

C.E. (System Control Centre),

REPORT ON SYSTEM DISTURBANCE / PLANT FAILURE

Power Station: **Kotmale Power Station** Date: 15/08/2018 Time: 19:45 hrs

Failure at a Glance: At 19:45 hrs. Unit 03 – Generator was tripped. It was observed “Mechanical trip relay operated” alarm at control room of Kotmale Power Station.

Pre-fault condition:

Generators:

Readings at 19:45 hrs (before Trip)

Unit No.	MW	MVar	Voltage /kV	AVR on/off	Governor	Remarks
01	64.2	10	13.8	ON	Auto, ep2	
02	67.9	9.8	13.8	ON	Auto, ep2	
	65.4	8.4	14.0	ON	Auto, ep2	14.0kV from Log sheet. But at Voltage meter it was shown 0kV

Transmission Lines:

Readings at 19.45hrs (Readings from SCADA)

Transmission Line	MW	MVar	kV	A
Anu 01	-9.3	10.3	221.1	36
Anu 02	-9.4	10.3	222.0	36
Vic 01	44.3	51.2	222.0	184
Vic 02	44.1	49.9	221.5	182
UK 01	-79.5	-3.7	223.4	194
UK 02	-80.6	-1.8	222.9	197
Biy 01	191.3	79.1	221.6	526
Biy 02	188.8	83.4	221.2	535

(b). Nature of failure:

Equipment	Auto/M an trip	Time of tripping	Indications & Alarms / Remarks
Unit 3-Generator	Auto	19.45	At Control Room White Indications(Alarms) <ul style="list-style-type: none"> • Cooling system abnormal • Non urgent mechanical fault • Gov.oil system abnormal • Mechanical trip relay operated • Ge.Air wind temp high At Power House Red indications (Trip) <ul style="list-style-type: none"> • Inlet valve closing trip • Turbine Gov fault • Emergency shut down

			White indication (Alarms) <ul style="list-style-type: none"> • Gen air Cold Temp High • Oil pressure pump fault • Gov.oil Pressure Low • Gove. Pressure vessel High/Low
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3. Restoration

Equipment	Restored time
Unit 03 Generator	20.59

4. Brief description of incident by officer in charge [OEE] at that time:

With the tripping of HAD-1 (Dam site 11kV supply) generator-3 voltage at the meter was indicated as 0 kV (But in SCADA voltage is 128.6 L-N, which is correct). Then above mentioned alarms were activated and generator-3 was tripped.

This was informed to System control, CE-Kot and EE-M.

During the inspection of unit 3 power supply, it was found that, both Non Essential supply and Essential supply of Generator-3 were not presented, which further resulted in shutting down of cooling water pump and Gov pressure oil pump.

This was verified by operating related contactors and isolators. Then Unit-3 auxiliary supply was restored by manually operating NEPS-EPS selector switch and Generator-3 was restored at 20.59.

Eng. D.M.U.J. DASSANAYAKE *[Signature]* 15/08/2018
 Electrical Engineer (Operations)
 Kotmale Power Station

5. Remedial actions taken to avoid reoccurrence of such failure / [EE (C&I/ EEM)'s note]:

U03 Aux. supply Manual mode was tested by switching on NESB & ESB modes. Auto mode was tested by manually switching off the NESB isolator. All were functioning well and further investigations to be planned to carry-out during RM of U03.

[Signature] Eng. U.S. DUNUKEDENIYA
 16/08/2018 EE(M) - KOTMALE PS

6. Remarks



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 Officer In-Charge of the Power Station
 Eng. U.R.S.S. SENADHIRATHNE
 CHIEF ENGINEER

Date:

KOTMALE POWER STATION
 Copy: DGM (MC) - f.i. PI.