

UNIT TRIPPING REPORT

UNIT No: 2

STATION: NTPL TUTICORIN.

OUTAGE: NO. 32

REPORT NO:32

- | | |
|--|----------------------------|
| 1.Date of tripping | : 11-10-2018 |
| 2.Time of tripping | : 04:13:39 Hrs |
| 3.Status before tripping | |
| a) Unit load | : 496 MW |
| b) Mills in service | : A, B, C, E, F & 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 | : Generator trip (Class A) |
| 5.Similar occurrences in the
Financial Year | : NIL |
| 6.Other relays/protection acted | : Turbine trip/Boiler trip |
| 7.Supporting documents attached | : SOE |
| 8.Any operation done prior to tripping | : NIL |
| 9.Analysis of tripping | : |
| UT-B Bucholz relay acted, leading to the tripping of Unit 2 Generator
on Class-A protection. | |
| 10.Root cause | : |
| Unit 2 Transformer Mulsifier system acted due to the gradual pressure
loss of water above the Deluge valve. Water entry into the UT-B
Bucholz relay junction box lead to the false pick up of protection.
Boiler got tripped on RH conditions since time delay of 1 sec was not
normalized to 10 secs after making available the HPBP system during
MOH - 2018. | |

11. Remedial measures taken/to be taken:

The healthiness of deluge valve pressure make-up system was ensured by TMD. Relay JB is made water tight by EMD. Boiler RH protection time delay was normalized.

12. Time/Date of boiler light up and sync : 11-10-2018

Light Up: 06:32 HRS

Sync'd : 08:56 HRS

13. Delay for light up : No delay

14. Recommendation / Action plan :

Sl.No.	Recommendations/Action plan	Responsibility	Time line
1	Outdoor Junction Boxes are to be made water tight to avoid spurious trips in the future.	EMD	Immediate.
2	Deluge valves and Mulsifier systems healthiness to be ensured thro periodic checks.	TMD	Immediate.
3	Simulations to be normalized after attending the work.	OS/C&I	Immediate.

15. Any specific learning / feedback :

The importance of PM scheduling cannot be over emphasized. All maintenance divisions should give due importance to critical equipments protection systems. Simulation register to be reviewed periodically.



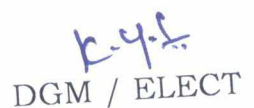
CM / OS



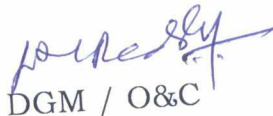
CM/EEMG



DGM / C&I



DGM / ELECT



DGM / O&C

Copy submitted to GM/O&M

Copy submitted to CEO / NTPL

Event Summary (filtered)

Start Time: Thursday 11/ Oct/2018 04:13 End Time: Thursday 11/ Oct/2018 04:14 333

