








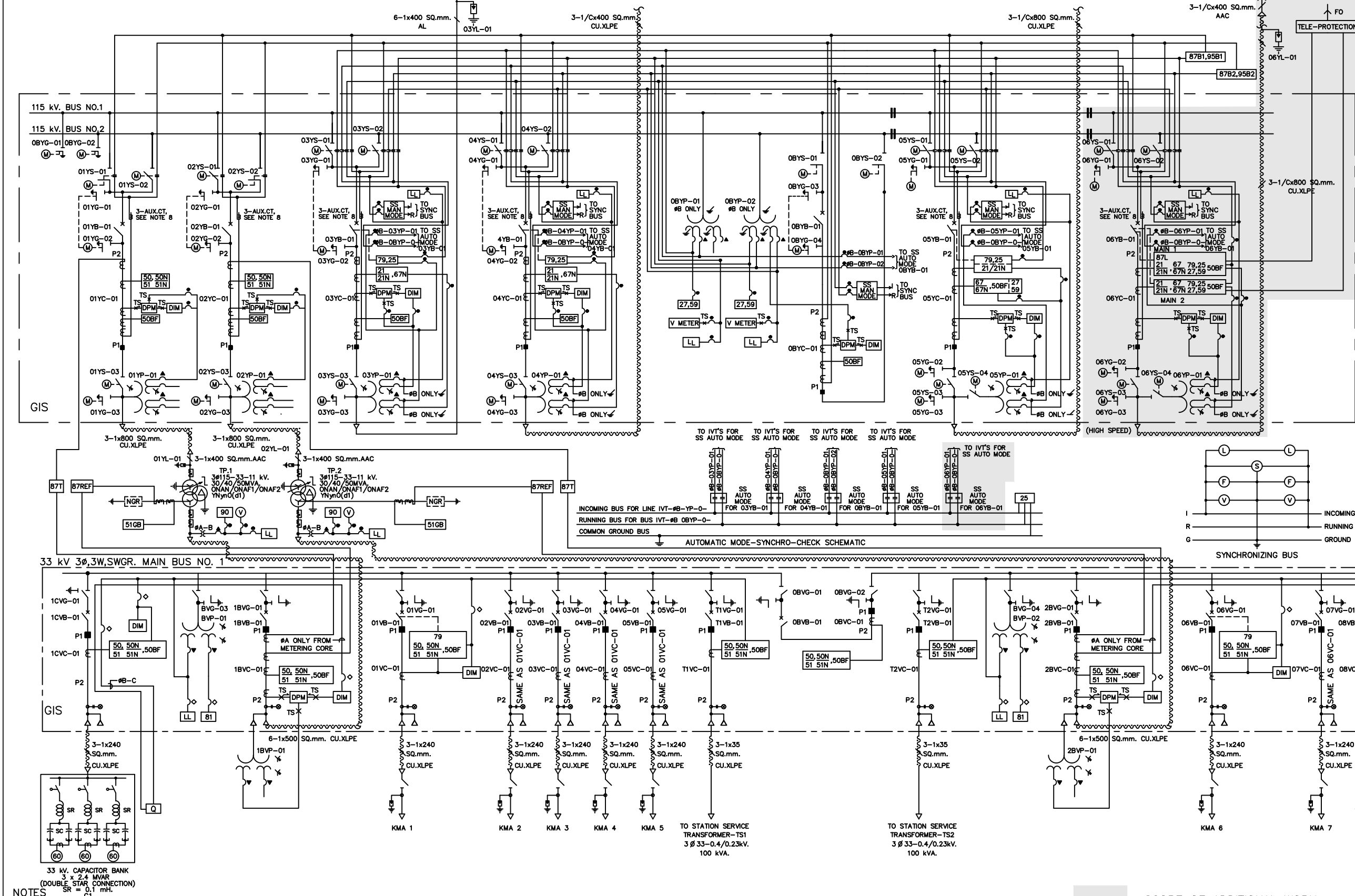


DEVICES	EXPLANATION
87L	LINE CURRENT DIFFERENTIAL RELAY
21, 21N	DISTANCE TIME-STEP PHASE AND GROUND DISTANCE RELAY
67, 67N	DIRECTIONAL PHASE AND GROUND OVERCURRENT RELAY
27,59	UNDER/OVER VOLTAGE RELAYS
25	SYNCHROCHECK RELAY
79	AUTOMATIC RECLOSING RELAY
50BF	BREAKER FAILURE RELAY
50 51	NON-DIRECTIONAL INSTANTANEOUS AND TIME PHASE OVERCURRENT RELAY
50N 51N	NON-DIRECTIONAL INSTANTANEOUS AND TIME GROUND OVERCURRENT RELAY
51GB	NON-DIRECTIONAL GROUND BACKUP OVERCURRENT RELAY
87T	TRANSFORMER DIFFERENTIAL RELAY
87REF	TRANSFORMER RESTRICTED EARTH FAULT RELAY THIS RELAY SHALL BE INCORPORATED IN THE TRANSFORMER DIFFERENTIAL RELAY (87T)
90	AUTOMATIC VOLTAGE REGULATOR
87B1, 87B2	BUS DIFFERENTIAL RELAYS – LOW IMPEDANCE TYPE
95B1 95B2	BUS BAR SUPERVISION RELAY FOR BUSWIRE SUPERVISION FOR 87B1 AND 87B2
81	UNDER FREQUENCY RELAY
60	CAPACITOR CURRENT UNBALANCE SENSING RELAY
Q	POWER FACTOR CONTROLLER
DPM	DIGITAL POWER METER
DIM	DISTRIBUTED I/O MODULE (PROVIDED IN CSCS)
V METER	DIGITAL VOLTMETER
SS	SYNCHRONIZING SWITCH, 3-POSITION, AUTO-OFF-MAN
L	SYNCHRONIZING LAMP
V	VOLTMETER
F	FREQUENCY METER
S	SYNCHROSCOPE
LL	LINE INDICATING LAMP
	CURRENT TEST SWITCH
	POTENTIAL TEST SWITCH
	LOCATED IN THE SWITCHYARD JUNCTION BOX
	LOCATED IN THE CONTROL AND RELAY BOARD
	LOCATED IN THE 33 kV SWITCHGEAR JUNCTION BOX
