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|  | **VEDANTA LIMITED –**  **VALUE ADDED BUSINESS** | **Format No.:** | **FRMT/MR/10** |
| **INTEGRATED MANAGEMENT SYSTEM** | **Revision Date:** | **04.04.2022** |
| **HAZARD IDENTIFICATION** | **Revision No.:** | **02** |
| **Page No.:** | **1 of 1** |

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| **Departmental Use Only** | |
| **Revision No: 03** | **Unit: SP** |
| **Revision Date: 20.03.2023** | **Dept: Mechanical** |

Doc: HI/SP/MAINT/13

A. Work activity information

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| **Sr. No.** | **Details** | **Remark** |
| 1) | Task being carried out, their duration and Frequency: | Replacement of Chill Fan, DD Fan Bearing  12 Hrs.  Daily |
| 2) | Location (s) where the work is carried out. | Tail/Head ESP, Cooler Area, F&F, Proportioning |
| 3) | Who normally/occasionally carried out the task | Engineer in charge  Work men on the job |
| 4) | Who else may be affected by the work (For example visitors, subcontractors, the public) | Production Engineer  Contractor workmen taken on labour supply |
| 5) | a) Has the personnel trained for performing the task  b) Any special training required | Yes (Past Experience)  No |
| 6) | Is the written system of work mandatory. If yes state the procedure no. | WI/ SP/MAINT/ 13 |
| 7) | Is the work permit required for the task | Yes |
| 8) | Plant and machinery that may be used:  E.g.: crusher, conveyor, crane, heavy earthing equipment, Truck etc. | Crane, hydra, Sinter EOT Crane |
| 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 |
| **Sr. No.** | **Details** |  |
| 11) | Chain block, tools and shackles such as wire rope, hydraulic jack etc. are used. | 5T/3T chain block, Hydraulic Jack, Wire rope slings, belt slings, D-shackle, Manila rope |
| 12) | What materials are handled? Size, shape, surface character and weight of materials that may be handled: | Irregular shape mostly structures, Gear box, Plummer block, Motor, Impeller, Casing, Cone  Approximately max 1T |
| 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. | 1 kg by hand (tools & tackles)  2 mtr. height approximately |
| 14) | Services used E.g.: compressed air, oxygen, acetylene,  LPG gas, hydraulic oil, welding electrode for welding | Welding machine, Cutting set |
| 15) | Physical form of substances encountered during the work (For example fume, gas, vapour, liquid, dust/powder, solid): | Solid & dust |
| 16) | Content and recommendations of safety data sheets relating to substances used or encountered:  (This is applicable in case of chemical material) | NA |
| 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 1948 and Goa factory rules 1985- SRR/16  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.  On 13th March 2021 at 5:13 PM after isolation of ID Fan # 2A, PTW was issued for balancing work. Two BALCO Engineers of Mechanical Maintenance Dept., along with Business Partner team comprising an Engineer & 3 skilled employees were engaged for this activity. IP (age: 28 Years) placed two ends of the rope on the moving shaft (approximately >10 rpm) using the rope to anchor to a platform to stop the fan from rotation. The other end of the rope, in the form of loop, became entangled with his leg, and pulled him onto the rotating shaft. IP suffered multiple injuries and was immediately shifted to BALCO hospital. Initial treatment was given at BALCO hospital, stabilized and shifted to New Korba Super Specialty Hospital and was kept under ICU where he succumbed to his injuries at 2 AM on 16th March 2021. |

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

**Hazards identified**

1. Trapping between Rotor and crusher body

2. Fall of material

3. Accident due to improper shutdown

4. Flying of Chips during hammering**.**

5. Failure of sling, chain pulley block, improper hook welding

6. Fall of a person.

7. Accident due to zero energy state

8. Accident due to non-availability of machine guard

**Electrical hazard**

1. Electric shock on equipment

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| **Prepared By:** | **Reviewed By:** |
| **Signature:** | **Signature:** |
| **Review Date: 20.03.2023** | **Review Date: 20.03.2023** |