UNIT TRIPPING REPORT

UNIT No: 1 STATION: NTPL,

TUTICORIN.

OUTAGE: NO.44

REPORT NO: 44

1.Date of tripping : 25-10-2019

2.Time of tripping : 17:45:15 Hrs

3.Status before tripping

a) Unit load : 500MW

b) Mills in service : A, B, D, E, F, & G

c) Oil guns in service : Nil

d) Boiler feed pumps in service : TDBFP 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 : Turbine trip on MST Low

5.Similar occurrences in the Financial Year : Nil

6.Other relays/protection acted : Boiler trip on RH Protection

7.Supporting documents attached : S.O.E & Trend

8.Any operation done prior to tripping : Load raising due to schedule

9.Analysis of tripping :

MST low alarm (<500 ^{0}C) came at 17:33:58 hrs on 25-10-2019 in U#1 while load raising was in progress as per schedule requirement. The sixth Mill A, with Import Coal, was started during load raising. MS pressure set point in CMC was manually lowered, towards the end of the block, to increase load as generation was on the negative side. During load raising SH temperature control valves were taken to manual and fully closed.

Since SD-6 control valve was showing some opening (6%), once again attemperation valves were opened and further closed to 0%, making SH attemperation flow 0 t/hr.

Even after stabilizing temperature to a certain extent, the rising of load was not controlled as the MS pressure was high, resulting in a steep fall in MS temperature leading to turbine trip on MST low protection.

After the turbine trip HPBP valves failed to 'Fast Open', and MS pressure shot up to 200 ksc from 177 ksc leading to opening of MS safety valve. Boiler got tripped on RH protection of "Turbine tripped & HPBP Not Open".

10.Root cause :

Higher rate of load raising due to cutting in of Mill-A with high GCV coal was the prime cause for the drop in MS temperature. Rise in MS pressure was dealt with by increasing load set point. The whole issue of rising pressure and reducing temperature was triggered due to the delayed starting of a mill with high GCV coal during schedule rising.

11.Remedial measures taken/to be taken:

MS temperature has to be maintained always nearer to the nominal values, by adjusting firing as well as attemperation flow. Whenever MS temperature drops to near 510 °C, all spray valves should be isolated and zero flow must be ensured. Also tilt has to be adjusted judiciously. Most important of all, the rate of loading has to be contained within limits and adequate time should be given for restoration of temperature.

HPBP didn't open in 'Fast mode' due to control supply problem with the 'Fast Open' servo valve SOV.

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

Light Up: 18:10 Hrs on 25.10.2019

Sync'd: 20:14 Hrs on 25.10.2019

13.Delay for light up : No delay.

14.Recommendation / Action plan :

Sl.No.	Recommendations/Action plan	Responsibility	Time line
1)	SH spray flow, burner tilt and loading ramp needs to be controlled during MS temperature excursions.	Opn	immediate
2)	HPBP logics to be checked during every opportunity.	OS / C&I	Next Opportunity

15.Any specific learning / feedback :

Operation Engineers to be sensitised about parameter controlling through training classes. Bypass logics to be checked during every opportunity. Simulation Register to be maintained and reviewed frequently to avoid lapses.

30/12

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

DGM / O&C

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