	LOCATED IN THE 33 kV SWITCHGEAR CONTROL PROTECTIVE CIRCUITS
	WYE CONNECTED CT OF SECONDARY WINDING
	DELTA CONNECTED CT OF SECONDARY WINDING (IF ANY)
	TRANSFORMER BUSHING CT OF SECONDARY WINDING, WYE CONNECTED FOR PHASE OR NEUTRAL



(b)
NOTES

1. 115 KV. VT RATIO	$\frac{115,000}{\sqrt{3}} : \frac{115}{\sqrt{3}} / 115 // \frac{115}{\sqrt{3}} / 115$ V	200VA/0.5/1.9VF, 200VA/3P/1.9VF
2. 115 KV. IVT RATIO(06YP-01)	$\frac{115,000}{\sqrt{3}} : \frac{115}{\sqrt{3}} / 115 // \frac{115}{\sqrt{3}} / 115$ V	50VA/0.2/1.5VF, 50VA/3P/1.5VF (SIMULTANEOUS BURDEN 100VA)
3. 115 KV. CT RATIO	1200/1000/800/600/400/200 : 1/1/1/1/1 A	20VA/5P20, 20VA/5P20, 20VA/0.5FS5, 20VA/5P20, 20VA/5P20
	1200/1000/800/600/400/200 : 1/1/1/1/1 A - FOR BUS COUPLER BAY	20VA/5P20, 20VA/5P20, 20VA/0.5FS5, 20VA/5P20, 20VA/5P20
4. 115 KV. CT RATIO(06YC-01)	1800/1500/1200/900/600/300 : 1/1/1/1 A	20VA/600/1/5P20, 20VA/0.5FS5, 20VA/5P20, 20VA/5P20
5. 33 KV. VT. RATIO	$\frac{33000}{\sqrt{3}} : \frac{110}{\sqrt{3}} / \frac{110}{\sqrt{3}}$ V	50VA/0.5/1.9VF, 50VA/3P/1.9VF
6. 33 KV. CT. RATIO	1200/1000/600 : 1/1/1/1 A - FOR INCOMING BREAKER	10VA/5P20, 10VA/5P20, 10VA/5P20, 20VA/0.5FS5
	1200/1000/600 : 1/1 A - FOR TIE BREAKER	20VA/5P20, 20VA/0.5FS5
	600/300 : 1 A - FOR OUTGOING 33 KV.	10VA/5P20
	600/300 : 1 A - FOR CAPACITOR BANK	20VA/5P20
	100 : 1 A - FOR STATION SERVICE TRANSFORMER	10VA/5P20

