


EVENT ANALYSIS REPORT				
UNIT NO : 01	TPS : Khaperkheda TPS		Unit Capacity : 210 MW	
1. *HO Code :	Station Code : T003	Time - 15:44 Hrs	Date - 31/12/2017	No. of days from last sync. : 12 days
2. Operating conditions at the time of Event :-				
Load 60 MW		Coal Cycles in service A, B, C, D & E		Oil Support NIL
3. Nature of Event: T.A. set forced withdrawn to attend boiler tube leakage at Reheater Zone.				
4. Name of First Up, Main Protections & Protection on which GCB tripped : Loss Of All Fuel (First Up), Generator Protection Operated, Turbine Protection Operated, Reverse Power Protection.				
5A) Observations: On dt. 31/12/2017 at 15:15 hrs. set was on load at 155 MW with five coal cycles in service (F U/P). After confirming boiler tube leakage, load reduced gradually by withdrawing coal cycle one by one and set tripped on 'Loss of all fuel' at 15:44 hrs. GCB opened on Reverse Power Protection.				
5 B) Remedial Action/work done: <u>Primary Failure</u> - Re-heater rear pendent assembly coil no. 44 tube no. 8 found punctured at coil locking connector weld. <u>Secondary failure</u> -1) Re-heater rear pendent assembly coil no. 44 tube no 6, 7, 9, 10 & 11 are found punctured. 2) Coil no.43 tube no. 6 & 7 are found punctured and tube no. 4, 5, 8, 9, 10 & 11 are found eroded. 3) Coil no.45 tube no. 7, 8 & 9 are found punctured and tube no 10 & 11 are found eroded. 4) Coil no. 42 tube no. 6 is found punctured. <u>Work carried</u> -Replacement of re-heater rear pendent assembly coil no. 44 tube no 6, 7, 8, 9, 10 & 11, coil no. 43 tube no. 4, 5, 6, 7, 8, 9, 10 & 11, coil no.45 tube no. 7, 8, 9, 10 & 11 and coil no. 42 tube no. 6 is carried out. (Total Nos. of HP welds joints = 40 Nos.)				
6. Root Cause Analysis: Fretting of tube no.8 of reheater coil no. 44 due to male female connector weldment is the root cause of failure.				
7. Preventive action suggested (Short Term): Gradual loading & unloading during load variation is to be monitored strictly and necessary instructions have been displayed in control room to carry out loading and unloading within stipulated time period. Circular (No.618 dated 03.12.16) in this regard issued to all the concerned. Male-Female connectors weldment will be checked for all reheater coils by D.P test during forthcoming AOH of U-1.				
8. Preventive action suggested (Long Term) :-				
9. Similar event occurred last time:-	Unit No # 1, 210MW	Time: 00:44 Hrs.	Date: 09/08/2014	
Event: - T.A. Set withdrawn to attend "Reheater Tube Leakage".				
Remedial Actions: BM:				
1. Replacement of bottom offset loop bends circuit of tube no. 3-10 & 4-9 of Reheater front pendent assembly coil no. 34. 2. Replacement of bottom offset loop bends circuit of tube no. 1-12, 2-11, 3-10 & 4-12 of Reheater front pendent assembly coil no. 33. 3. Replacement of bottom offset loop bends circuit of tube no. 1-12, 2-11, 3-10 & 4-9 of Reheater front pendent assembly coil no. 32. 4. Replacement of bottom offset loop bends circuit of tube no. 1-12, 2-11, 3-10 & 4-9 of Reheater front pendent assembly coil no. 31, 30 & 29. Total No. of HP Weld joints = 45 Nos.				
9A. Implementation Status of Long Term/Short Term measures stated at Sr No 7&8 :-				
10. Boiler lighted up	Time -18:00 hrs.	Date- 02/01/2018		
11. T-A Set Synchronized	Time -00:13 hrs.	Date- 03/01/2018		
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:				
6. Whether remedial action is completed satisfactory & point is closed:				
C E/Dy C E (Works)				