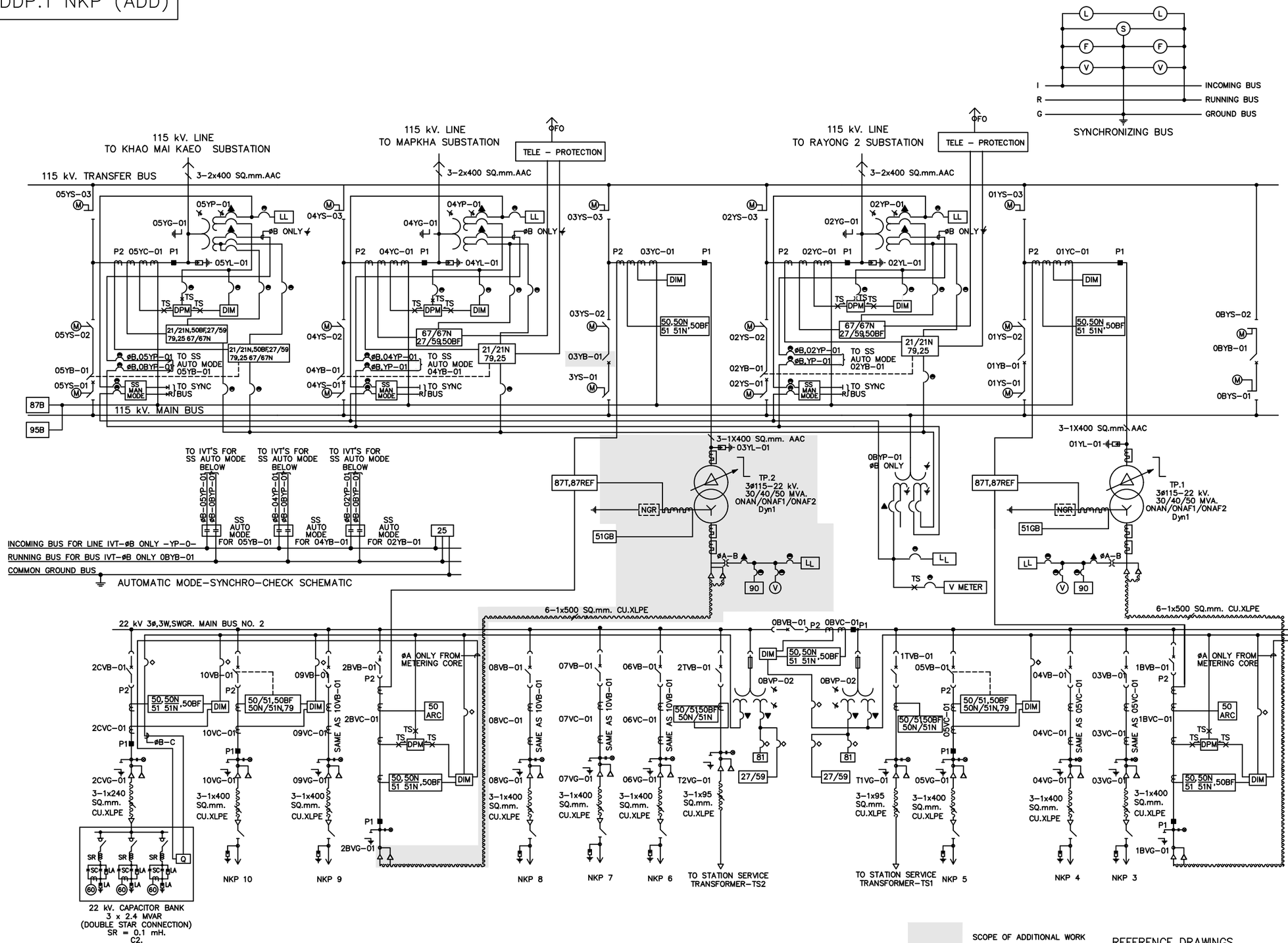
TDDP.1 NKP (ADD)



DEVICES	EXPLANATION
21, 21N	DISTANCE TIME–STEP PHASE AND GROUND DISTANCE RELAY
67	DIRECTIONAL PHASD OVERCURRENT RELAY
67N	DIRECTIONAL GROUND OVERCURRENT RELAY
25	SYNCHROCHECK RELAY
79	AUTOMATIC RECLOSING RELAY
50 BF	BREAKER FAILURE RELAYING
50/51	NON–DIRECTIONAL INSTANTANEOUS AND TIME PHASE OVERCURRENT RELAY
50G/51G	NON–DIRECTIONAL INSTANTANEOUS AND TIME GROUND OVERCURRENT RELAY
51GB	NON–DIRECTIONAL TIME GROUND BACKUP OVERCURRENT RELAY
87T	TRANSFORMER DIFFERENTIAL REALY
64 REF	TRANSFORMER RESTRICTED EARTH FAULT RELAY THIS RELAY SHALL BE INCORPORATED IN THE TRANSFORMER DIFFERENTIAL RELAY (87T)
27,59	UNDER/OVER VOLTAGE RELAYS
90	AUTOMATIC VOLTAGE REGULATOR
87B	BUS DIFFERENTIAL RELAY–HIGH IMPEDANCE TYPE
95B	BUSBAR SUPERVISION RELAY FOR BUSWIRE SUPERVISION FOR 87B
50 ARC	ARC DETECTOR RELAY FOR ARC PROTECTION SYSTEM
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
TS	CURRENT TEST SWITCH
TS	POTENTIAL TEST SWITCH
▲	LOCATED IN THE SWITCHYARD JUNCTION BOX
◓	LOCATED IN THE CONTROL AND RELAY BOARD
▼	LOCATED IN THE 22 kV SWITCHGEAR JUNCTION BOX
◇	FOR 22 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

