE
6. Due to involvement in other works control room engineers may not be able to give proper attention to this work.
7. Increase in CO levels

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