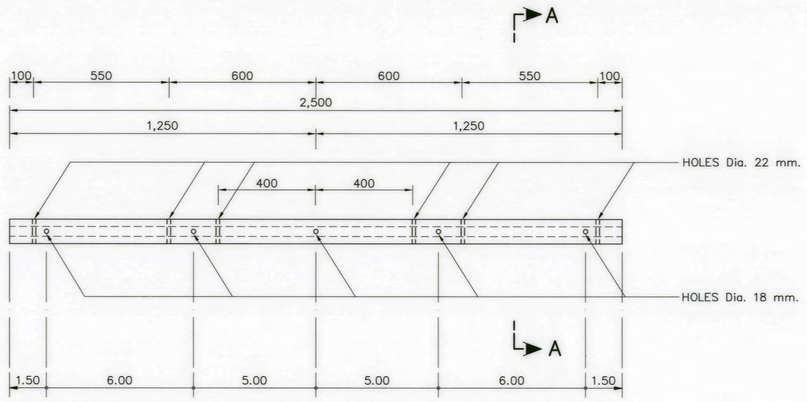
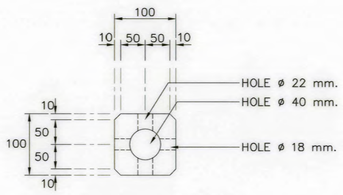
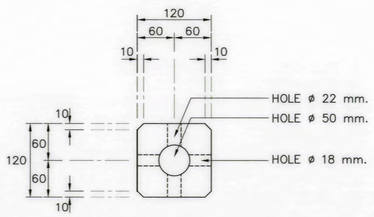


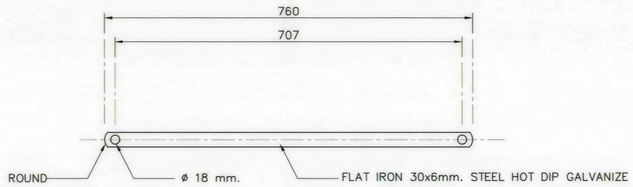
PRESTRESSED CROSS ARM 100x100x2,500mm.



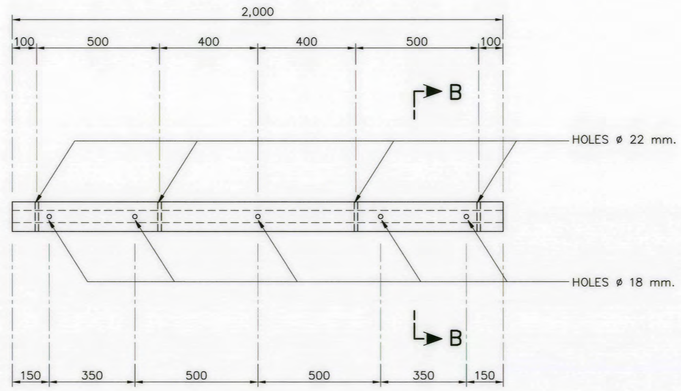
SECTION A–A



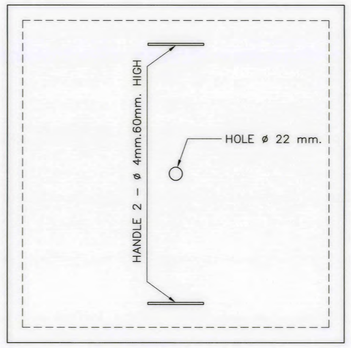
SECTION B–B

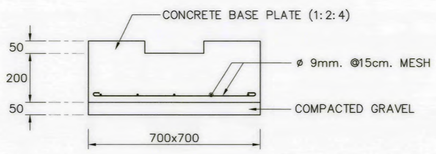


BRECE FLAT FOR CROSS ARM

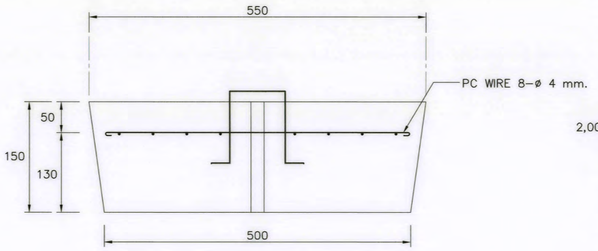


PRESTRESSED CROSS ARM 120X120x2,000mm.

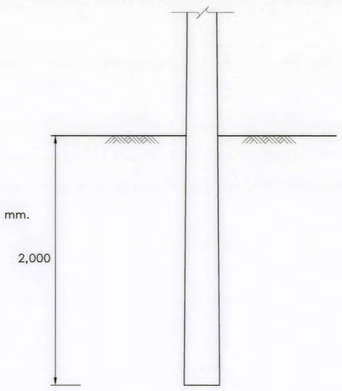




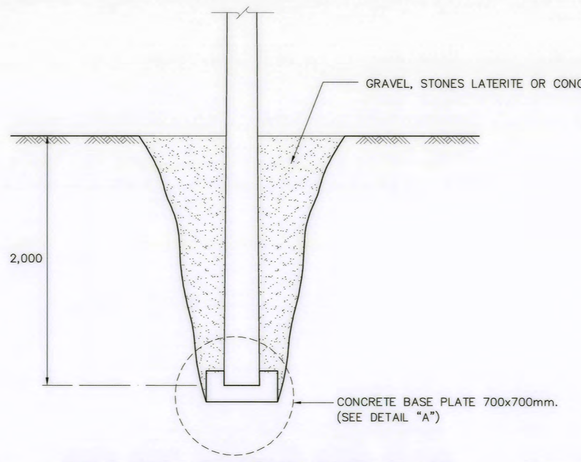
DETAIL "A"



REINFORCED CONCRETE ANCHOR PLATE
550x550x180mm.



FOR NORMAL SOIL CONDITION



POLE WITH CONCRETE BASE PLATE

NOTES :

CONCRETE BASE PLATE WILL BE USE FOR
1. POLES WITH ANCHOR GUY TYPES G5 AND G6
2. POLES CONSTRUCTED ON SOFT SOIL WITH PRESSURE NOT MIN 1 kg/Sq.mm.
3. CONTRACTOR SHALL INVESTIGATE THE SOIL CONDITION FOR EVERY POLES AND VERIFY TO USE CONCRETE BASE PLATE OR NOT. THE INVESTIGATION RESULT SHALL BE SUBMITTED TO FIELD ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION

NO.	DATE	REVISIONS	CHECKED	APPROVED
3				
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1				
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KINGDOM OF THAILAND
Department of Alternative Energy Development and Efficiency
MINISTRY OF ENERGY

