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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: PID-1** |
| **Revision Date: 10.12.22** | **Dept.: Mechanical** |

1. Work activity information

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| **Sr.No.** | **Details** | **Remark** |
| 1) | Task being carried out, their duration and Frequency: | Operation & Maintenance of Side Stream Filter for BF cooling tower  24 hrs  Every day |
| 2) | Location (s) where the work is carried out. | Blast furnace cooling tower cell |
| 3) | Who normally/occasionally carried out the task | Engineer in charge  Company fitter on the job  Contractor workmen |
| 4) | Who else may be affected by the work (For example visitors, subcontractors, the public) | nil |
| 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. | WI/MAINT/110 |
| 7) | Is the work permit required for the task | Yes |
| 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 | No |
| 10) | Manufacturer’s or supplier’s instructions for operation and maintenance plant machinery and powered hand tools are available or not: | Yes  Supplier’s manual available |
| 11) | Chain block, tools and shackles such as wire rope, hydraulic jack etc are used. | Chain pulley block, slings, D-shackles |
| 12) | What materials are handled? Size, shape, surface character and weight of materials that may be handled: | Filter media – anthracite, sea pebbles  Irregular  Approx 500 kg max |
| 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. | 15 kg by hand  3 Mt height approximately |
| 14) | Services used Eg: compressed air, oxygen, acetylene,  LPG gas, hydraulic oil, welding electrode for welding | Compressed air, oxygen, LPG gas, welding electrode for welding |
| 15) | Physical form of substances encountered during the work (For example fume, gas, vapor, liquid, dust/powder, solid): | Gas, liquid, dust/powder, solid |
| 16) | Content and recommendations of safety data sheets relating to substances used or encountered:  ( this is applicable in case of chemical material) | MSDS |
| 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  Hazardous waste  Yes |
| 18) | What is the data (s) required to be monitored during the activity and the frequency of monitoring. | Safe work practices |
| 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: | Nil |

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

[**Hazards identified**](file:///C:/Users/00015177/AppData/Local/Microsoft/Windows/Temporary%20Internet%20Files/Content.Outlook/7%20RISK%20ASSESMENT/RA%20WIMAINT39.xls)

**Physical hazards**

1. Impact of Pressurized air/water, Temperature
2. Temperature
3. Dust inhalation
4. Congestion
5. Drowning of a person in cooling tower basin
6. Flood due to Side stream filter vessel damage
7. Suffocation of a person inside vessel while carrying out maintenance of the side stream filter vessel

**Mechanical hazards**

Trapping of finger/leg while operating/handling valve/pump/filter etc.

Falling of material/tools such as hammer, bolts,spanners, slinged items on person.

Injury from slip of pump component while assembly / dismantling

Entanglement in between moving parts, guard, coupling

Impingement of fingers, hand while fitting assembly of pump, bearing fixing, impeller fixing

Trapping between the moving parts

Falling of person from height.

Cut injuries from sharp edges of items

Failure of sling, chain pulley block

Slip and fall due to slippery surface / stairs

**Electrical hazards**

1. Electric shock due to welding, machine, cable or while carrying out PLC maintenance or Pneumatic valve maintenance

**Chemical hazards**

1. Fire
2. Contact with chemically treated water

**Human Behavior aspect of operators**:

Operator nature, alcoholism, casual approach, horse play, use of mobile at workplace, back pain & non usage of PPE?s

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| **Prepared By:** | **Reviewed By: Nellaiappan** |
| **Signature:** | **Signature:** |
| **Date:10.12.2022** | **Date: 10.012.2022** |