7. THE NEUTRAL GROUND RESISTOR (NGR) ARE INDICATED FOR FUTURE INSTALLATION.
8. AUXILIARY CURRENT TRANSFORMERS SHOWN THUS, SHALL BE AS PARTS OF THE BUS DIFFERENTIAL RELAYS.
9. SYNCHRONIZING SCHEMATIC
 - 7.1. —YP—0— SHOWN THUS, REFERS TO INCOMING IVT DESIGNATIONS.
 - 7.2. BY-P—0— SHOWN THUS REFERS TO RUNNING BUS IVT FOR BUS No.1 OR No.2
 - 7.3. 0B ONLY ↙ SHOWN THUS, REFERS TO THE SECONDARY WINDING OF IVT FOR PHASE "B" AND USING FULL TAP WINDING 115V FOR SYNCHRONIZING SYSTEM WITH ONE END OF THE WINDING CONNECTED WITH COMMON GROUND BUS.
 - 7.4. MANUAL SYNCHRONIZING BY SYNCHROSCOPE SHALL UTILIZE INCOMING AND RUNNING SECONDARY VOLTAGES OF METERING CORES FROM "PHASE B" FOR BOTH IVT'S.
 - 7.5. AUTOMATIC SYNCHRONISM VERIFICATION BY SYNCHRO CHECK RELAY(25) SHALL UTILIZE INCOMING AND RUNNING SECONDARY VOLTAGES OF RELAYING CORES FROM "PHASE B" FOR BOTH IVT'S.
10. FOR 115 kV. SYSTEM PROTECTION, RELAYS SHALL BE DOUBLE MAIN PROTECTION RE (MAIN1&2) AND DIFFERENT PRODUCT/MANUFACTURER.

REFERENCE DRAWING

— SINGLE LINE DIAGRAM DWG. NO. FA2-011/62007

SCOPE OF ADDITIONAL WORK

L	กองออกแบบสถานีไฟฟ้า ฝ่ายงานสถานีไฟฟ้า	การไฟฟ้าส่วนภูมิภาค	ใช้แบบแบบ _____ ถูกแทน โดยแบบ _____ เขียนเสร็จวันที่ 1 มี.ค. 62 แก้แบบวันที่ _____ มติเป็น _____ มาตรการส่วน _____
	ผู้เขียน _____ ชัยธรสินทร์ _____ ผู้สำรวจ _____ วิศวกร _____ ชัยธรสินทร์ _____ หัวหน้าแผนก วิศวกร _____ ผู้อำนวยการกอง _____ ผู้อำนวยการฝ่าย _____ (แนบ)	ผู้ว่าการ _____ (แนบ) สถานีไฟฟ้าเกาะสมุย 1 จ.สุราษฎร์ธานี (เพิ่มเติม) มิเตอร์และรีเลย์ไดอะแกรม	แบบเลขที่ FA4-011/62017 แผ่นที่ 1 ของจำนวน 1 แผ่น
	รองผู้ว่าการวิศวกรรม _____	KO SAMUI 1 SUBSTATION (ADD) METERING AND RELAYING DIAGRAM	