UNIT TRIPPING REPORT

UNIT No: 1 STATION: NTPL, TUTICORIN.
OUTAGE: NO. 16

REPORT NO: 16

1. Date of tripping : 17-12-2017
2. Time of tripping : 23:26:37 Hrs
3. Status before tripping
   a) Unit load : 273 MW
   b) Mills in service : 5 (C, D, E, G, H)
   c) Oil guns in service : Nil
   d) Boiler feed pumps in service : TDBFP A&B
   e) CEPs in service : A&B
   f) ID fans in service : A&B
   g) FD fans in service : A&B
   h) PA fans in service : A&B
   i) CWP in service : A&B
4. First Up protection acted : MFT acted (Loss of All Fuel Trip)
5. Similar occurrences in the Financial Year: Nil
6. Other relays/protection acted : Boiler trip/ Turbine trip/ Generator trip
7. Supporting documents attached : SOE & Trends
8. Any operation done prior to tripping : Nil
9. Analysis of tripping :

Unit was running at 273 MW with 5 Mills and Load Control ON. PAF-1A Motor DE bearing temperature was on a rising trend, after the attending of its PCD on 16.12.17, and was at a high value (93 ^{o}C), below the alarm value (95 ^{o}C). Before the unit trip, bearing temperature raised at a faster rate leading to its tripping at 105 ^{o}C.

After the tripping of PAF-1A, primary air header pressure buckled even while the other fan was getting loaded and Mill 1H tripping on run back. Ultimately all the remaining four running mills got tripped on low PA pressure leading to boiler trip on “MFT- Loss of all Fuel Trip”, on all the three channels.

10. Root cause : PA-1A DE bearing Temperature rise.
11. Remedial measures taken/to be taken : PA-1A bearing inspected and found to be damaged. The same was replaced.
12. Time / Date of light up and sync : Light Up : 00:08 Hrs on 18/12/2017

Synchronized : 02:23 Hrs on 18/12/2017.

13. Delay for light up : No delay

14. Recommendation / Action plan :

Sl.No.	Recommendations/Action plan	Responsibility	Time line
1	PA-1A: Bearing inspection / Periodical inspection of all equipments.	EM	Immediate
2	<u>Alarm / Protection:</u> Revise Motor Brg temp Hi to 85 ^{o}C (Alarm) Revise Motor Brg temp V. Hi to 95 ^{o}C (Trip) Include Oil Flow Lo Sw < 3.5 lpm (Lo Alarm) Include Oil Flow V. Lo Sw < 2.0 lpm (V. Lo Alarm)	C&I	Next available opportunity when fans are stopped.
3	PA-1A Motor DE temp started increasing from 80 ^{o}C on 16/12/17 @ 19:50 hrs up to 105 ^{o}C on 17/12/17 @ 23:00 hrs. Nearly for 30 hrs it was running above normal value. Operation Engineers should have inspected at local and alerted EM. Daily inspection of critical parameters at local by supervisors to be done.	OPN	immediate
4	<u>Possibility of avoiding tripping of unit:</u> Once a PA fan trips, it takes time for its discharge gate to close, leading to drop in header pressure. After closing of gate sudden surge in PA header pressure will lead to imbalance in combustion. Hence this type of tripping could not be avoided.		

15. Any specific learning / feedback : 1) Parameters deviations to be investigated in time

2) Local inspection records to be maintained.

16. Signatures / Date :

CM / OS DGM / C&I DGM / ELECT DGM / O&C

GM / O&M

Copy submitted to CEO / NTPL