Time	Description	Event Text
11/Oct/18 04:13:05.641	PULV-D OFF & HAG	Digital_State Old=FALSE New=NOT CLOSED 2COALCD
11/Oct/18 04:13:06.150	PULV B IGN PERMIT AVAILABLE	Digital_State Old=FROM UNIT New=FALSE 2COALAB_p
11/Oct/18 04:13:08.612	FDR-B Spd Gt 50 Pct	Digital_State Old=N.TRUE New=True 2B05CRE13_s
11/Oct/18 04:13:10.601	FDR-C Spd Gt 50 Pct	Digital_State Old=N.TRUE New=True 2B06CRE15_p
11/Oct/18 04:13:12.139	PULV B IGN PERMIT AVAILABLE	Digital_State Old=FALSE New=FROM UNIT 2COALAB_p
11/Oct/18 04:13:38.973	STG1 TRIP RELAY 186A	Digital_State Old=OPERATED New=OPERATED 2B24C
11/Oct/18 04:13:38.973	ULR SET	Digital_State Old=FALSE New=ULR SET 2EXC_p
11/Oct/18 04:13:38.978	STG1 TRIP RELAY 286A	Digital_State Old=OPERATED New=OPERATED 2B24C
11/Oct/18 04:13:39.019	EX FB IS CLOSED	Digital_State Old=TRUE New=FALSE 2EXC_p
11/Oct/18 04:13:39.022	GEN BREAKER	Digital_State Old=GCB CLOSE New=NOT CLOSE 2EHTC
11/Oct/18 04:13:39.028	GEN BREAKER	Digital_State Old=N.FAULTY New=OPEN 2EHTC_p
11/Oct/18 04:13:39.035	GEN NOT SYNCH	Digital_State Old=FALSE New=GCBIS OFF 2EXC_p
11/Oct/18 04:13:39.040	EX FB IS OPEN	Digital_State Old=FALSE New=TRUE 2EXC_p
11/Oct/18 04:13:39.067	TURBINE TRIP RELAY CH-1	Digital_State Old=FALSE New=IS ON 2ATT_p
11/Oct/18 04:13:39.070		Digital_State Old=FALSE New=TRUE 2EHTC_p
11/Oct/18 04:13:39.070	LOAD CONTROL	Digital_State Old=ACTIVE New=NOT ACTIVE 2EHTC_p
11/Oct/18 04:13:39.070	SPEED CONTROL	Digital_State Old=NOT ACTIVE New=ACTIVE 2EHTC_p
11/Oct/18 04:13:39.072	COLD COIL MONITOR	Digital_State Old=FALSE New=FAULTY 2TP1_p
11/Oct/18 04:13:39.073	REMOTE TRIP RELAY CH-2	Digital_State Old=FALSE New=ON 2ATT_p
11/Oct/18 04:13:39.100		Digital_State Old=FALSE New=TRUE 2EHTC_p
11/Oct/18 04:13:39.105	INV OPRN ON CH2	Digital_State Old=FALSE New=EXC IS OFF 2EXC_p

MFT

APRDS

MILL A

MILL B

MILL C

TDBFP A

TDBFP B

EHTC

CMC

2Sp_Ctl_Active

FLAME INTENSITY

SADC

MILL D

MILL E

MILL F

TP INPIITS

LUB OIL

HPBP

VACCUM

SPEED CONTROL

BOILER CONTROL

CLCS

MILL G

MILL H

WALL.B

TURB. PROT

HPCF

LPBP

PW SYS

"EventSummary\EventSummarySOE.MN"

SILENCE

ACK

RESET

TAG

SOE

ALARM

Print

AlmSum

TRND

HW

Cond

1.9

5.5

13:55:29 02Nov18 9

3000RPM 496MW

UNIT 2

MAIN	LAST
SG	TG
BOP	ELEC
GEN	TDBFP
Select Point	Track Point
PR DEV	-1.27
H2 PR	3.39
FUR PRS	-7.59
TOT COAL	274.7
TOT AIR	1718.2
SA FLOW	1096.5
O2	3.30
PA HDR	818.8
DRUM PR	188.0
MS PRESS	168.7
HRH PR	41.38
MS TEMP	528.0
HRH TEMP	549.0
SH SPRAY	5.21
COND PR	0.1293
HWL LVL	5.8466
DEA LVL	216.3
DRUM LVL	-9.6
MS FLOW	1529.9
FW FLOW	1584.4
COND FLW	1289.5
IA PRESS	7.1968
MOT LVL	-121.8
CF LVL	-28.63

Event Summary

(filtered)

Start Time: Thursday 11/ Oct/2018 04:13 End Time: Thursday 11/ Oct/2018 04:14 324

