**WORK INSTRUCTIONS FOR ISOLATION OF BF GAS LINE TO GEL FOR CUTTING WELDING ON GAS LINE OR FOR OTHER MAINTANANCE**

Responsibility: Shift Superintendent

Criteria: Safe isolation of GEL line

Identified Hazards:

1. BF Gas inhalation
2. Failure to keep relief valves open
3. Water seal failure due to pressurizing of line.
4. Unintentional dropping of water seal due to human error.
5. Miscommunication between engineers
6. Fall of person and getting hurt while running in hurry
7. Fire & explosion
8. Not adhering to work instruction/use of PPE
9. LOTO system not being followed
10. Improper house keeping
11. Inadequate local lighting

Significant Aspect:

1. Emission of BFG

2. Usage of water

Procedure for isolation of GEL BFG line.

1. Unauthorized operation or repair of any equipment is a punishable offence.

2. Before water sealing GEL gas line, same should be confirmed with GEL control room and clearance taken.

3. CO monitor should be carried while isolating GEL line.

4. Ensure flare stack burners are in working condition and in line.

5. Water seal Additional water seal in GEL line (WS- 19) and keep slight overflow of water from the seal.

6. Water seal GEL line water seal (WS 21) and keep slight overflow of water from the seal.

7. Put lock out pad around both the water sealing valves of the seals and put pad lock.

8. Open both the relief valves (One before motorized valve and one after motorized valve) in GEL line.

9. Inform GEL control room to start BFG blower and keep it running for minimum half hour to air purge the gas line before any work permit is issued.

10. Ensure motorized shut off valve is manually closed from site.

11. While opening relief valves it should be ensured that person carrying out this activity is not standing in front vent.

12. Vent valves should be kept open at all times after isolating GEL BFG line.

Procedure charging GEL BFG line.

1. Ensure work permit is cleared by requesting agency.

2. Before charging BFG, same should be confirmed with GEL control room.

3. Reconfirm from the GEL control room that openings if done on their gas line are closed/sealed, leakage test conducted and is ready for charging BFG.

4. CO monitor should be carried throughout the activity,

5. Close both the vent valves.

6. Ensure motorized valve is in AUTO mode.

7. Remove wheel pads of GEL line water seal and additional water seal in GEL line.

8. Drop GEL line water seal (WS 21) and Additional water seal in GEL line (WS 19)

9. Return wheel pad and locks to BF control room.

10. Inform GEL control room about gas line charging.

11. Regulate flare stack to facilitate gas availability to GEL.

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| Prepared By:  Head – Production PID I | Reviewed & Issued By:  Management Representative | Approved By:  Head – Pig Iron Division |
| Signature: | Signature: | Signature: |
| Date: **10.07.2023** | Date: **10.07.2023** | Date: **10.07.2023** |

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