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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: 13.09.2023** | **Dept.: INSTRUMENTATION** |

1. Work activity information: Work activity information: Thermocouple Replacement and Check Up in Cast House/ Hearth Area/Stack & Cross Flow Area.

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| **Sr.No.** | **Details** | **Remark** |
| 1) | Task being carried out, their duration and Frequency: | Thermocouple replacement and check in cast house area/Hearth Area/Stack & Cross Flow Area.1 hour once a month |
| 2) | Location (s) where the work is carried out. | Tuyere, Hearth, Stack & Crossflow area in BF-1 and BF-2 |
| 3) | Who normally/occasionally carried out the task | Instrument Engineer, Technician and Contract Workmen |
| 4) | Who else may be affected by the work (For example visitors, subcontractors, the public) | N/A |
| 5) | a)Has the personnel trained for performing the task  b) Any special training required | Yes-Thermocouple replacement in cast house/Hearth/Stack & Crossflow area |
| 6) | Is the written systems of work mandatory. If yes state the procedure no. | Work instructions  WI/INST/10  Work permit frmt/7.5.1/02 |
| 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, | N/A |
| 9) | Any electrically operated hand tools are used | N/A |
| 10) | Manufacturer’s or supplier’s instructions for operation and maintenance plant machinery and powered hand tools are available or not: | N/A |
| **Sr.No.** | **Details** | **Remark** |
| 11) | Chain block, tools and shackles such as wire rope, hydraulic jack etc are used. | N/A |
| 12) | What materials are handled? Size, shape, surface character and weight of materials that may be handled: | Thermocouple, multimeter, Adjustable Spanner, Torch, CO monitor, |
| 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. | Yes-1 mtr- 3 mtr from ground |
| 14) | Services used Eg: compressed air, oxygen, acetylene,  LPG gas, hydraulic oil, welding electrode for welding | N/A |
| 15) | Physical form of substances encountered during the work (For example fume, gas, vapour, liquid, dust/powder, solid): | CO gas, steam, water |
| 16) | Content and recommendations of safety data sheets relating to substances used or encountered:  ( this is applicable in case of chemical material) | Data on toxic effect of CO treatment |
| 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 | N/A  Yes |
| 18) | What is the data (s) required to be monitored during the activity and the frequency of monitoring. | Level of CO gas at all times |
| 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: | CO gas level content should be less than 50ppm |
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2. From the above activity information hazards are to be identified and recorded below using Appendix 'A' of SP/41

[**Hazards identified**](../Risk%20Assessment%20Instrumentation/03R%20thermcple%20replac%20in%20cast%20house%20.xls)

**Chemical Hazard:**

* CO Gas poisoning
* dust
* Graphite

**Physical Hazard:**

* Steam
* High temperature
* Contact with metal
* Hot Surface

**Mechanical Hazard**:

* Trip & Fall

**Hazard due to Human Behaviour/Human error:**

* Not adhering to WI/ PPE
* Alcoholism
* Touching thermocouple tip with bare hands
* Crossing hearth trough without walkway ( Jumping)
* Entering hearth area/Stack/Crossflow area without informing control room engineer/Cast House Engineer.

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| **Prepared By:**  Head Instrumentation PID1 | **Reviewed By:** Head – Electrical & Instrumentation PID1 |
| **Signature:** | **Signature:** |
| **Review Date:13.09.2023** | **Review Date: 13.09.2023** |