SCOPE OF ADDITIONAL WORK

NOTES

1. 115 KV. IVT RATIO	$\frac{115,000}{\sqrt{3}} : \frac{115}{\sqrt{3}} / 115 \;//\; \frac{115}{\sqrt{3}} / 115$ V		50VA/0.2/1.5VF , 50VA/3P/1.5VF SIMULTANEOUS BURDEN=100 VA.
2. 115 KV. CT RATIO	1800/1500/1200/900/600/300 : 1 A.	– FOR TRANSFORMER BAY (CORE1)	20VA/5P20
	400/300/200 : 1/1/1/ A.	– FOR TRANSFORMER BAY (CORE2–4)	20VA/0.5FS5 , 30VA/5P20 , 30VA/5P20
	1800/1500/1200/900/600/300 : 1/1/1/1 A.	– FOR LINE BAY	20VA/5P20, 20VA/0.5FS5 , 20VA/5P20 , 20VA/5P20
	500/200/100 : 1 A.	– FOR HIGH SIDE TRANSFORMER BUSHING CT.	20VA/5P20
3. 22 KV. VT. RATIO	$\frac{22000}{\sqrt{3}} : \frac{110}{\sqrt{3}} / \frac{110}{\sqrt{3}}$ V		50VA/0.5/1.9VF , 50 VA/3P/1.9VF
4 22 KV. CT. RATIO	1800/1500/900 : 1/1/1/1 A	– FOR INCOMING BREAKER	20VA/5P20 , 20VA/0.5FS5 , 20VA/5P20 , 20VA/5P20
	1800/1500/900 : 1/1 A	– FOR TIE BREAKER	20VA/5P20 , 20VA/0.5FS5
	1800/900 : 1/1 A	– FOR TRANSFORMER BUSHING CT. LOW SIDE	20VA/5P20 , 20VA/0.5FS5
	1800/900 : 1/1 A	– FOR NEUTRAL BUSHING CT.	20VA/5P20 , 20VA/5P20
	600/300 : 1/1 A	– FOR OUTGOING 22 KV.	20VA/0.5FS5 , 20VA/5P20
	600/300 : 1/1 A	– FOR CAPACITOR BANK	20VA/0.5FS5 , 20VA/5P20
	50 : 5 A	– FOR STATION SERVICE TRANSFORMER	10VA/5P20

5. THE NEUTRAL GROUNDING RESISTORS (NGR) ARE INDICATED FOR FUTURE INSTALLATION.
6. SYNCHRONIZING SCHEMATIC
   6.1. –YP–0– SHOWN THUS, REFER TO INCOMING IVT DESIGNATIONS.
   6.2. BYP–01 SHOWN THUS REFERS TO RUNNING BUS IVT
   6.3. øB 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.
   6.4 MANUAL SYNCHRONIZING BY SYNCHROSCOPE SHALL UTILIZE INCOMING AND RUNNING SECONDARY VOLTAGES OF METERING CORES FROM"PHASE B" FOR BOTH IVT"S.
   6.5 AUTOMATIC SYCHRONISM VERIFICATION BY SYNCHRO CHECK RELAY (25) SHALL UTILIZE INCOMING AND RUNNING SECONDARY VOLTAGES OF RELAYING CORES FROM"PHASE B" FOR BOTH IVT"S.

REFERENCE DRAWINGS

SINGLE LINE DIAGRAM.....DWG NO. FA1–011/61084

NKP–M

กองออกแบบสถานีไฟฟ้า ฝ่ายงานสถานีไฟฟ้า	การไฟฟ้าส่วนภูมิภาค	ใช้แทนแบบ ——
ผู้เขียน ศุภชัย ผู้สำรวจ สุวิกรม,ศุภชัย วิศวกร สุวิกรม หัวหน้าแผนก วรเวช ผู้อำนวยการกอง —— ผู้อำนวยการฝ่าย —— (แทน)	ผู้ว่าการ —— (แทน)	ถูกแทนโดยแบบ ——
	สถานีไฟฟ้านิคมพัฒนา จ.ระยอง (เพิ่มเติม) มิเตอร์ และ รีเลย์ไดอะแกรม	เขียนเสร็จวันที่ 17 กรกฎาคม 2561
รองผู้ว่าการวิศวกรรม ——	NIKHOM PHATTHANA SUBSTATION (ADD) METERING AND RELAYING DIAGRAM	แก้แบบวันที่ ——
		มิติเป็น ——
		มาตราส่วน ——
		แบบเลขที่ FA4–011/61067
		แผ่นที่ 1 ของจำนวน 1 แผ่น