**WORK INSTRUCTIONS FOR BF1 BAG HOUSE**

**Responsibility**: PCM In charge / BF1 furnace In charge.

**Identified Hazards:**

1. Contact with lime powder, graphite
2. Contact with hot hood causing burns
3. Contact with dust, lime & fumes
4. Fire & explosion
5. Electric shock
6. Nonuse of PPE
7. Improper house keeping
8. Inadequate local lighting
9. Entrapment of person while unloading graphite from bags
10. Human error

**Significant Aspect:**

1. Emission of graphite

2. Emission of lime dust

**PROCEDURE:**

* Unauthorized operation or repair of any equipment is a punishable offence.
* PCM/ BF 1 furnace in charge should ensure that all people involved in the activity are wearing Safety shoes, helmet, safety goggles, dust mask, and hand gloves.

**DURING START UP OPERATION**

1. Ensure that all the doors of the filters 1 & 2 are closed.
2. Fill only two bags (approx. 50 kgs) of hydrated lime in each lime dozing hopper at a time as it is observed that lime powder chocks the RAL at the hopper bottom. Dampers to be ensured open
   1. 2 No’s above Runner
   2. 1 damper out of 2 for ladle
3. Press the push buttons provided in the cast house BF-1 (or give Run command from PLC in control room)
4. Starting sequence of drives: (time required 1 min approx.)
   1. Lime dosing system will start.
   2. The RAL’s (Rotary Airlock Valve) - 4 No’s for each filter & 2 No’s for each spark arrestor provided will start
   3. After checking ID fan damper in close position ID fan will start. (In case the ID fan damper failed to close ID will not start, in this case damper to be closed from field push button until close indication appears on the push button panel)
5. Mandatory dos and don’ts:
   1. Doors of filter to be opened only in case of maintenance required. To open doors of any of the filter, electrical shut down has to be taken of its ID fan and isolation damper above spark arrestor to be closed. – Engineer responsible for maintenance has to ensure.
   2. Lime level in the tank to be ensured before starting filter.
   3. Before spraying water in the runner after cast closure, cast house engineer should ensure that dampers of hood above runner are closed.
6. Safety:
   1. Temperature sensors have been provided above filter in the duct to measure air temperature. If temperature exceeds 100ºC the dilution damper provided will open automatically. If temperature continues rising above 120ºC then, the system will trip.
7. Dust collection and disposal:
   1. The heavier particles will come down from the spark arrestor due to velocity drop & the same will be collected in the bags provided below the spark arrestor RAL (Rotary air lock valve)
   2. The lighter particles will travel to the filter through the dirty hood and will stick to the bags provided inside the filter.
   3. The cleaning cycle will start & the impurities stuck to the filter bags will come down to the bags provided below the RAL’s through the hoppers.
   4. Lime to be disposed of as and when they get full. Graphite bags to be stockpiled and sold to third party or sinter plant as and when required.
8. If any component/equipment/valves get tripped/stopped automatically the total system will be stopped & out of service. Tripping indications are provided in bf1 control room.

STOPPING the Bag House.

1. ID fan will stop first
2. Then all the RAL’s will stop working.
3. ID fan damper will close.
4. Runner & Ladle hood damper will be closed at last.

\* PCM in charge should ensure that only two lime bags (50 kgs) are added at one time.

BF1 furnace in charge should ensure that filled lime/graphite bags are removed in time and empty bags are placed back to RAL.

\* Filled lime bags to be reused in lime tank and graphite to be stockpiled and sold to third party or sinter plant.

\*Do not replace bags during bf1 dust catcher opening due to likely presence of gas in that area.

\* Nobody should be allowed to take rest in the BF1 Bag House area.

\* Draft at ID fan to be monitored once in shift (Aprx.470 mmwc)

\*Cutting and welding in the bag house filter chamber during Bag House Operation is strictly prohibited.

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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: **15.07.2022** | Date: **15.07.2022** | Date: **15.07.2022** |

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| 12.07.2021 | Procedure for BF1 Bag House | Point no 7d, stopping the bag house guideline | 04 |
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