UNIT TRIPPING REPORT

UNIT No: 2

STATION: NTPL, TUTICORIN.

OUTAGE: NO.64

REPORT NO: 64

1.Date of tripping : 04-03-2022

2.Time of tripping : 12:48 Hrs

3.Status before tripping

a) Unit load : 281 MW

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 : 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 : B & C

4.First Up protection acted : Generator trip on "Low Forward Power"

5.Other relays/protection acted : Turbine tripped on Trip Oil pr < 2 Ksc
Boiler hand tripped

6.Supporting documents attached : S.O.E & Trends

7.Any operation done prior to tripping : Nil

8.Analysis of tripping :

HPCF-1 got tripped on Motor Overload at 12.47.18 Hrs. HPCF-2 which was in standby mode failed to start in auto. The control fluid pressure dropped and hence all turbine stop valves and governing valves got closed due to "Low Trip Oil Pressure" resulting in generator trip on low forward power. MDBFP got started on Turbine trip but boiler could not be saved as the condenser vacuum was approaching 0.6 Ksc due to vacuum breaker open condition (no CF pump in service). Boiler was immediately hand tripped.

HPCF pump 2 was started at 12.56.23 hrs after attending breaker problem and unit was lighted up at 13.11 Hrs and subsequently synchronized.

9.Root cause :

The running Control Fluid Pump 1 Motor Winding got failed and its IR value was showing zero. The standby HPCF 2 did not start due to breaker problem as its mechanical breaker interlock was not in properly released condition. During shutdown, LC was taken for HPCF 2 for checking of motor/breaker on 24.02.2022 and returned by EM.

10.Remedial measures taken/to be taken:

i) Trial run for all critical equipments are to be taken after work completion and return of LC. All operation executives have been sensitised to monitor the status of standby equipments modules during each shift.

ii) Local operation supervisors have been sensitised to be more vigilant while normalising supply/breakers.

iii) HPCF pumps may be included in Monthly Schedule Change Over program.

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

Light Up: : 13.11 Hrs on 04/03/2022
Sync'd: : 14.37 Hrs on 04/03/2022

12.Delay for light up : nil

13.Recommendation / Action plan :

i) C & I division has provided an annunciation window in LVS for showing a module discrepancy for HPCFs.

ii) It is recommended to take trial run of critical equipments to ensure breaker healthiness after returning of work permit

iii) While breaker rack in after return of work permit proper release of breaker mechanical interlock in the breaker compartment to be ensured and it is recommended to ensure the breaker service position.

iv) Considering the critical nature of the equipment, MTP has included this equipment also for monitoring.

v) HPCF pumps are included for schedule change over every month to equalize running hours.

14. Any specific learning / feedback :

Presently HPCF pumps are changed over during unit shut down period only, considering the risk involved. But considering the availability, healthiness and for equal hours of running, monthly Schedule Change Over seems to be better.

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Copy submitted to CEO / NTPL

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