AI KA PO HYDROPOWER PROJECT
TAMBON PHUKHAO THONG AMPHOE SUKHIRIN CHANGWAT NARATHIWAT

PART : 1 CIVIL WORKS AND TRANSMISSION LINE

TRANSMISSION LINE

BURYING DEPTH AND FOUNDATION

PCM P&C MANAGEMENT CO., LTD. / SPT CONSULTANTS CO., LTD.		Department of Alternative Energy Development and Efficiency MINISTRY OF ENERGY	
DESIGNED	สพน.1764	REVIEWED	
DRAWN		SUBMITTED	
CHECKED	สธ.8231	RECOMMENDED	
PROJECT MANAGER	28/10/2021 DATE	APPROVED	
		DRAWING NO. AKP–TS–08	SHEET NO. 108 OF 129

PART 2 : ELECTRO-MECHANICAL EQUIPMENT

LEGENDS

115 kV CIRCUIT BREAKER MOTOR OPERATED

LOAD BREAK SWITCH

EARTHING SWITCH

D/S CONNECTING SWITCH WITH EARTHING SWITCH

MOTOR OPERATED DISCONNECTOR

MOTOR OPERATED EARTHING SWITCH

WITHDRAWABLE VACUUM CIRCUIT BREAKER 12 KV MOTOR OPERATED

AUX — AUXILIARY CONTACT OF LOAD BREAK SWITCH/ CIRCUIT BREAKER/CONTACTOR

POWER TRANSFORMER

POTENTIAL TRANSFORMER

CURRENT TRANSFORMER

LIGHTNING ARRESTER OUTDOOR TYPE

VOLTAGE TRANSFORMER

CURRENT TRANSFORMER

STATIC CAPACITOR

SR — SERIES REACTOR

LIGHTNING ARRESTER INDOOR TYPE

L1L2L3 — CAPACITIVE VOLTAGE INDICATING

INDICATING LAMP

HIGH VOLTAGE CURRENT LIMITING FUSE LINK

7.2 kV LOAD BREAK SWITCH WITH FUSE

CO — LIGHTNING ARRESTER WITH COUNTER

INTERLOCK

HV. TERMINATION KIT

HRC FUSE

MINIATURE CIRCUIT BREAKER

LAMP.

A — AMMETER, MEASURING RANGE AS INDICATED

V — VOLT-METER

W — WATT METER

PF — POWER FACTOR METER

WH — WATT-HOUR METER

AS — AMP SELECTOR SWITCH

PFC — POWER FACTOR CONTROLER

VS — VOLT SELECTOR SWITCH

27 — PHASE UNDERVOLTAGE RELAY

49 T1 — TRANSFORMER THERMOMETER CONTACT, ALARM/FAN-OPERATION TEMPERATURE

49 T2 — TRANSFORMER THERMOMETER CONTACT, CIRCUIT BREAKER TRIPPING TEMPERATURE

63 — TRANSFORMER SUDDEN PRESSURE RELAY

50/51 — INSTANTANEOUS AND TIME OVERCURRENT RELAY

50N/51N — INSTANTANEOUS AND TIME GROUND OVERCURRENT RELAY

51N — TIME DELAY GROUND OVERCURRENT RELAY

86 — AUXILIARY TRIP AND LOCK OUT RELAY

87T — TRANSFORMER DIFFERENTIAL PROTECTION RELAY

87B — BUS DIFFERENTIAL PROTECTION RELAY

PROTECTION, MONITORING AND CONTROL RELAY

PROTN. RELAY — PROTECTION RELAY (SEE DETAIL SPECIFICATION)

MOTOR PROTN. RELAY — PROTECTION MOTOR (SEE DETAIL SPECIFICATION)

ENERGY METER — MULTIFUNCTION METER (SEE DETAIL SPECIFICATION)

NON-FUSE SEFTY SWITCH ชนิด WEATHER PROOF 220VAC 2P 30A(HEAVY DUTY) AFF +1.00 M.

NON-FUSE SEFTY SWITCH ชนิด WEATHER PROOF 380VAC 3P 30A(HEAVY DUTY) AFF +1.00 M.

STRUCTURE OF LAMP	LAMP			INSTALLATION	SYMBOL
	TYPE	WATT	BRIGHTNESS		
LOVERED LUMINARE COMPOSE OF 0.8 mm THICKNESS STEEL HOUSING WITH WHITE STOVE ENAMELALUMINIUM CROSS PROFILE LOVERS FOR REDUCING GLARE, PURITY ALUMINIUM ANODIZE REFLECTOR AND BUILT IN COMPLETE WIRING OF ROTARY LOCK LAMPHOLDERS,	LED (DAYLIGHT)	3x18	1,800/LAMP	RECESSED CEILING	
LOVERED LUMINARE COMPOSE OF 0.8 mm THICKNESS STEEL HOUSING WITH WHITE STOVE ENAMELALUMINIUM CROSS PROFILE LOVERS FOR REDUCING GLARE, PURITY ALUMINIUM ANODIZE REFLECTOR AND BUILT IN COMPLETE WIRING OF ROTARY LOCK LAMPHOLDERS,	LED (DAYLIGHT)	2x18	1,800/LAMP	RECESSED CEILING	
EMERGENCY LIGHTING COMPOSED OF GALVANIZED STEEL WITH ENAMEL COATING ADJUSTABLE AIMMING BEAM TYPE, ON-OFF LAMP SWITCH, MAINTENANCE FREE SEALED LEAD ACID BATTERY, 3 HOURS EMERGENCY DURATION TIME	LED	2x9	500/LAMP	SURFACE ON WALL 2.2 m HEIGHT ABOVE FLOOR	
LED HIGH BAY LIGHT WITH CREE CHIP (OR EQUAL) AND MAXWELL (OR EQUAL) DRIVER INPUT VOLTAGE : AC85V-265V ,50HZ/60HZ POWER FACTOR 0.95, IP65, DAY LIGHT	LED (DAYLIGHT)	1x200	24,000/LAMP	HANG WITH STRUCTURE, ABOVE FLOOR	
WATER PROOF TYPE WITH COVER CLEAR ACRYLICS.	LED (DAYLIGHT)	1x18	1,800/LAMP	SURFACE ON WALL 2.2 m HEIGHT ABOVE FLOOR	
BARE BATTERN TYPE, RUST PROOF, WHITE POWDER COATING FINISHED, AND REFLEX SHEET	LED (DAYLIGHT)	1x18	1,800/LAMP	ON CEILING	
RECESSED VERTICAL DOWNLIGHT, ANODIZED ALUMINIUM HIGH PURITY REFLECTOR	LED (DAYLIGHT)	1x9	800/LAMP	RECESSED CEILING	
STREET LIGHTING ALUMINIUM ALLOY BODY, LIGHT GRAY POWDER COATING FINISHED POLYCARBONATE BOWL, DIFFUSER, COMPLETE WITH BUILT IN INTEGRAL CONTROL SET, IP65	LED	1x100	12,000/LAMP	ON HIGH VOLTAGE POLE	
STREET LIGHTING ALUMINIUM ALLOY BODY, LIGHT GRAY POWDER COATING FINISHED POLYCARBONATE BOWL, DIFFUSER, COMPLETE WITH BUILT IN INTEGRAL CONTROL SET, IP65	LED	1x100	12,000/LAMP	ON STEEL POLE 6 M. HEIGHT	
STREET LIGHTING ALUMINIUM ALLOY BODY, LIGHT GRAY POWDER COATING FINISHED POLYCARBONATE BOWL, DIFFUSER, COMPLETE WITH BUILT IN INTEGRAL CONTROL SET, IP65	LED	1x100	12,000/LAMP	ON LOW VOLTAGE POLE	

