EVENT ANALYSIS REPORT

UNIT NO : 03	TPS : Khaperkheda TPS		Unit Capacity : 210 MW	
1. *HO Code :	Station Code : T003	Time – 04:47 Hrs	Date - 15/04/2018	No. of Days from last sync. : 9 days

2. Operating conditions at the time of Event :-

Load	Coal Cycles in service	Oil Support
160 MW	A, B, C, D & E	NIL

3. Nature of Event: TA Set Tripped on "Furnace Pressure Very Low".

4. Name of First Up , Main Protections & Protection on which GCB tripped :
Furnace Pressure Very Low**(First Up)**, Boiler To Turbine Trip, MFT Acted, Turbine Trip, Generator Class-A.

5A) Observations: On date 15/04/2018 set was on load 160 MW with five C/c (F S/by) in service. A big clinker fall down and set tripped on "Furnace Pressure Very Low" protection.

5B) Remedial Action/work done: PA Fan 3A and 3B problem attended. HPBP1 made operative from PCR.

6. Root Cause Analysis: Due to fall of huge clinker furnace pressure became very low (-167 mmwc) and boiler trip on furnace pressure very low protection. Unit 3 & 4 I.D fan parameters were compared for same air flow (Comparison attached as Annexure-I). It was noticed that unit 3 I.D fan currents, power consumption were significantly high compared to Unit-4 ID fans, indicating air flow to be high in unit -3. This was also supported by O_2% at Economizer outlet indicating 6.44% O_2 as per the result of the flue gas duct mapping report (Annexure-II).This duct mapping was conducted at load 163 MW & air flow 654 TPH, very near to Unit 3 tripping conditions dated 15/04/18.
Thus it leads to doubts that air flow is more, resulting into shifting of fire ball upwards & formation of clinker at platen supper heater zone. This clinker on falling drifted the draft and resulted into tripping of unit. Apart from this burner tilt alignment was found disturbed in corner 3. Secondary air damper positions were also noticed disturbed a little.

7. Preventive action suggested (Short Term): Informed to Unit 3 staff to maintain airflow lesser than or equal to 650 TPH. Secondary air damper adjustment is done. Burner tilts are aligned properly.
Measures are taken to arrest ingress near O_2 probes mounting at Eco outlet. However it did not yield desired results.

8. Preventive action suggested (Long Term): 1) Decided to measure I.D Fan 3 & 4 air flow so as to draw final conclusion on air flow.
2) Also decide to shift O_2 probe at new location so as to get correct O_2 at new location so as to get correct O_2 at economizer outlet. This would assist to correct airflow dynamically at various loads.

9. Similar event occurred last time:	U - 3, 210 MW	Time: 16:16 Hrs	Date: 14/08/2017

Event: Set tripped due to 'Furnace Pressure Very Low'.
Remedial Actions: No Work done.

9A. Implementation Status of Long Term/Short Term measures stated at Sr. No 7 & 8 :-

10. Boiler lighted up	Time – 05:52 Hrs	Date- 15/04/2018
11. T-A Set Synchronized	Time – 08:44 Hrs	Date- 15/04/2018

12. Remark :-

Chief Engineer

13. Recommendations of Works Section:

1. Procurement/Replacement Plan:

2. Operational Error:

3. Delay in Maintenance:

4. Delay in bringing back the Unit:

5. Training of Staff: