

UNIT TRIPPING REPORT

UNIT No: 2
TUTICORIN.

STATION: NTPL,

OUTAGE: NO.54

REPORT NO: 54

1. Date of tripping : 08-09-2020
2. Time of tripping : 16:15:13 Hrs
3. Status before tripping
 - a) Unit load : 470 MW
 - b) Mills in service : A, B, E, F, G & H
 - 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 : PW temperature high TP1.
5. Similar occurrences in the Financial Year : Nil
6. Other relays/protection acted : Boiler tripped on Supply failure.
7. Supporting documents attached : S.O.E & Trend
8. Any operation done prior to tripping : TGDMCW-2C Pump Charging.
9. Analysis of tripping :

TG got tripped on Turbine Protection due to Generator Primary Water temperature high. Both TGDMCW pumps A&B got tripped on suction pressure low which lead to lose of cooling water supply to all TG auxiliaries. Tripping of the unit lead to starting of MDBFP2 in auto logic resulting in overloading of buses as only ST1 was in service and ST2 was under LC. This power supply disturbance resulted in tripping of Unit #1 boiler where parameter raising was in progress.

10.Root cause :

TGDMCW2C pump was being charged at local after the replacement of its bearings. The local supervisor failed to initially crack open the suction valve and charge the pump completely, which is the normal practise adopted. He informed the board engineer to open the suction valve from remote. Unfortunately, the board engineer also without confirming the charging status gave open command to the suction valve. The sudden opening of the suction valve created momentary localized pressure dip in the common suction header, tripping both the running pumps. Even though one pump was restarted in a minute the PW temperature rise was sharp as the unit was running at almost full load.

11.Remedial measures taken/to be taken:

Both the local supervisor and board engineer were given warning and were advised to follow normal charging practises without fail. Also a circular is being issued in this regard.

TGDMCW pump logic modification for suction pressure trip is also being considered for implementation shortly.

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

Light Up: : 18:30 Hrs on 08-09-2020

Sync'd: : 20:43 Hrs on 08-09-2020

13.Delay for Sync : TDBFP2A trip on suction flow.

TDBFP2A R/C valve was manually closed at 19:35 hrs to improve feed water flow to the drum as the level was dropping. But as the drum pressure was on a steep rise during parameter raising, the flow got reduced and the pump tripped on low suction flow protection.

The board engineer was struggling to contain AST pressure with own MS source which delayed the process of speed rising of TDBFP2A with its ACV. Moreover, the drum pressure rising was sharp due to the firing and parameter rising which didn't provide enough time for speed rising thru' ACV.


TDBFP2A trip resulted in Boiler trip due to all BFPs trip. Boiler was again lighted up at 19:50 hrs and parameter rising was resumed.

14.Recommendation / Action plan :

Sl.No.	Recommendations/Action plan	Responsibility	Time line
1)	Board and Local supervisors to be sensitized about the importance of slow charging of pumps/lines.	OS	Immediate
2)	A Circular / SOP is being released with regard to charging of lines/pumps/system with water or steam.	OS	One week
3)	TGDMCW pump trip logic to be modified. Suction pressure less than 1 ksc AND O/H tank level Very Low <i>with</i> a time delay of 5s.	C&I/OS	Two days

15.Any specific learning / feedback :

The importance of adhering to normal operational practises was emphasized to Board engineers and local supervisors. This incident serves as an eye opener to all and to appreciate the fact that any minor negligence has the potential for great losses.


ADGM / OS


DGM/EEMG


DGM / C&I


DGM / ELECT


DGM / O&C

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