SYMBOL FOR ELECTRICAL AND FIRE ALARM SYSTEM		SYMBOL FOR ELECTRICAL AND FIRE ALARM SYSTEM	
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
S	ONE WAY SWITCH 15A 220VAC WITCH COVER	F	WIRING CABLE 2x1.5 sq.mm. IEC01 IN EMT 1/2" dia FOR FIRE ALARM DETECTOR SYSTEM.
	DUPLEX RECEPTACLE WITH GROUND1P+N+G 15A. 250VAC. WITH COVER	A	WIRING CABLE 2x2.5 sq.mm. FRC IN EMT 1/2" dia FOR FIRE ALARM SYSTEM
TC	MDF OR TC	GANN	GRAPHIC ANNUNCIATOR PANEL
	TELEPHONE OUTLET 4 P MODULAR JACK(RJ11)		
FCP	(FIRE ALARM CONTROL PANEL		
H_x	HEAT DETECTOR , FIXED TEMPERATURE 135°F ZONE "x"		
$H_x^{200°F}$	HEAT DETECTOR , FIXED TEMPERATURE 200°F ZONE "x"		
S_x	SMOKE DETECTOR "x"		
SDB_x^T SDB_x^R	BEAM DETECTOR		
B_x	ALARM BELL 6" Dia		
F_x	MANUAL STATION WITH KEY RESET		
	FIRE EXIT SIGN 1 SIDE OR 2 SIDES WITH LED , STAND BY 2 HRS.		
#xx	IP CAMERA , INDOOR/OUTDOOR TYPE WIRING BY CAT6 CABLE TO NVR		
NVR	NETWORK VIDEO RECORDER WITH HDD 2 TB , 32 CHANNEL WITH POE 32 CHANNEL		

KINGDOM OF THAILAND
Department of Alternative Energy Development and Efficiency
MINISTRY OF ENERGY

AI KA PO HYDROPOWER PROJECT
TAMBON PHUKHAO THONG AMPHOE SUKHIRIN CHANGWAT NARATHIWAT

PART 2 ELECTRO-MECHANICAL EQUIPMENT
E&M EQUIPMENT
ELECTRICAL SYMBOLS

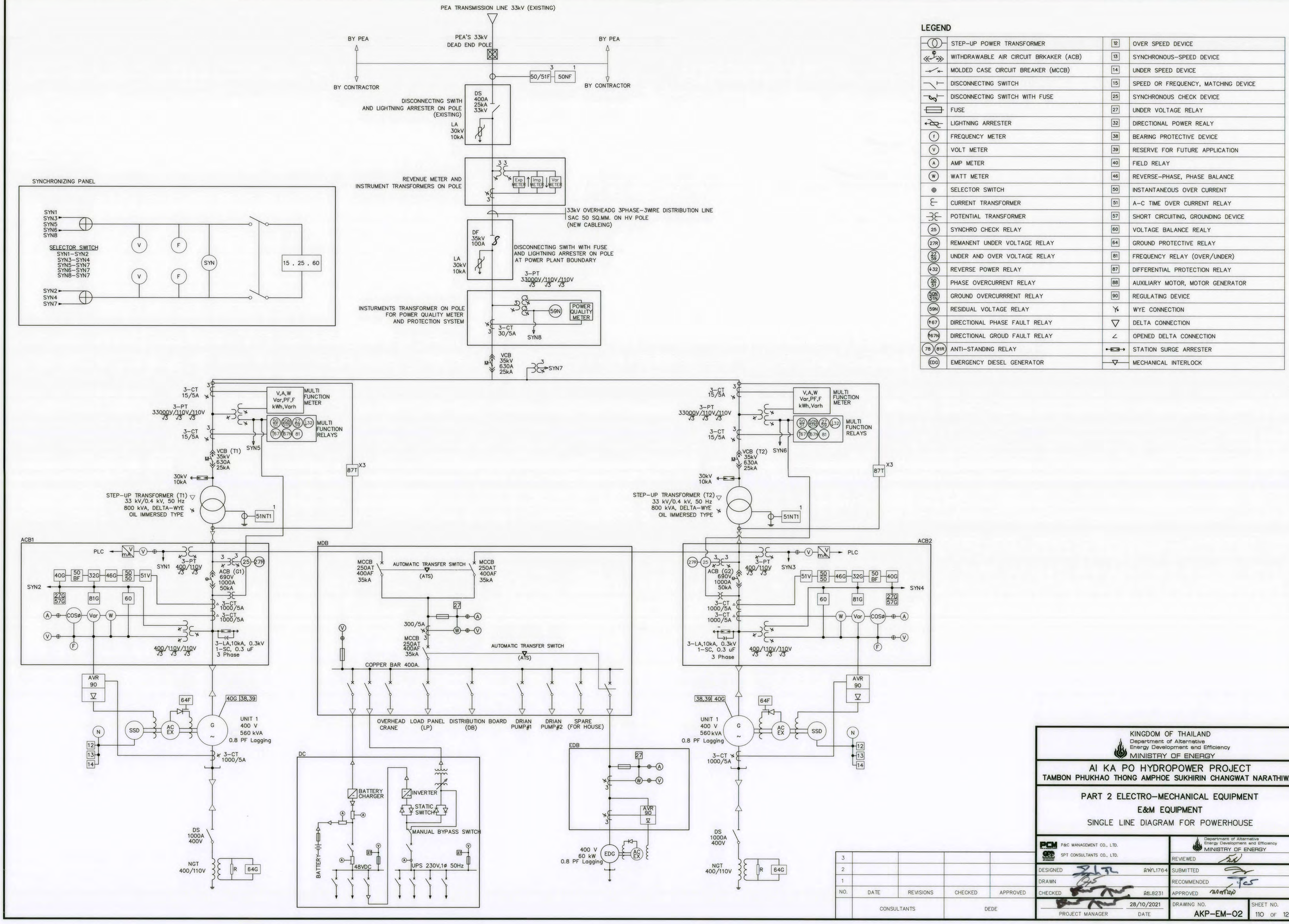
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CONSULTANTS: PCM P&C MANAGEMENT CO., LTD. / SPT CONSULTANTS CO., LTD.

