**WORK INSTRUCTIONS FOR REMOVING LANCE IN RUNNING FURNACE**

**Responsibility: PCI Shift In charge**

**Overall responsibility: Shift In charge**

**Identified Hazards:**

1. Non-use of PPE & work instruction
2. Contact with Hot Blast/ hot surfaces
3. Confined workspace.
4. Inadequate local lighting.
5. Mechanical impact.
6. Pulverized coal leakage.
7. Hose pipe fast couple/ jubilee clamp failure.
8. Improper Coordination
9. Damage to NRV due to blast leakage
10. Malfunctioning of NRV
11. BF Gas poisoning

**Aspect:**

* Spillage of Coal fines
* Noise generation
* Emission of coal dust

**Impact:**

* Land Contamination
* Noise Pollution
* Air Pollution

**Preparation:**

1. Inform to Shift superintendent regarding the activity and ensure wind volume is reduced to 25000 Nm3/hr. prior to removal of lance only if the cast is dry.
2. Stop coal injection in that particular lance which is to be removed and switch to N2 mode.
3. If all lances are to be removed, then stop the coal injection and flush the line with air only.
4. Unlock the lance holder.
5. Keep water (Fire accident) & Air (Cooling) hose ready.

**Procedure:**

1. Unauthorized operation or repair of any equipment is a punishable offence.
2. PCI shift in charge should ensure all the field operators wearing safety PPEs namely Helmet, safety shoes, safety Goggles, Dust mask, ear plug, Heat resistant hand gloves Leather jacket, Face shield, CO monitor etc.
3. Loose the lance bolts.
4. Close ball valve of lance and hose and remove hose from lance for its safe removal
5. Pull out the lance.
6. Ensure NRV has fully sealed and no blast leakage.
7. Close the distributor coal valve to avoid lance chocking.
8. Keep the lance on the proper lance stand in cast house.

**Problems and Solutions:**

1. If blast leakage is observed from the lance and if it is not getting arrested even after tapping the NRV, inform to Shift superintendent and if required reduce the wind volume.
2. If blast leakage is observed after removing the lance from any flanges, arrange for the compressed air hose pipe for cooling.
3. If the blast leakage is severe and there is the chance of damage to the NRV take immediate furnace shutdown for blast leakage rectification.

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| **Prepared By:**  Head –Production PID I | **Reviewed & Issued By:**  Management Representative | **Approved By:**  Head – Production PID |
| **Signature:** | **Signature:** | **Signature:** |
| **Date: 15.07.2022** | **Date: 15.07.2022** | **Date: 15.07.2022** |

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