


EVENT ANALYSIS REPORT				
UNIT NO : 04	TPS : Khaperkheda TPS		Unit Capacity : 210 MW	
1. *HO Code :	Station Code : T003	Time - 00:17 Hrs	Date - 17/05/2017	No. of days from last sync. : 11 days
2. Operating conditions at the time of Event :-				
Load		Coal Cycles in service	Oil Support	
55 MW		C & D	NIL	
3. Nature of Event : Unit withdrawn to attend broken bolts of LPT rear gland box.				
4. Name of First Up , Main Protections & Protection on which GCB tripped : Hand Tripped (First Up), MFT Operated, Turbine Tripped, Turbine Trip Gear Operated.				
5 A) Observations : At 23:00 hrs on date 16/05/2017, unit was on load at 161 MW with 5 Coal cycles (Coal mill - F standby) in service. At 23.40 hrs, load was started reducing by withdrawing coal cycles (A, E & B) one by one in order to withdraw the unit for replacing broken bolts (2 Nos - A & H) of LPT rear gland box. Turbine bearing & shaft vibrations were found increased. Finally, set hand tripped at 00:17 hrs on date 17/05/2017 when load was 55 MW with coal cycles - C&D in service.				
5 B) Remedial Action/work done : (1) All the bolts (8 Nos) of LPT rear gland box, replaced with new ones. (2) Gland sealing pipes, inlet as well as outlet, re-welded after stress removal. (3) Centering of gland box done with new washers (8 Nos) and new keys (4 Nos).				
6. Root Cause Analysis : LPT rear gland box bolts (2 Nos - A & H) found damaged due to high axial vibrations (Displacement - 184 microns and Velocity - 29.2 mm/s) of turbine bearing No.4. Gland box found shifted towards LPT by 3 to 4 mm due to vibrations. At about 21:00 hrs on dt. 16/05/2017, Shaft vibrations (microns) : $X_2 = 103$, $Y_2 = 72$, $X_4 = 102$, $Y_4 = 121$ Bearing vibrations (microns) : $X_4 = 42$, $Y_4 = 44$				
7. Preventive action suggested (Short Term) :				
8. Preventive action suggested (Long Term) : During U-4 overhaul (Jul-17), following works will be taken up. (1) LPT rotor run-out removal and high speed balancing work. (2) New gland box installation work. (3) Pedestal No.4 regrouting work.				
9. Similar event occurred last time:-	Unit No # 4 , 210MW	Time : 21:07 Hrs	Date: 20/01/2016	
Event : Unit withdrawn to replace gland box sheared-off bolt at LPT. Remedial Actions : LPT gland box centering done and all the holding bolts of LPT gland box (Total 8 Nos) replaced with new OES bolts.				
9A. Implementation Status of Long Term/Short Term measures stated at Sr No 7 & 8 :-				
10. Boiler lighted up	Time - 14:30 Hrs	Date - 18/05/2017		
11. T-A Set Synchronized	Time - 20:17 Hrs	Date - 18/05/2017		
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)				