DEDE: Department of Alternative Energy Development and Efficiency, MINISTRY OF ENERGY

DESIGNED สพ.1764 — REVIEWED
DRAWN — SUBMITTED
CHECKED สย.8231 — RECOMMENDED
PROJECT MANAGER — APPROVED
DATE 28/10/2021

DRAWING NO. AKP-EM-01
SHEET NO. 109 OF 129



LEGEND

	STEP-UP POWER TRANSFORMER	12	OVER SPEED DEVICE
	WITHDRAWABLE AIR CIRCUIT BRKAKER (ACB)	13	SYNCHRONOUS-SPEED DEVICE
	MOLDED CASE CIRCUIT BREAKER (MCCB)	14	UNDER SPEED DEVICE
	DISCONNECTING SWITCH	15	SPEED OR FREQUENCY, MATCHING DEVICE
	DISCONNECTING SWITCH WITH FUSE	25	SYNCHRONOUS CHECK DEVICE
	FUSE	27	UNDER VOLTAGE RELAY
	LIGHTNING ARRESTER	32	DIRECTIONAL POWER REALY
f	FREQUENCY METER	38	BEARING PROTECTIVE DEVICE
V	VOLT METER	39	RESERVE FOR FUTURE APPLICATION
A	AMP METER	40	FIELD RELAY
W	WATT METER	46	REVERSE-PHASE, PHASE BALANCE
	SELECTOR SWITCH	50	INSTANTANEOUS OVER CURRENT
	CURRENT TRANSFORMER	51	A-C TIME OVER CURRENT RELAY
	POTENTIAL TRANSFORMER	57	SHORT CIRCUITING, GROUNDING DEVICE
25	SYNCHRO CHECK RELAY	60	VOLTAGE BALANCE REALY
27R	REMANENT UNDER VOLTAGE RELAY	64	GROUND PROTECTIVE RELAY
27/59	UNDER AND OVER VOLTAGE RELAY	81	FREQUENCY RELAY (OVER/UNDER)
32	REVERSE POWER RELAY	87	DIFFERENTIAL PROTECTION RELAY
50/51	PHASE OVERCURRENT RELAY	88	AUXILIARY MOTOR, MOTOR GENERATOR
50N/51N	GROUND OVERCURRRENT RELAY	90	REGULATING DEVICE
59N	RESIDUAL VOLTAGE RELAY	Y	WYE CONNECTION
67	DIRECTIONAL PHASE FAULT RELAY	▽	DELTA CONNECTION
67N	DIRECTIONAL GROUD FAULT RELAY	∠	OPENED DELTA CONNECTION
78 81R	ANTI-STANDING RELAY		STATION SURGE ARRESTER
EDG	EMERGENCY DIESEL GENERATOR		MECHANICAL INTERLOCK

NO.	DATE	REVISIONS	CHECKED	APPROVED
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2				
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	CONSULTANTS		DEDE	

KINGDOM OF THAILAND
Department of Alternative Energy Development and Efficiency
MINISTRY OF ENERGY

AI KA PO HYDROPOWER PROJECT

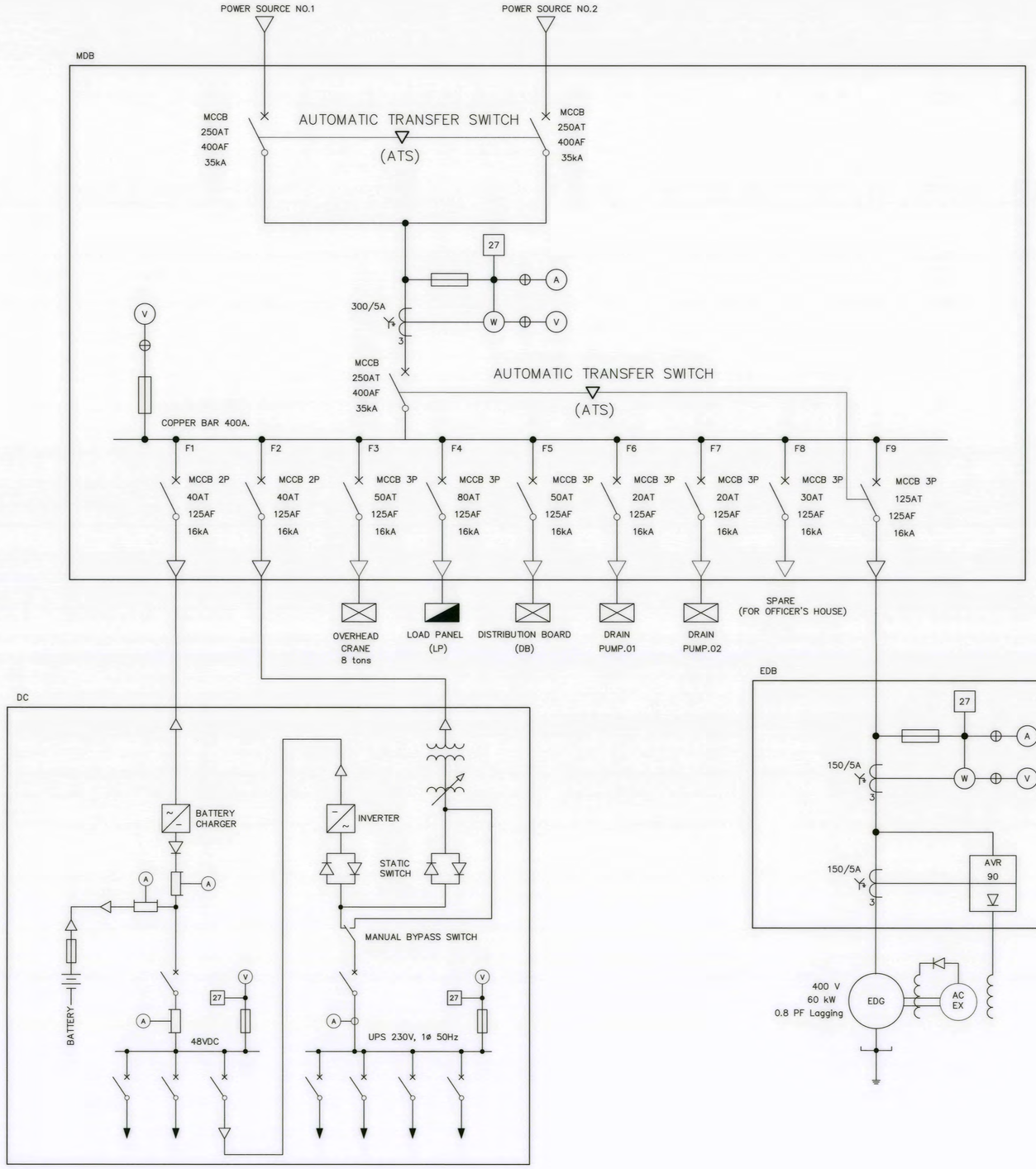
TAMBON PHUKHAO THONG AMPHOE SUKHIRIN CHANGWAT NARATHIWAT

PART 2 ELECTRO-MECHANICAL EQUIPMENT

E&M EQUIPMENT

SINGLE LINE DIAGRAM FOR POWERHOUSE

P&C MANAGEMENT CO., LTD. / SPT CONSULTANTS CO., LTD.		Department of Alternative Energy Development and Efficiency MINISTRY OF ENERGY	
		REVIEWED	
DESIGNED	สพท.1764	SUBMITTED	
DRAWN		RECOMMENDED	
CHECKED	สถ.8231	APPROVED	
PROJECT MANAGER	28/10/2021 DATE	DRAWING NO.	AKP-EM-02
		SHEET NO.	110 OF 129



