UNIT TRIPPING REPORT

UNIT No:2 STATION: NTPL, TUTICORIN.

OUTAGE: NO. 59

REPORT NO: 59

1. Date of tripping : 09-07-2021
2. Time of tripping : 05:32:35 HRS
3. Status before tripping
   a) Unit load : 297MW/132MW
   b) Mills in service : A, C, D, F & G
   c) Oil guns in service : CD 1, 2, 3 & 4
   d) Boiler feed pumps in service : A & B
   e) CEPs in service : A & C
   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 : PA Header pr low (All mills trip)
5. Similar occurrences in the Financial Year : In Unit #1 on 03.06.2021
6. Other relays/protection acted : 1) Turbine trip on MST low
   2) Generator trip on Class-B
   3) Boiler trip on RH Protection
7. Supporting documents attached : SOE & Trend
8. Any operation done prior to tripping : 1) PA Fan 2A PCD kept in manual & supply isolated
   2) OBs taken into service
9. Analysis of tripping :

On 08.07.2021, PAF-2A PCD deviation was noticed during second shift and its PCD was kept in manual mode. Even in manual mode the current of PAF-2A was found to be raising, from 72A to 93A. PCD actuator supply was isolated but couldn't be closed from local, as its lever was not engaging. At 05:03 hrs PA header pressure high was noticed with

PAF-2A&2B Motor currents at 238A & 44A respectively. PAF-2B PCD came to 0% in auto mode as the set point was 800mm and the header pr was maintaining above 1200mmWC. Hence it was decided to stop PAF-2A, after cutting in oil burners, 4 in CD elevation & 2 in AB elevation, to avoid Boiler tripping in case of coal fire failure. At 05:22 hrs PAF-2A motor current started reducing due to HAD problem but PAF-2B was loading in auto mode. However, at 05:27 hrs all Mills tripped on PA header pr low. At 05:30 hrs Turbine got tripped on MS temperature low due to coal failure but Boiler was in service with the six oil guns. As HPBP fast open failed to act Boiler also got tripped on RH protection.

10.Root cause:

PAF-2A PCD HAD feedback link bearing failure resulted in drifting of its PCD to extremes, as restoration of equilibrium position of pilot valve corresponding to the demand could not be achieved. Drift opening of 2A PCD to 100% led to complete unloading of PAF-2B in auto. Fast drifting of PAF-2A PCD in the reverse direction to 0% caused PA header pressure buckling and all Mills tripped before PAF-2B could support the pressure in auto mode. Sudden loss of coal fire resulted in steep temperature drop.

For HPBP fast open, Boiler ON contact with oil fire was not available in the logic, which resulted in Boiler trip on RH protection.

11.Remedial measures taken/to be taken:

BM has to probe into the root cause for frequent failures of HAD components and take remedial measures during unit overhauls.

In HPBP fast open logic, Boiler 'ON' when Oil burners are in service has to be included by C&I.

12.Time/Date of boiler light up and sync:

Light Up: : 09-07-2021 06:00hrs

Sync'd : : 09-07-2021 07:55hrs

13.Delay for Synchronizing : Field voltage transformer fuse Blown out

14.Recommendation / Action plan :

Sl.No.	Recommendations/Action plan	Responsibility	Time line
1)	HAD components quality and system healthiness to be ensured.	BM2	Opportunity
2)	HPBP Fast Open Logic modification required.	C&I	Immediate
3)	Operation SOP needed for PAF related problems.	O&OS	One week

15.Any specific learning / feedback :

HAD components quality and system healthiness to be ensured as PAF issues generally results in unit outage. HPBP logics to be modified and implemented for both units. An SOP for dealing better with PA related operational issues to be released asap.

13/07/21 13/7/21 15/7/21

DGM/OS DGM/EEMG ADGM/C&I DGM/ELECT

14.07.21

GM / C&I and Opn

Copy submitted to CEO / NTPL

Copy submitted to GM/O&M

DGM/EEMG