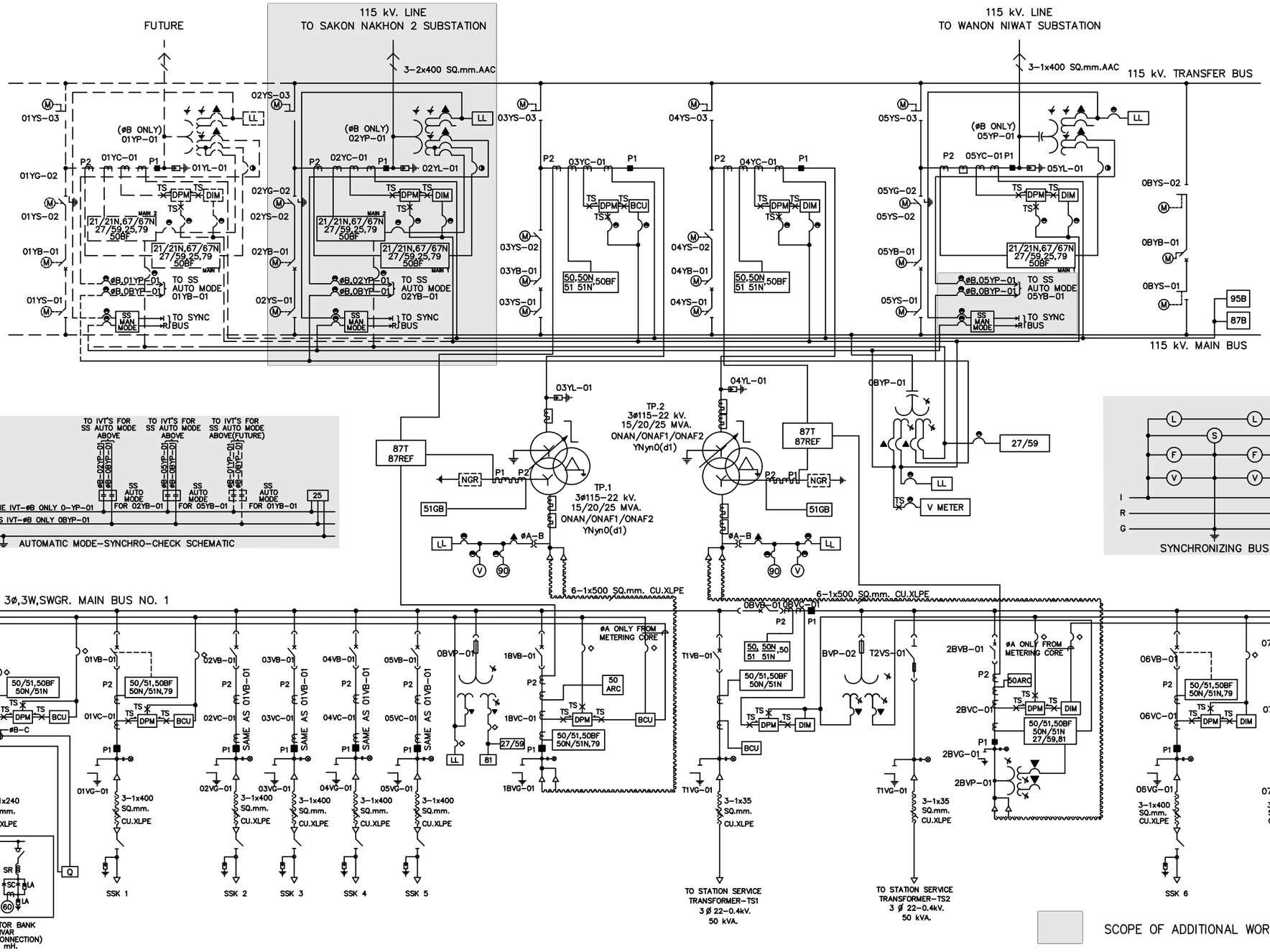
TDDP.2 SSK (ADD)