LEGEND

	STEP–UP POWER TRANSFORMER	12	OVER SPEED DEVICE
	WITHDRAWABLE AIR CIRCUIT BRKAKER (ACB)	13	SYNCHRONOUS–SPEED DEVICE
	MOLDED CASE CIRCUIT BREAKER (MCCB)	14	UNDER SPEED DEVICE
	DISCONNECTING OR ISOLATING SWITCH	15	SPEED OR FREQUENCY , MATCHING DEVICE
	FUSE	25	SYNCHRONOUS CHECK DEVICE
	LIGHTNING ARRESTER	27	UNDER VOLTAGE RELAY
f	FREQUENCY METER	32	DIRECTIONAL POWER REALY
V	VOLT METER	38	BEARING PROTECTIVE DEVICE
A	AMP METER	39	RESERVE FOR FUTURE APPLICATION
W	WATT METER	40	FIELD RELAY
	SELECTOR SWITCH	46	REVERSE–PHASE , PHASE BALANCE
	CURRENT TRANSFORMER	50	INSTANTANEOUS OVER CURRENT
	POTENTIAL TRANSFORMER	51	A–C TIME OVER CURRENT RELAY
25	SYNCHRO CHECK RELAY	57	SHORT CIRCUITING , GROUNDING DEVICE
27R	REMANENT UNDER VOLTAGE RELAY	60	VOLTAGE BALANCE REALY
27 59	UNDER AND OVER VOLTAGE RELAY	64	GROUND PROTECTIVE RELAY
32	REVERSE POWER RELAY	81	FREQUENCY RELAY (OVER/UNDER)
50 51	PHASE OVERCURRENT RELAY	87	DIFFERENTIAL PROTECTION RELAY
50N 51N	GROUND OVERCURRRENT RELAY	88	AUXILIARY MOTOR , MOTOR GENERATOR
59N	RESIDUAL VOLTAGE RELAY	90	REGULATING DEVICE
67	DIRECTIONAL PHASE FAULT RELAY		
67N	DIRECTIONAL GROUD FAULT RELAY		
81	OVER FREQUENCY RELAY		
EDG	EMERGENCY DIESEL GENERATOR		
	WYE CONNECTION		
	DELTA CONNECTION		
	OPENED DELTA CONNECTION		
	BATTERY CHARGER		
	INVERTER		
	ISOLATION TRANSFORMER		
	VOLTAGE REGURATOR		
	STATIC SWITCH		
	DIODE		
	BATTERY BANK		
A	SHUNT AMP METER		
	MANUAL BYPASS SWITCH		
	MECHANICAL INTERLOCK		

NOTE :

MECHANICAL INTERLOCK SHALL BE PROVIDED BETWEEN POWER SOURCE NO.1'S MCCB AND POWER SOURCE NO.2'S MCCB
POWER SOURCE NO.1'S MCCB "CLOSED", POWER SOURCE NO.2'S MCCB CAN NOT BE CLOSED AND VICE VERSA.
MECHANICAL INTERLOCK SHALL BE PROVIDED BETWEEN INCOMING'S MCCB AND EDG'S MCCB
INCOMING'S MCCB "CLOSED", EDG'S MCCB CAN NOT BE CLOSED AND VICE VERSA.

NO.	DATE	REVISIONS	CHECKED	APPROVED
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AI KA PO HYDROPOWER PROJECT
TAMBON PHUKHAO THONG AMPHOE SUKHIRIN CHANGWAT NARATHIWAT

PART 2 ELECTRO–MECHANICAL EQUIPMENT
E&M EQUIPMENT
SINGLE LINE DIAGRAM BATTERY CHARGER , DC , EDG

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DESIGNED	สพก.1764	REVIEWED	
DRAWN		SUBMITTED	
CHECKED	สย.8231	RECOMMENDED	
PROJECT MANAGER	28/10/2021 DATE	APPROVED	
DRAWING NO.	AKP–EM–03	SHEET NO.	111 OF 129

FUNCTION OF PROTECTIVE RELAY FOR UNIT AND ALARMS

LINE NO.	PROTECTION RELAY	DEVICE NO.	KIND OF THE LOCKOUT RELAY		TRIP CB		
			86–1	86–2	52 G	52 T	52 F
1	GENERATOR DIFFERENTIAL RELAY	87 G	○		○		
2	GENERATOR OVERCURRENT GROUND RELAY	51 NG	○		○		
3	EMERGENCY STOP SWITCH	5 E	○		○		
4	GENERATOR PHASE UNBALANCE CURRENT RELAY	46 G	○		○		
5	GENERATOR DIRECTIONAL OVERCURRENT RELAY	67 G	○		○		
6	GENERATOR OVER–VOLTAGE RELAY	59 G	○		○		
7	MAIN TRANSFORMER OVER–CURRENT GROUND RELAY	51 NT	○		○		○
8	GENERATOR OVERCURRENT RELAY	51 G			○		

FUNCTION OF PROTECTIVE RELAY FOR UNIT SHUT DOWN

LINE NO.	PROTECTION RELAY	DEVICE NO.
1	OVER SPEED RELAY (1 ST STAGE)	12–1

FUNCTION OF PROTECTIVE RELAY FOR 22 KV LINE AND ALARMS

LINE NO.	PROTECTION RELAY	DEVICE NO.	KIND OF LOCK OUT RELAY		TRIP CB	
			86 F		52 F	
1	LINE OVERCURRENT AND SHORT CIRCUIT RELAY	50/51 F	○		○	
2	LINE OVERCURRENT GROUND RELAY	51 NF	○		○	

LINE NO.	PROTECTION RELAY	DEVICE NO.
1	BREAKER LINE TROUBLE	86 CB1
2	RELAY METERING UNDERVOLTAGE	27 XM

NO.	DATE	REVISIONS	CHECKED	APPROVED
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AI KA PO HYDROPOWER PROJECT
TAMBON PHUKHAO THONG AMPHOE SUKHIRIN CHANGWAT NARATHIWAT

