UNIT TRIPPING REPORT

UNIT No: 1

STATION: NTPL, TUTICORIN.

OUTAGE: NO.69

REPORT NO: 69

1.Date of tripping	:12-07-2022
2.Time of tripping	:01:49Hrs
3.Status before tripping	
a) Unit load	:351MW
b) Mills in service	:B,C,D, F &G
c) Oil guns in service	: Nil
d) Boiler feed pumps in service	:TDBFP A &B
e) CEPs in service	:B & 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	:Generator trip on "Low Forward Power"
5.Other relays/protection acted	:Boiler tripped on drum level low.
6.Supporting documents attached	: S.O.E & Trends
7.Any operation done prior to tripping	:Nil

8.Analysis of tripping :

Unit was running at 351MW in CMC. Suddenly Turbine HP & IP control valves got closed and generator tripped on low forward power, turbine tripped. MDBFP came in auto, but because of hp bypass auto close due to higher pressure set resulted in higher drum pressure and a boiler trip on drum level low.

9. Root cause :

In EHTC, Primary DPU was active and secondary DPU in standby mode. Primary DPU fault resulted in changeover to standby Secondary DPU. During the changeover, the speed control output got frozen resulting in closure of turbine control valves and trip on low forward power.

HPBP Fast Open came on turbine trip. But subsequently by pass valves BPV1&2 were getting closed in auto, because of a higher pressure set point (due to control valve closure before TG trip). This condition resulted in drum level fluctuation and a boiler trip on drum level low.

10. Remedial measures taken/to be taken: Both DPU for the EHTC controller changed.

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

Light Up: : 10:03 Hrs on 19/07/2022

Sync'd: : 20:46 Hrs on 19/07/2022

12. Delay for light up : Condenser tube leakage, Boiler licence renewal

13. Reason for condenser tube leak : Due to fall of LP bypass impingement plate on condenser tube bundle, 3 tubes got damaged ,which was later plugged during condenser neck filling.

14. Recommendation / Action plan :

i) DCS Critical loop DPU Controllers Redundancy, Availability and Healthiness to be monitored periodically.

ii) HP bypass system auto operation to be ensured by board engineers, manually intervening if necessary, during every TG trip in order to save the boiler.

15. Any specific learning / feedback : Board Engineers are sensitized about HPBP auto operation.

EE / OS | EE/ ELECT | ACM/BOS

DGM / C&I | DGM / O& SAFETY | DGM/EEMG

Copy submitted to CEO / NTPL

Copy submitted to GM/O&M