Time	Description	Event Text
11/Oct/18 04:13:39.592	UT 2B WDG TEMP	Digital_State = TRIPPED 64RUTB_7SJ804
11/Oct/18 04:13:39.690	EHTC	Digital_State Old=NO FLT New=FAULT 2EHTC_p
11/Oct/18 04:13:39.746		Digital_State Old=FALSE New=TRUE 2B09CRE21_s
11/Oct/18 04:13:39.983	TP1 GEN ELECT PROT TP CH-1	Digital_State Old=N.OPTD New=OPTD 2TP2_p
11/Oct/18 04:13:40.023	GEN PROT ELEC OPTD	Digital_State Old=FALSE New=OPTD 2TP2_p
11/Oct/18 04:13:40.233	TURB TRIP CH2.1 CMD	Digital_State Old=FALSE New=ON 2TP2_p
11/Oct/18 04:13:40.233	TURB TRIP CH2.2 CMD	Digital_State Old=FALSE New=ON 2TP2_p
11/Oct/18 04:13:40.233	TUR TRIP CH2.3 CMD	Digital_State Old=N TRIPPED New=TRIPPED 2TP2_p
11/Oct/18 04:13:40.272	TP1 GEN ELECT PROT TP CH-1	Digital_State Old=N.OPTD New=OPTD 2TP1_p
11/Oct/18 04:13:40.312	GEN PROT ELEC OPTD	Digital_State Old=FALSE New=OPTD 2TP1_p
11/Oct/18 04:13:40.434	BP-1 VALVE FAST OPEN	Digital_State Old=FALSE New=TRUE 2HPBP_p
11/Oct/18 04:13:40.434	BP-2 VALVE FAST OPEN	Digital_State Old=FALSE New=TRUE 2HPBP_p
11/Oct/18 04:13:40.531	NRV COLD REHEAT	Digital_State Old=100% New=FALSE 2ATRS1_s
11/Oct/18 04:13:40.650	PT FUSE FAIL AUTO-2	Digital_State Old=FALSE New=CH2 PT FUSE 2EXC_p
11/Oct/18 04:13:40.934		Digital_State Old=FALSE New=TRUE 2HPBP_p
11/Oct/18 04:13:40.954	BP1 VLV > 2% OPEN	Digital_State Old=FALSE New=TRUE 2HPBP_p
11/Oct/18 04:13:40.954	BP1 VLV > 2% OPEN	Digital_State Old=FALSE New=TRUE 2HPBP_p
11/Oct/18 04:13:41.031	ETP CH-1.1	Digital_State Old=FALSE New=OPTD 2ATT_p
11/Oct/18 04:13:41.071	LOSS OF RH PROT ACTED	Digital_State Old=False New=True 2B11CRE26_p
11/Oct/18 04:13:41.444		Digital_State Old=FALSE New=TRUE 2HPBP_p
11/Oct/18 04:13:41.444	BP2 Valve Malfunctioning	Digital_State Old=FALSE New=TRUE 2HPBP_p

MFT	APRDS	MILL A	MILL B	MILL C	TDBFP A	TDBFP B	EHTC	CMC	2RH_PROT_ACTED
FLAME INTENSITY	SADC	MILL D	MILL E	MILL F	TP INDIITS	LUB OIL	HPBP	VACCU	LOSS OF RH PROT ACTED
BOILER CONTROL	CLCS	MILL G	MILL H	WALL.B	TURB. PROTN	HPCF	LPBP	PW SYS	"EventSummary\EventSummarySOE.MN"

SILENCE	TAG	Print	HW	Cond
ACK	SOE	AlmSum	2.1	
RESET	ALARM	TRND	5.5	

13:57:13 02Nov18

3001RPM

499MW

UNIT 2

MAIN	LAST
SG	TG
BOP	ELEC
GEN	TDBFP
Select Point	Track Point
PR DEV	-0.39
H2 PR	3.39
FUR PRS	-9.94
TOT COAL	272.9
TOT AIR	1716.5
SA FLOW	1094.8
O2	3.17
PA HDR	817.5
DRUM PR	188.9
MS PRESS	169.5
HRH PR	41.61
MS TEMP	529.8
HRH TEMP	550.5
SH SPRAY	5.15
COND PR	0.1296
HWL LVL	-0.745
DEA LVL	220.0
DRUM LVL	-21.6
MS FLOW	1538.6
FW FLOW	1603.7
COND FLW	1287.5
IA PRESS	7.1199
MOT LVL	-121.8
CF LVL	-28.12

Event Summary

(filtered)

Start Time: Thursday 11/ Oct/2018 04:13 End Time: Thursday 11/ Oct/2018 04:14 319