PART 2 ELECTRO–MECHANICAL EQUIPMENT
E&M EQUIPMENT
FUNCTION OF PROTECTIVE RELAY

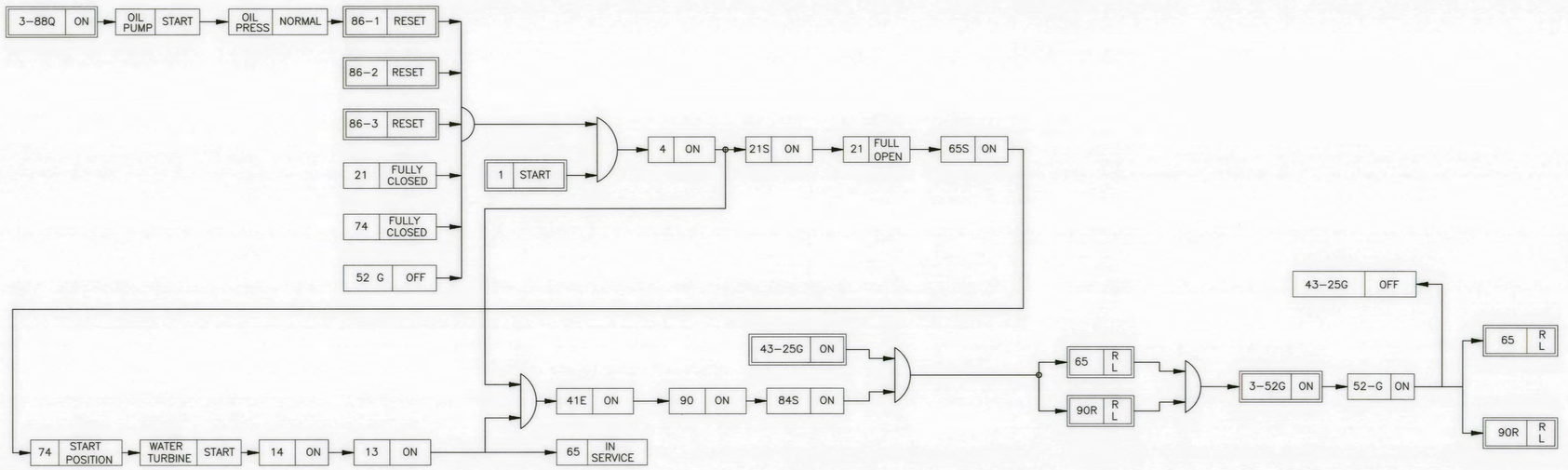
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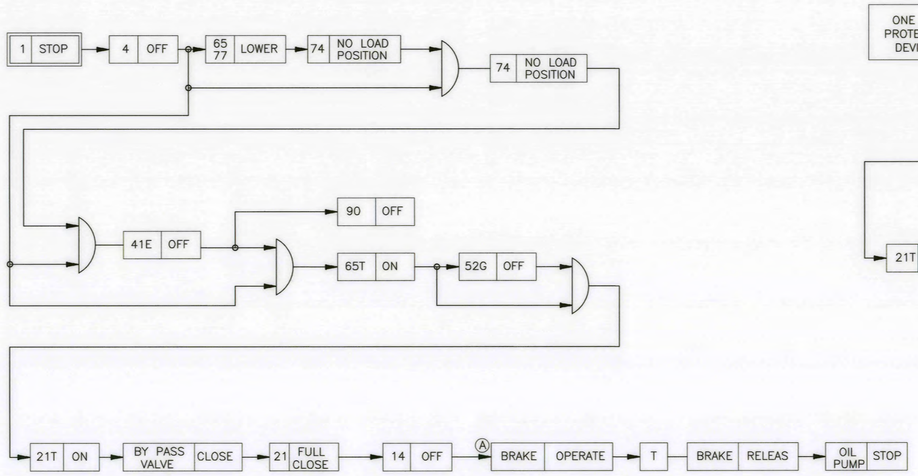
DESIGNED	สพท.1764
DRAWN	
CHECKED	สธ.8231
PROJECT MANAGER	28/10/2021 DATE
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SUBMITTED	
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APPROVED	
DRAWING NO.	AKP–EM–04
SHEET NO.	112 OF 129

LEGEND

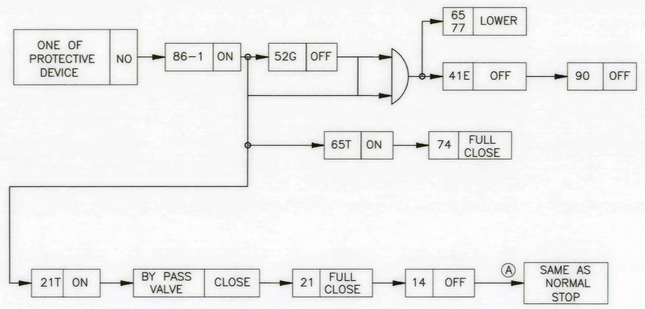
	OPERATION AND CONTROL SWITCH
	MACHINE STATUS
	GROUP INDICATION (ON)
	GROUP INDICATION (OFF)
	AND
	OR
T	TIMER
Ⓐ	SAME CONTINUTION MARK



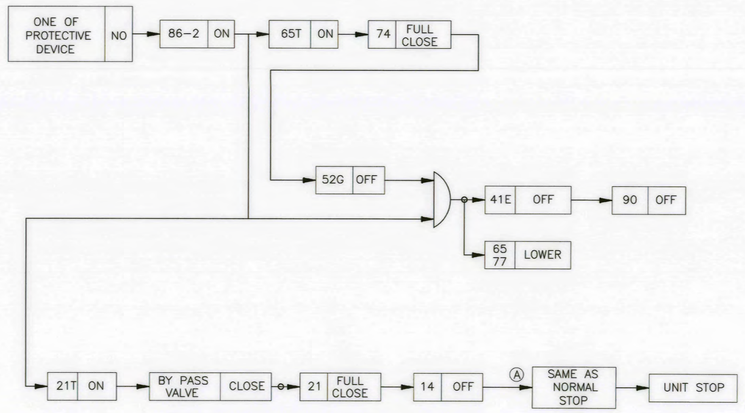
START LOAD



NORMAL STOP



EMERGENCY STOP



QUICK STOP

NO.	DATE	REVISIONS	CHECKED	APPROVED
3				
2				
1				

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AI KA PO HYDROPOWER PROJECT
TAMBON PHUKHAO THONG AMPHOE SUKHIRIN CHANGWAT NARATHIWAT

