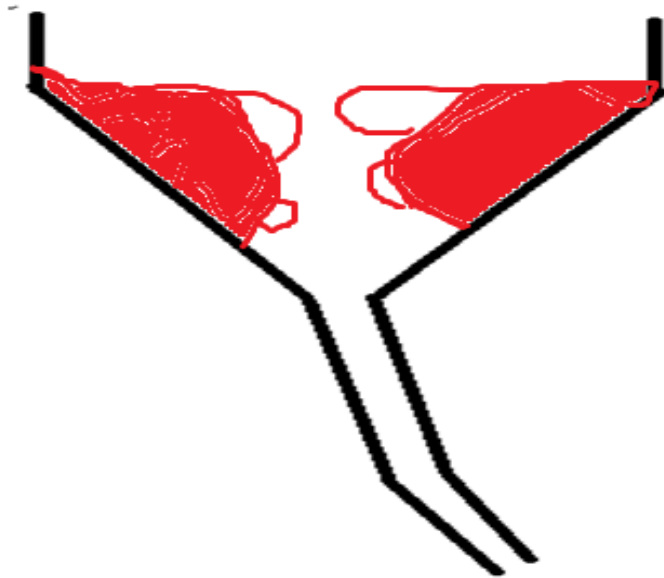


Trough Line Diagram I was tried to analysis the causes how much % material accumulation during kiln pick up after restarted power failure stoppage.



cone draft point just above 1.5 mtr height from discharge point when feed stopped on that time cone draft was negative. after checking feed pipe and cone discharge there was no material in this area but material was in cyclone. causes of this .....

### My analysis points.

1. Causes of material accumulation. If cyclone O/L draft normal or Cone Draft are negative but cone draft was less at that moment as compare to 2<sup>nd</sup> stage.
2. Causes of material accumulation in cyclone only above cone draft point only, There was no material in feed pipe or flap damper was also free.
3. Causes of red hot material coming out from cyclone after applying compressed air + pocking in that area.
4. System taken time to accumulate this material.

### When this happen on that time movements was.

Kiln restarted after power failure.



### Feed Stop & Start.

Kiln trip at 1.21am due to power failure. Power resume at 1.40am. Kiln firing started at 1.45am. Kiln feed started at 2.13am kept 279 at 2.29am. p h temp was slightly higher side due to Length of the boom in the flame was very-2 long. Feed apply directly much more than requirement, because to back end pre heater temp profile.

(During this Boom of the flame was very longer burner not cached the fire due to 100% pet coke with 10 to 12% residue).

Unfortunately due to mechanical problem leakage start in kiln feed pipe of cyclone 6 – A, for arresting the same kiln feed stopped at 2.29am. Same time and Kiln run with feed only **16 min.**

After rectified / arresting leakage kiln firing started at 3.23am, or kiln feed started at 3.43am. so much time taken to start kiln feed because there was no flame only fully Boom in the flame. all kiln parameter indicate me coal was burn in inlet or preheater areas.



## **Cone Draft & B Z Temp.**

Before tripping plant cone draft was -21m bar with 335 feed.

When I start kiln feed 1<sup>st</sup> time max. Cone draft was -11 mbar or 2<sup>nd</sup> time it was -5.5mbar at 3.40am & -6.24mbar at 3.52am when feed was around 275 tph.

**Cone draft was -4.32mbar at 3.56am. It was not increasing or coming down ward side, Due to this I was felt some problem in my system To analysis this I directly stop kiln feed elevator at 3.57am.**

**During this period kiln was run only for 14min. from 0 levels to 275 tph.**

**When I stop kiln feed on that time cone draft was above low-2 alarm indication. At 4.00 am same draft was -1.02mbar. We all know that if cone draft is in negative side that means path of material flow is not jam or system is ok. I stopped kiln feed, for analysis the same.**

Cy-6 cone draft was negative during removing accumulated + coating material. At 4.46 am cyclone cone draft was -2.89 after cleaning draft point.



## **Kiln Torque/Load**

Pre heater all temp was higher side (above 900)

Kiln torque was totally normal when kiln was in pick up stage. If there was material accumulation in cyclone due to excess burning then kiln torque affected





## Cyclones Temps.

Due to pet coke firing 100% kiln coal was not burn in burning zone area, it was burn in kiln inlet area due to this inlet temp rise up to 1200 degree or cyclone gas temp up to 950 degree but there was no sec air +kiln was totally dark due to whole kiln coal was burn in inlet area.

Pre heater temp profile are **also** effected due to = (Boom in kiln flame) + (how much dust generation in kiln hood or strength of burning zone area) + (kiln firing coal ash/residue we are using) + (how much kiln heat up before starting feed) + (Hot air coming through cooler) + (Amount/temp of primary as well as Sec. air) + (kiln I/L as well as P.H O/L Draft) + etc

These all points directly as well as indirectly make effects on pre heater temp profile.



## Cyclones Mat Temps profile.

Material temp point	3.21am	3.27am	3.43am	3.55am
CY-6B	770	1113	1059	1143
CY-5B	661	942	949	815
CY-4B	732	840	857	786
CY-3B	733	855	874	699
CY-2A	586	708	719	586
CY-2B	589	682	666	584
Remark	Temp before starting firing	temp after 4min of start firing	Temp when I was started kiln feed	Temp when feed was around 275tph



## Cyclones Gas Temps profile.

Gas Temp Point	3.22am	3.29am	3.40am	3.55am
I/L PYRO	926	1423	1246	1310
CY-6B	794	852	901	852
CY-5B	766	821	876	834
CY-4B	731	789	839	792
CY-2B	595	650	705	519
PH O/L	449	489	550	445
Remark	Kiln inlet all gas temp before starting firing	Kiln I/L + Gas temp after 6.0 min of starting firing.	Temp just before starting feed	Kiln I/L or cal gas temp just before stopped feed

Kiln inlet temp thermocouple reading was 1213 at 3.49am this temp calibrates &found around +200 degree error.