Time	Description	Event Text
11/Oct/18 04:13:41.071	LOSS OF RH PROT ACTED	Digital_State Old=False New=True 2B11CRE26_p
11/Oct/18 04:13:41.444		Digital_State Old=FALSE New=TRUE 2HPBP_p
11/Oct/18 04:13:41.444	BP2 Valve Malfunctioning	Digital_State Old=FALSE New=TRUE 2HPBP_p
11/Oct/18 04:13:41.454	BP2 Valve Malfunctioning	Digital_State Old=FALSE New=TRUE 2HPBP_p
11/Oct/18 04:13:41.578	PULV MOTOR H	Digital_State Old=FALSE New=SWGR FDBKOFF 2COAL
11/Oct/18 04:13:41.599	PULV MOTOR H	Digital_State Old=SWGR DISTBD New=FALSE 2COALG
11/Oct/18 04:13:41.762	RHP TRIP	Digital_State Old=FALSE New=TRUE 2MFT2_p
11/Oct/18 04:13:41.814	RHP TRIP	Digital_State Old=FALSE New=TRUE 2MFT1_p
11/Oct/18 04:13:41.823	RHP TRIP	Digital_State Old=FALSE New=TRUE 2MFT3_p
11/Oct/18 04:13:42.032	STG2 GR1 LOW PWR & TURB	Digital_State = TRIPPED GR1_7UM622
11/Oct/18 04:13:42.039	MSF LOAD <20%	Digital_State Old=False New=True 2B10CRE23_p
11/Oct/18 04:13:42.039	MSF LOAD <25%	Digital_State Old=False New=True 2B10CRE23_p
11/Oct/18 04:13:42.115	TURBINE TRIPPED	Digital_State Old=N.TRIPPED New=TRIPPED 2ATT_p
11/Oct/18 04:13:42.124	DISCONN RELAY CH-2.1	Digital_State Old=FALSE New=ON 2ATT_p
11/Oct/18 04:13:42.165	NO BOILER TRIP CMD	Digital_State Old=TRUE New=FALSE 2UNIT_p
11/Oct/18 04:13:42.165	REHEATER PROTECTION TRIP	Digital_State Old=FALSE New=TRUE 2UNIT_p
11/Oct/18 04:13:42.214	TURBINE TRIPPED	Digital_State Old=N.TRIPPED New=TRIPPED 2ATT_p
11/Oct/18 04:13:42.222	TP1 MFT PROT TP CH-1	Digital_State Old=N.FAULT New=FAULT 2TP2_p
11/Oct/18 04:13:42.262	MFT CH 2	Digital_State Old=FALSE New=TRUE 2MFT2_p
11/Oct/18 04:13:42.314	MFT CH 1	Digital_State Old=MFT RESET New=MFT ACTED 2MFT1
11/Oct/18 04:13:42.323	MFT CH 3	Digital_State Old=FALSE New=TRUE 2MFT3_p

13:58:42
02Nov18

3002RPM
500MW

UNIT 2

MAIN	LAST
SG	TG
BOP	ELEC
GEN	TDBFP
Select Point	Track Point
PR DEV	0.20
H2 PR	3.39
FUR PRS	-9.93
TOT COAL	271.8
TOT AIR	1717.7
SA FLOW	1095.1
O2	3.19
PA HDR	822.0
DRUM PR	189.4
MS PRESS	170.1
HRH PR	41.69
MS TEMP	529.7
HRH TEMP	552.0
SH SPRAY	5.60
COND PR	0.1298
HWL LVL	-5.587
DEA LVL	224.1
DRUM LVL	-12.9
MS FLOW	1538.3
FW FLOW	1592.3
COND FLW	1285.9
IA PRESS	6.9038
MOT LVL	-122.0
CF LVL	-27.17

MFT	APRDS	MILL A	MILL B	MILL C	TDBFP A	TDBFP B	EHTC	CMC	TURBINE_TRIPPED_1
FLAME INTENSITY	SADC	MILL D	MILL E	MILL F	TP INDIPTS	LUB OIL	HPBP	VACCU	TURBINE TRIPPED
BOILER CONTROL	CLCS	MILL G	MILL H	WALL.B	TURB. PROT	HPCF	LPBP	PW SYS	"EventSummary\EventSummarySOE.MN"

SILENCE	TAG	Print	HW Cond
ACK	SOE	AlmSum	2.0
RESET	ALARM	TRND	5.5