EVENT ANALYSIS REPORT

UNIT NO : 04	TPS : Khaperkheda TPS		Unit Capacity : 210 MW	
1. *HO Code :	Station Code : T003	Time – 18:20 Hrs	Date - 07/09/2016	No. of days from last sync. : days

2. Operating conditions at the time of Event :-

Load	Coal Cycles in service	Oil Support
105 MW	A, C, E & F	NIL

3. Nature of Event : TA set tripped due to " Condenser Pressure Very High".

4. Name of First Up , Main Protections & Protection on which GCB tripped :
Condenser Pressure Very High (First Up), Turbine Tripped, MFT Operated, RH Protection Operated.

5 A) Observations : At 18.19 hrs on dt.07/09/16 set was on load at 160 MW with coal cycles-A, C, E & F mills in service. Coal mill-4B was under permit and Coal feeder-4D was having shear pin failure. Sudden closure of HPT control valve, HPCV-1 resulted in turbine tripping on "Condenser Pressure Very High" protection, when load reduced to 105 MW. Boiler tripped on "Re-heater Protection". At 18:20 hrs set tripped when GCB opened on "Reverse Power Protection".

5 B) Remedial Action/work done : - HPCV-1 cleaning carried out.

6. Root Cause Analysis : At 18.19 hrs on dt.07.09.16 MS pressure deviation resulted into negative (-8.0 kg/sq cm) due to shear pin failure of coal feeder-4D. Consequently, turbine control shifted to "Pressure Control", which led to dropping of load to 160 MW. Immediately, coal cycle-4F was taken into service, which resulted in MS pressure rising. Suddenly, HPT control valve, HPCV-1 found closed fully and gland steam header pressure dropped to (-) 100 mmwc, which led to rising of condenser pressure. In response the standby vacuum pump (No.2) got picked up on auto at (-) 0.8 kg/sq cm condenser pressure. However, turbine tripped on 'Condenser Pressure Very High' protection as the condenser pressure reached to (-) 0.7 kg/sq cm.

7. Preventive action suggested (Short Term) :
Characteristics of both the HPT control valves (HPCV-1 & 2) taken and found ok.

8. Preventive action suggested (Long Term) :-
(1) The clearances of LPT gland box have increased. The gland box will be replaced in the next overhaul.
(2) HPCV-1 bushing will be replaced in the next possible opportunity. Procurement process in progress.

9. Similar event occurred last time:-	Unit No # 4 , 210 MW	Time :10:10 Hrs	Date : 09/03/2013

Event : T.A. Set tripped on "Low Vacuum Protection" .

Remedial Actions : :-

TIC: The Analog Drive Card of Leak off CV was pulled out & again restored. For opening & closing of CV trial is taken, which is found OK. Even though the card is found healthy, same is replaced with spare one for precautionary measures. Also seal steam pressure transmitter impulse line is checked for steam leakages due to which measurement error may occur, no leakage was observed.

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

10. Boiler lighted up	Time – 18:20 Hrs	Date - 07/09/2016
11. T-A Set Synchronized	Time – 20:30 Hrs	Date - 07/09/2016

12. Remark :-

12/10
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:
6. Whether remedial action is completed satisfactory & point is closed:

C E/Dy C E (Works)