	VEDANTA LIMITED – VALUE ADDED BUSINESS	Document No:	VL/IMS/PID1/INST/WI/10
	INTEGRATED MANAGEMENT SYSTEM	Revision Date:	05/01/2022
	Work Instructions for Checking of Thermocouples mounted in Hearth/Tuyere/Stack/Crossflow areas of the Blast Furnace	Revision No:	07
		Page No.:	1 of 2

**CHECKING THERMOCOUPLES MOUNTED IN
HEARTH/TUYERE/STACK/CROSSFLOW AREAS OF THE BLAST FURNACE.**

Objective: To check thermocouples mounted in Hearth/ Tuyere/Stack & Cross flow areas of the Blast Furnace.

Scope: This procedure applies to thermocouples mounted in the Hearth/Tuyere /stack & Crossflow areas only.

Reference: Thermocouple Standard Chart table K Type

Performance Criteria : Temperature readings of hearth,Tuyers,stack & Crossflow

Aspect for the Activity : Waste generation

Identification of Hazards:

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.

Refer: RISK /INST/03 & RISK/INST/17

Responsibility: Sr. Engineer Instrumentation/Associate / Inst Technician

PROCEDURE:

1. Inform control room & take permission from process or take permit if required.
2. Ensure that the cast is not open before starting the job. Don't use gumboots while working in cast house/high temperature area.
3. Check for CO gas PPM in the area within safe limits using CO monitor it should be less than 50 PPM.(Use certified CO Monitor)
4. Check for proper illumination in the area.
5. Minimum 2 people should enter the hearth/Stack & Crossflow area.
6. Use heat resistant hand gloves if required.
7. Make particular changes in JB diagrams if any modification done.
8. The CO gas concentration should be monitored continuously throughout the course of work.

	VEDANTA LIMITED – VALUE ADDED BUSINESS	Document No:	VL/IMS/PID1/INST/WI/10
	INTEGRATED MANAGEMENT SYSTEM	Revision Date:	05/01/2022
	Work Instructions for Checking of Thermocouples mounted in Hearth/Tuyere/Stack/Crossflow areas of the Blast Furnace	Revision No: Page No.:	07 2 of 2

9. Check steam concentration in the area for visibility.
10. Inform production to minimize shell cooling water for particular thermocouple area if required.
11. If above conditions are not met refrain from working in the area else proceed for the work.
12. Avoid contact with high temperature surrounding areas.
13. Check the thermocouple, note down the millivolt & cross check with standard TC chart.
14. In case the Thermocouple is faulty, same to be replaced as per the OEM design and connection to be done and verified the mV reading with Standard chart.
15. Inform production after the job is performed. & clear the permit.

Prepared By: Associate Manager – Electrical & Instrumentation PID1	Reviewed & Issued By: Management Representative	Approved By: Head – Electrical & Instrumentation PID1
Signature:	Signature:	Signature:
Date: 05/01/2022	Date: 05/01/2022	Date: 05/01/2022