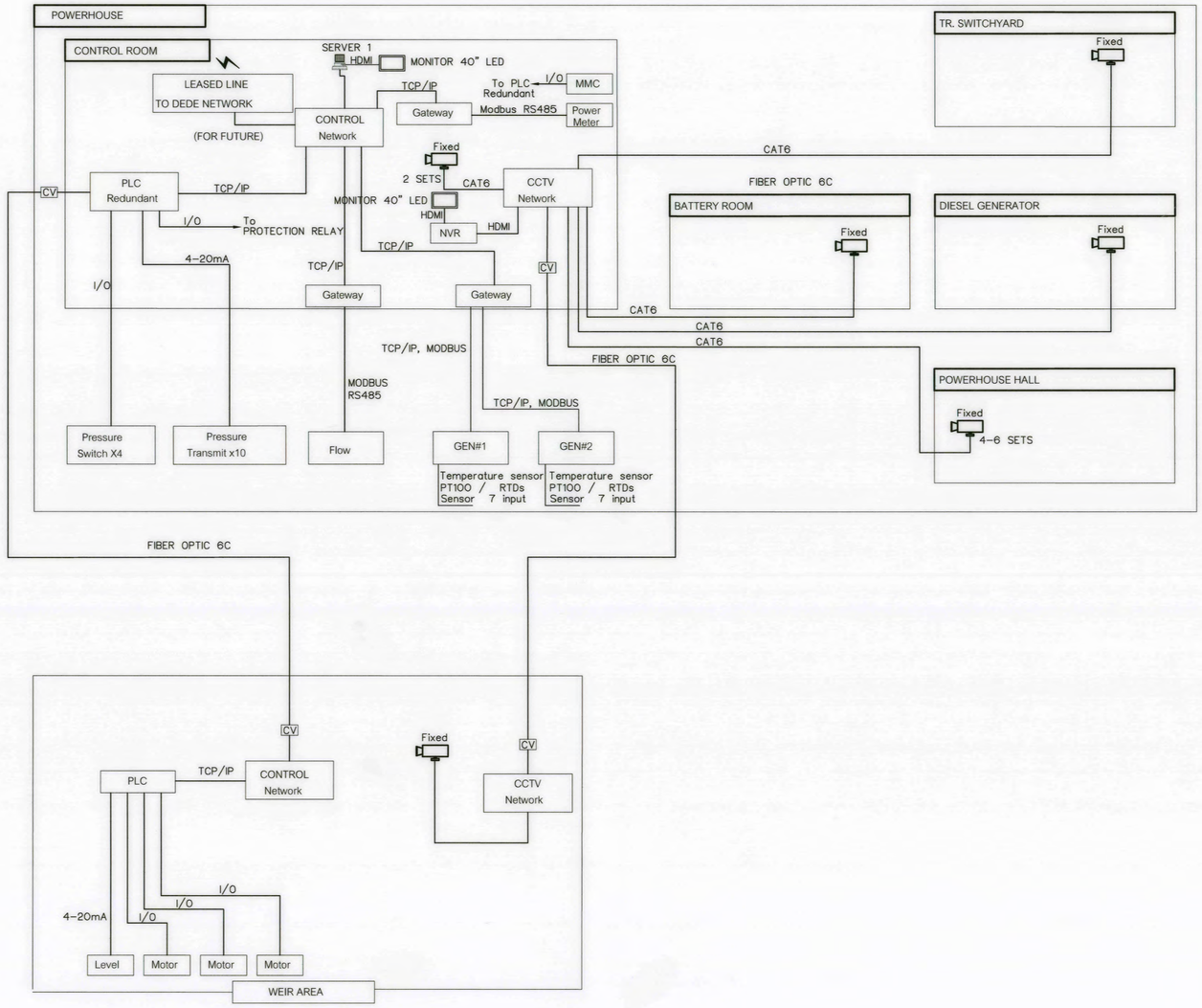
PART 2 ELECTRO–MECHANICAL EQUIPMENT
E&M EQUIPMENT
OPERATION AND CONTROL SEQUENCE DIAGRAM

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DESIGNED	สพ.1764	
DRAWN		
CHECKED	สย.8231	
PROJECT MANAGER	28/10/2021 DATE	

Department of Alternative Energy Development and Efficiency MINISTRY OF ENERGY
REVIEWED
SUBMITTED
RECOMMENDED
APPROVED

DRAWING NO. AKP–EM–05
SHEET NO. 113 OF 129



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3				
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1				
	CONSULTANTS		DEDE	

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MINISTRY OF ENERGY

AI KA PO HYDROPOWER PROJECT

TAMBON PHUKHAO THONG AMPHOE SUKHIRIN CHANGWAT NARATHIWAT

PART 2 ELECTRO-MECHANICAL EQUIPMENT

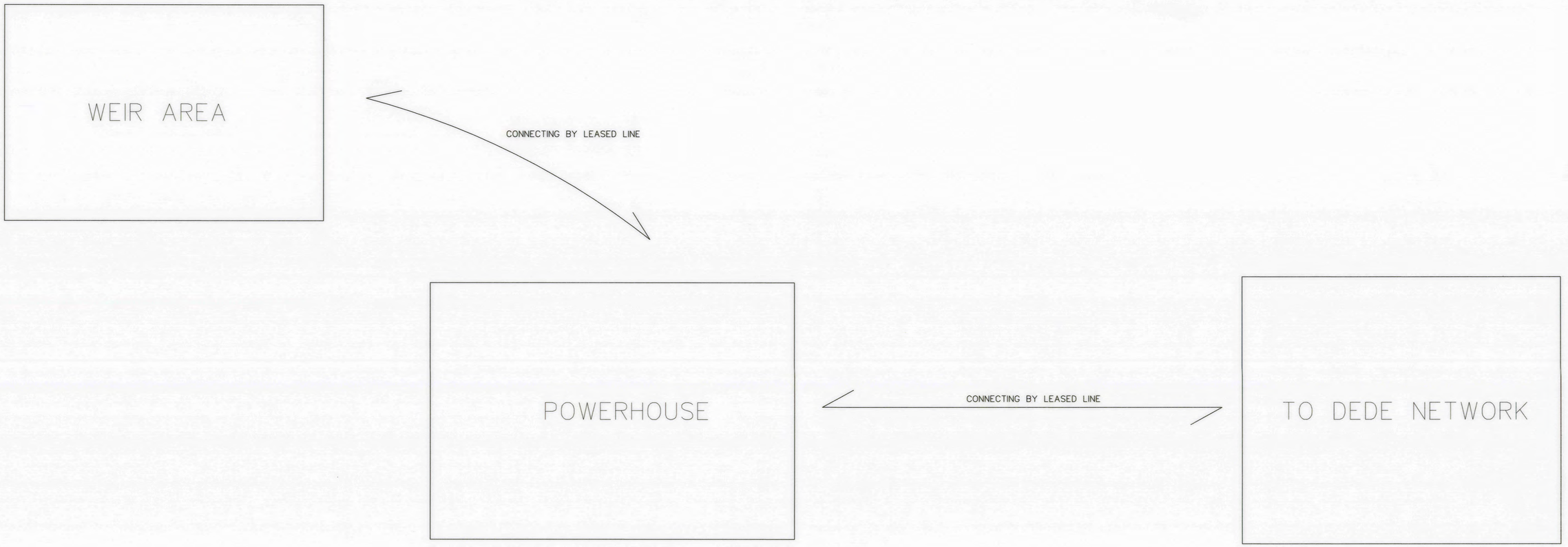
E&M EQUIPMENT

SCADA SYSTEM

PCM P&C MANAGEMENT CO., LTD.
SPT CONSULTANTS CO., LTD.

