**ACTIVITY: BLANKING OF DUST CATCHER TOP FLANGE**

**Objective : -** Safe procedure for blanking of dust catcher top flange

**Scope : -** Blast Furnace Accessories

**Responsibility : -** Engineer In charge & Maintenance Fitter on job

**PPE –s to be used :**

 Helmet, Safety shoes, Hand gloves, Co detector, Cotton cloth and complete sealed goggle

**FIX PADLOCK WITH LOTO LOCK ON DRAIN VALVE OF WATER SEALS TO ENSURE ISOLATION OF GAS LINE.**

**Aspect – Impact :**

Scrap generation Resource Depletion

Fire Air pollution –SP42

Fumes of welding air pollution and Health

Usage of LPG / oxygen - Resource Depletion

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| Draining of water | Resource Depletion |
| Explosion | Air pollution SP42 |

**Hazards identified :**

**Mechanical Hazard** –

Trapping in between flanges and jack and Entanglement

Impact of hammer

Fall of material, spanner, hammer, other tools, rods etc

Fall of person from height

**Chemical Hazard** –

1. CO gas poisoning due to blocked pockets of CO in saturator
2. CO gas poisoning due to malfunctioning of CO monitor
3. Explosion while gas cutting operation
4. Fire

Physical Hazard:

Hydraulic oil Pressure due to failure of hydraulic jack hose.

Temperature

**Electrical Hazard** –

Electric Shock due to welding

Human Behavior aspect of operators:

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

**Procedure**

1. The job is to be done during furnace shutdown. Ensure that the gas line from the other furnace is isolated by water sealing of minimum 2 water seals
2. Take work permit from concerned shift superintendent.

**Procedure**

1. Take Co-monitor to check the presence of BF gas and monitor till the end of the activity.
2. Ensure that steam purging is done & all openings (dust catcher flanges), vent valves are opened.
3. Shift the cutting torch, mechanical jack, hydraulic jack10T/25T, blanking plate, necessary hardware & spanners at workplace.
4. Wear all PPE-s such as safety helmet, goggle, shoes & gloves.
5. Try to take out the bolts by spanner. Apply "Rustlic" if required. If gas cutting is to be used, ensure clearance from Manager -Production is taken prior to the job.
6. Put jack at both sides of stools & lift approx.50 to 60-mm gap. Put 2 nos long bolts 180 deg apart to arrest any horizontal movement of duct thereby causing misalignment of duct and holes. Apply two rounds of 16mm dia. asbestos rope on the blank plate & insert the blank such that rope comes on topside of blank.
7. Insert all bolts with nut & loosen the jack & remove it.
8. Tighten all the bolts uniformly so that there should not be any gap.
9. For removing the blank, take clearance from production.
10. Remove the bolts and lift the downcomer by 60-70 mm by using hydraulic jack and remove the blank.
11. Clean the flange properly,apply holdtite compound and put minimum 3 rounds of 16 mm rope(2 inside and 1 outside the hole).
12. Slighlty lover the downcomer and insert all bolts and then lower the duct fully.Tighten all bolys uniformely so that there is no gap.
13. Ensure housekeeping as per instruction given in WI/MAINT/91
14. Recheck the tightnrss of all bolts after 12 to 16 hrs

DO :

* Work in dust catcher after opening top flange of blast furnace and inspection doors in dust catcher.
* Ensure steam is purged thoroughly and relief valves are kept open.
* Monitor Co levels continuously.
* Ensure proper dilution of Co gas to avoid air pollution.

**Amendement Record**

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| **Date** | **Manual Section Ref. & Para** | **Brief details of Revision** | **New Rev.** |
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| **Prepared By:**  Area Engineer | **Reviewed & Issued By:**  Management Representative | **Approved By:**  Mechanical Head |
| **Signature** | **Signature:** | **Signature:** |
| **Review Date: 12.12.22** | **Review Date: 12.12.22** | **Review Date: 12.12.22** |