| DEVICES | EXPLANATION |
|---|---|
| 21, 21N | DISTANCE TIME–STEP PHASE |
| 25 | SYNCHROCHECK RELAY |
| 27,59 | UNDER/OVER VOLTAGE RELAYS |
| 50 BF | BREAKER FAILURE RELAYING |
| 50/51 | NON–DIRECTIONAL INSTANTANEOUS AND TIME PHASE OVERCURRENT RELAY |
| 50N/51N | NON–DIRECTIONAL INSTANTANEOUS AND TIME GROUND OVERCURRENT RELAY |
| 51GB | NON–DIRECTIONAL TIME GROUND BACKUP OVERCURRENT RELAY |
| 50 ARC | ARC DETECTOR RELAY FOR ARC PROTECTION SYSTEM |
| 60 | CAPACITOR CURRENT UNBALANCE SENSING RELAY |
| 67 | DIRECTIONAL PHASD OVERCURRENT RELAY |
| 67N | DIRECTIONAL GROUND OVERCURRENT RELAY |
| 79 | AUTOMATIC RECLOSING RELAY |
| 81 | UNDER FREQUENCY RELAY |
| 87L | LINE CURRENT DIFFERENTIAL RELAY |
| 87T | TRANSFORMER DIFFERENTIAL REALY |
| 87REF | TRANSFORMER RESTRICTED EARTH FAULT RELAY THIS RELAY SHALL BE INCORPORATE IN THE TRANSFORMER DIFFERENTIAL RELAY(87T) |
| 87B | BUS DIFFERENTIAL RELAY–HIGH IMPEDANCE TYPE |
| 90 | AUTOMATIC VOLTAGE REGULATOR |
| 95B | BUSBAR SUPERVISION RELAY FOR BUSWIRE SUPERVISION FOR 87B |
| Q | POWER FACTOR CONTROLLER |
| DPM | DIGITAL POWER METER |
| DIM | DISTRIBUTED I/O MODULE (PROVIDED IN CSCS) |
| RTU | REMOTE TERMINAL UNIT |
| 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 (02YP–01) — 50VA/0.2/1.5VF , 50VA/3P/1.5VF (SIMULTANEOUS BURDEN = 100)

   115 KV. CVT RATIO $\frac{115,000}{\sqrt{3}} : \frac{115}{\sqrt{3}}/115 // \frac{115}{\sqrt{3}}/115$ V — 200VA/0.5/1.5VF , 200VA/3P/1.5VF

2. 115 KV. CT RATIO

| | | |
|---|---|---|
| 1800/1500/1200/900/600/300 : 1/1/1/1 A. (02YC–01) | | 20VA/5P20 , 20VA/0.5FS5 , 20VA/5P20 , 20VA/5P20 |
| 1200/1000/900/800/600/500/400/300/200/100 : 1/1/1/1 A. | – FOR TRANSFORMER BAY(04YC–01) | 20VA/5P20 , 20VA/0.5FS5 , 20VA/5P20 , 20VA/5P20 |
| 1200/900/800/500/400/300 : 1/1/1/1 A. | – FOR TRANSFORMER BAY(03YC–01) | 20VA/5P20 , 20VA/0.5FS5 , 20VA/5P20 , 20VA/5P20 |
| 200/100 : 1 A. | – FOR HIGH SIDE TRANSFORMER BUSHING CT. | 20VA/5P20 |

3. 22 KV. CT. RATIO FOR MAIN BUS NO.1&2

| | | |
|---|---|---|
| 1800/1500/900 : 1/1/1/1 A | – FOR INCOMING BREAKER | 20VA/5P20, 20VA/0.5FS5, 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 |
| 1800/1500/900 : 1/1 A | – FOR TIE BREAKER | 20VA/0.5FS5 , 20VA/5P20 |
| 1800/500 : 1/1 A | – FOR LOW SIDE TRANSFORMER BUSHING CT. | 20VA/5P20, 20VA/0.5FS5 |
| 1800/900 : 1/1 A | – FOR NEUTRAL BUSHING CT. | 20VA/5P20, 20VA/5P20 |

5. THE NEUTRAL GROUNDING RESISTORS (NGR) ARE INDICATED FOR FUTURE INSTALLATION.
6. SYNCHRONIZING SCHEMATIC
   6.1 0–YP–01 SHOWN THUS, REFER TO INCOMING CVT/IVT DESIGNATIONS.
   6.2 0BYP–01 SHOWN THUS REFERS TO RUNNING BUS CVT
   6.3 ØB ONLY ✓ SHOWN THUS, REFERS TO THE SECONDARY WINDING OF CVT/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 CVT/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 CVT/IVT"S.
7. FOR 115 kV. SYSTEM PROTECTION, RELAYS SHALL BE DOUBLE MAIN PROTECTION RELAY (MAIN1&2) AND DIFFERENT PRODUCT/MANUFACTURER.

REFERENCE DRAWINGS

SINGLE LINE DIAGRAM.....DWG NO. FA2–011/63087

SSK–M

กองออกแบบสถานีไฟฟ้า ฝ่ายงานสถานีไฟฟ้า

ผู้เขียน สุวิกรม
ผู้สำรวจ สุวิกรม
วิศวกร สุวิกรม
หัวหน้าแผนก วรเวช
ผู้อำนวยการกอง
ผู้อำนวยการฝ่าย (แทน)

รองผู้ว่าการวิศวกรรม

การไฟฟ้าส่วนภูมิภาค

ผู้ว่าการ (แทน)

สถานีไฟฟ้าศรีสงคราม จ.นครพนม (เพิ่มเติม)
มิเตอร์ และ รีเลย์ไดอะแกรม

SI SONGKHRAM SUBSTATION (ADD)
METERING AND RELAYING DIAGRAM

ใช้แทนแบบ —
ถูกแทนโดยแบบ —
เขียนเสร็จวันที่ 6 ส.ค. 63
แก้แบบวันที่ —
มิติเป็น —
มาตราส่วน —

แบบเลขที่ FA4–011/63069
แผ่นที่ 1 ของจำนวน 1 แผ่น