

UNIT TRIPPING REPORT

UNIT No: 2

STATION: NTPL, TUTICORIN.

OUTAGE: NO. 66

REPORT NO: 66

- | | |
|---|--|
| 1. Date of tripping | : 01-05-2022 |
| 2. Time of tripping | : 05:03:16 Hrs |
| 3. Status before tripping | |
| a) Unit load | : 216MW |
| b) Mills in service | : 4 |
| c) Oil guns in service | : Nil |
| d) Boiler feed pumps in service | : TDBFP A&B |
| e) CEPs in service | : 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 | : 2A, 1C |
| 4. First Up protection acted | : MFT acted (Drum Level VHigh) |
| 5. Other relays/protection acted | : Boiler trip/ Turbine trip/ |
| Generator trip | |
| 6. Supporting documents attached | : SOE & Trend |
| 7. Any operation done prior to tripping | : Drum level control taken into manual mode. |

8. Analysis of tripping:

Unit was running at 216 MW, which was less than the technical minimum of 280 MW, with TDBFP A&B in service. TDBFP A ACV was kept opened at 38%, to support the live steam pressure. The drum level was steady at 04:00 hrs. Steam/Feed water flow was 680 / 700 t/hr respectively. Speed control output was around 63%. A small variation started in drum level resulting in wide fluctuations in control valve at 05:00 hrs., with the speed control o/p varying from 55 to 80% to maintain the drum level and the drum level was varying from +160 to -100 mm. And on seeing the drum level at higher value, drum level control was taken into manual at the next cycle to control it but manual reduction rate was much lesser leading to boiler trip on drum level very high protection.

9. Root cause:

At lower loads, extraction pressure to TDBFP will be meagre, requiring more valve opening to maintain the speed & and hence its response to the drum level variation is poor at lower loads.

Unit was running at a low load and hence TDBFP 2A& 2B Speed Controllers were sluggish due to lower extraction pressure. Drum level control was taken into manual and a misjudgement in operation caused the trip.

10. Remedial measures taken/to be taken :

- To avoid running of unit at loads where the response of TDBFP control valve is sluggish.
- Operation executive's to be more vigilant during part load operations.
- ACV operation to be exploited further for live steam pressure support.

11. Time / Date of boiler light up and synchronization :

Light Up: 05:54 Hrs. on 01/05/2022.

Sync : 11:57 Hrs. on 01/05/2022.

12. Delay for light up/synchronising :


IPSV left didn't open while resetting turbine. IPSV test valve was operated many times but the stop valve was not opening. Finally, ATT device solenoid connections were removed, which was malfunctioning, thereby opening the IPSV.

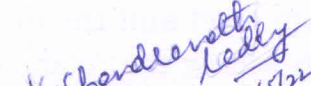
13. Recommendation / Action plan :


Sl.No.	Recommendations/Action plan	Responsibility	Time line
1	Sensitizing operation engineers	Operation	Immediate

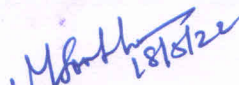
14. Any specific learning / feedback : nil

15. Signatures / Date :


EE / OS 17/05


EE/ ELECT 17/5/22


ACM/BOS 17/5/22


DGM / C&I 18/5/22


DGM/EEMG 18/5/22


DGM / O& SAFETY 17/5/22

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