Department of Alternative Energy Development and Efficiency
MINISTRY OF ENERGY

REVIEWED			
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PROJECT MANAGER	28/10/2021 DATE	DRAWING NO. AKP-EM-06	SHEET NO. 114 OF 129



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AI KA PO HYDROPOWER PROJECT
TAMBON PHUKHAO THONG AMPHOE SUKHIRIN CHANGWAT NARATHIWAT

PART 2 ELECTRO-MECHANICAL EQUIPMENT
E&M EQUIPMENT
BLOCK DIAGRAM FOR SCADA SYSTEM

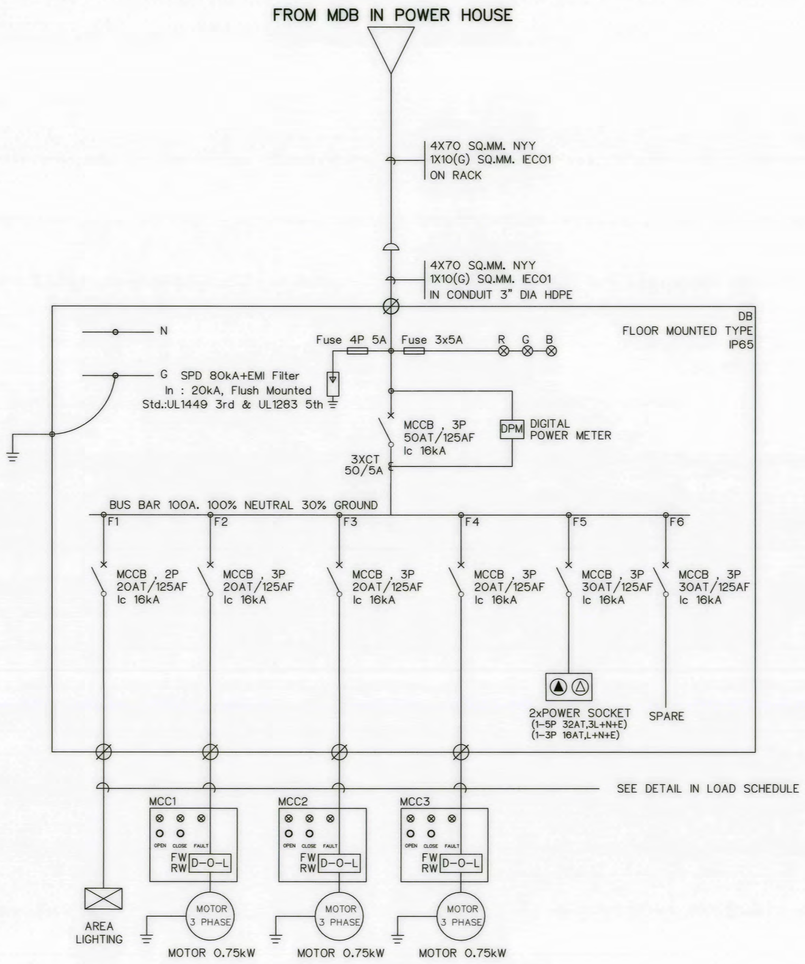
NO.	DATE	REVISIONS	CHECKED	APPROVED
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	CONSULTANTS		DEDE	

PCM P&C MANAGEMENT CO., LTD.
SPT CONSULTANTS CO., LTD.

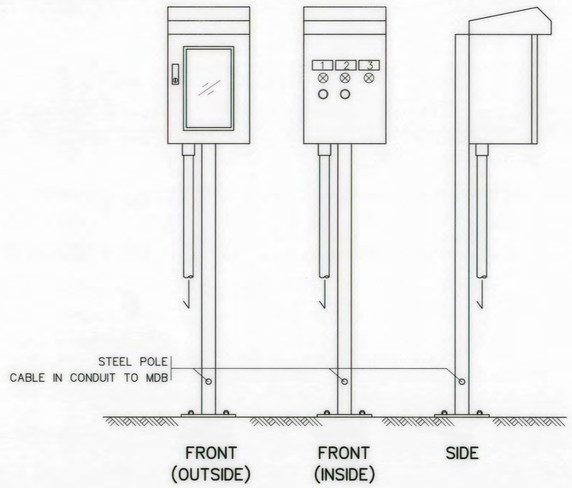
DESIGNED สพ.1764
DRAWN
CHECKED สย.8231
PROJECT MANAGER 28/10/2021 DATE

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DRAWING NO. AKP-EM-07
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SINGLE LINE DIAGRAM



NO.	DESCRIPTION
1	OPEN
2	CLOSE
3	FAULT

MOTOR CONTROL CUBICAL 1 – 3
(MCC1–MCC3)

LOAD SCHEDULE

PANEL NO : DB — ELECTRICAL SYSTEM : 3ø, 4w, 400/230 v, 50Hz
MAX CKT : 6 — LOCATION : AREA — MOUTED : FLOOR

CKT NO.	DESCRIPTION	CIRCUIT BREAKER CABLE P	AT	AF	IC	SECTION (sq.mm)	TYPE	CONDUIT DIA (INCH)	CONDUIT TYPE	LOAD CONNECTION(VA) R	S	T
1	STREET LIGHTING	2	20	125	IC > 18 kA	2X4/1X2.5G	NYY	1-1/4	HDPE / IMC	500		
2	MCC1	3	20	125		4X4/1X2.5G	NYY	1-1/2	HDPE / IMC	400	400	400
3	MCC2	3	20	125		4X4/1X2.5G	NYY	1-1/2	HDPE / IMC	400	400	400
4	MCC3	3	20	125		4X4/1X2.5G	NYY	1-1/2	HDPE / IMC	400	400	400
5	POWER SOCKET PANEL	3	30	125		4X6/1X4G	IEC01	1	EMT	5000	5000	5000
6	SPARE	3	30	125						5000	5000	5000
MAIN	BREAKER: ☑ LUG : ☐	3	50	125	IC > 18 kA	CONDUCTOR : 4x70q.mm NYY 1x10(G)q.mm IECO1				11700	11200	11200
BUS	PHASE : 100 A									100% LOAD: 34100 VA		
INCOME LINE : POWER HOUSE						WIRING ON RACK AND IN CONDUIT 3" DIA IMC/HDPE				80% LOAD: 27280 VA		

N R S T — G

NOTE :

1. FULLY OPEN AND FULLY CLOSE MUST BE OPERATED BY LIMITED SWITCH. LIMITED SWITCH 'S LEVEL WILL BE CONFIRMED BY OWNER.
2. DIMENSION AND LOCATION OF MAIN EQUIPMENT , CONTRACTOR MUST BE SENT TO OWNER FOR APPROVE AGAIN BEFORE PRODUCTION AND INSTALLATION.

NO.	DATE	REVISIONS	CHECKED	APPROVED
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2				
1				
	CONSULTANTS		DEDE	

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AI KA PO HYDROPOWER PROJECT
TAMBON PHUKHAO THONG AMPHOE SUKHIRIN CHANGWAT NARATHIWAT

PART 2 ELECTRO–MECHANICAL EQUIPMENT
E&M EQUIPMENT
SINGLE LINE DIAGRAM FOR WEIR AREA

PCM P&C MANAGEMENT CO., LTD.
SPT SPT CONSULTANTS CO., LTD.

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PROJECT MANAGER	28/10/2021 DATE	APPROVED	

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