ประมาณการราคางานก่อสร้างสถานีไฟฟ้า ประจำปี 2565

คพจ.2 : สถานีไฟฟ้าขอนแก่น 6 จ.ขอนแก่น (KKF)

115-22kV GIS Double Bus Single Breaker , 1x50 MVA , 1 Line

				Part A	Part A	Part B	Part B
Item	Description	Quantity	Unit	Equipment	Equipment	Installation	Installation
Item	Description	Quantity	Oint	(Baht)	(Baht)	(Baht)	(Baht)
				Unit Price	Total	Unit Price	Total
1	POWER TRANSFORMERS						
1.1	On-load tap-changing power transformer three-phase, 115-22 kV, 15/20/25 MVA (Dyn1)		Unit				
4.0	(Included 115 kV Lightning arrester, Surge counter and Remote control cubicle)		OTHE				
1.2	On-load tap-changing power transformer three-phase, 115-22 kV, 15/20/25 MVA (YNyn0(d1)) (Included 115 kV Lightning arrester, Surge counter and Remote control cubicle)		Unit				
1.3	On-load tap-changing power transformer three-phase, 115-22 kV, 30/40/50 MVA (Dyn1)		Unit				
	(Included 115 kV Lightning arrester, Surge counter and Remote control cubicle)		OTIIL				
1.4	On-load tap-changing power transformer three-phase, 115-22 kV, 30/40/50 MVA (YNyn0(d1)) (Included 115 kV Lightning arrester, Surge counter and Remote control cubicle)	1	Unit	27,820,302	27,820,302	476,940	476,940
1.5	On-load tap-changing power transformer three-phase, 115-33 kV, 15/20/25 MVA(YNyn0(d1))		Unit				
	(Included 115 kV Lightning arrester, Surge counter and Remote control cubicle)		OTIIL				
1.6	On-load tap-changing power transformer three-phase, 115-33 kV, 30/40/50 MVA (YNyn0(d1)) (Included 115 kV Lightning arrester, Surge counter and Remote control cubicle)		Unit				
1.7	Remote control cubicle		Unit				
2	115 kV GAS INSULATED SWITCHGEAR				•		
2.1	Line bay, 40 kA Included local control board and SF6-gas service panels	1	Unit	14,198,624	14,198,624	205,912	205,912
2.2	Bus coupling bav (include Bus-PT). 40 kA Included local control board and SF6-gas service panels	1	Unit	15,570,203	15,570,203	205,912	205,912
2.3	Transformer bay, 40 kA Included local control board and SF6-eas service panels	1	Unit	14,026,005	14,026,005	205,912	205.912
2.4	Bus Gas Buffer Module	2	Unit	146,145	292,290	2,922	5,844
3	115 kV CIRCUIT BREAKER						
4	DISCONNECTING SWITCH						
4.1	115 kV disconnecting switch, three-pole, without grounding switch.		Unit				
	115 kV disconnecting switch, three-pole, with grounding switch.		Unit				
	115 kV Earthing switch, three-pole.		Unit	5.054	457.500	4.054	24 (22
	22 kV disconnecting switch, single-pole, hook-operated, Station class for riser pole 22 kV disconnecting switch, single-pole, hook-operated, Station class for incoming, 2,000 A	30	Unit Unit	5,251	157,530	1,054	31,620
4.6	33 kV disconnecting switch, single-pole, hook-operated, Station class		Unit				
4.7	33 kV disconnecting switch, single-pole, hook-operated, Station class for incoming, 1,200 A		Unit				
4.8	22 kV Cut-out, Fuse, Open type, Single insulator, Dropout		Unit				
4.9	33 kV Cut-out, Fuse, Open type, Single insulator, Dropout		Unit				
5	LIGHTNING ARRESTER				I		
5.1 5.2	115 kV Lightning arrester, single-phase (included surge counter) 22 kV Lightning arrester, single-phase, Station class	30	Unit Unit	15,059	451,770	1,597	47,910
5.3	33 kV Lightning arrester, single-phase, Station class	30	Unit	13,039	451,770	1,397	47,910
6	INSTRUMENT TRANSFORMER						
7	PROTECTION AND CONTROL PANEL						
	GIS Double Bus Single Breaker 115 kV Swing rack type control and protection relay switchboard for :						
7.4	Bus Coupling Breaker panel (BCP)	1	Unit	1,334,750	1,334,750	27,115	27,115
7.5	Bus zone protection panel (BZP)	1	Unit	1,390,363	1,390,363	29,793	29,793
7.6	115 kV Line relay protection and Control panel. (LRP & LCP)	1	Unit	1,523,066	1,523,066	51,956	51,956
7.7	115 kV Transformer protection and Control panel. (TPP & TCP)	1	Unit	1,376,091	1,376,091	51,020	51,020
8	INDOOR SWITCHGEAR					-	<u> </u>
				4.500.007	0.050.704	44.604	20.040
8.1	22 kV Incoming cubicle	2	Unit	1,529,397	3,058,794	11,684	23,368
8.2	22 kV Outgoing cubicle	10	Unit	1,249,962	12,499,620	11,684	116,840
8.3	22 kV Bus coupler cubicle	1	Unit	1,355,809	1,355,809	11,684	11,684
8.4	22 kV Bus riser cubicle		Unit				
8.5	22 kV PT for synchronize bus bar protection cubicle	1	Unit	854,135	854,135	10,069	10,069
8.6	22 kV PT for synchronize bus bar protection cubicle (included bus riser cubicle)	1	Unit	1,234,613	1,234,613	10,396	10,396
	22 kV Capacitor bank cubicle	2	Unit	1,237,165	2,474,330	11,684	23,368
8.8	22 kV Station service transformer unit cubicle	2	Unit	776,748	1,553,496	10,396	20,792
8.9	22 kV Dummy cubicle Or Bus adaptor	1	Lot	109,929	109,929	6,162	6,162
3.10	22 kV Arc detection system equipment for 5 outgoing		Lot				
	22 kV Arc detection system equipment for 10 outgoing	1	Lot	1,627,398	1,627,398	13,004	13,004
3.11	33 kV Incoming cubicle		Unit				
			Unit				
3.12	33 kV Outgoing cubicle		Unit				
3.12 3.13	33 kV Outgoing cubicle 33 kV Bus coupler cubicle (included bus riser cubicle)		Offic				
8.12 8.13 8.14			Unit				
3.12 3.13 3.14 3.15	33 kV Bus coupler cubicle (included bus riser cubicle)						
3.12 3.13 3.14 3.15 3.16	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize		Unit				
3.12 3.13 3.14 3.15 3.16 3.17	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle		Unit Unit				
8.12 8.13 8.14 8.15 8.16 8.17	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle 33 kV Station service transformer unit cubicle		Unit Unit Unit				
3.12 3.13 3.14 3.15 3.16 3.17 3.18	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle 33 kV Station service transformer unit cubicle 33 kV Dummy cubicle Or Bus adaptor POWER SUPPLY	2	Unit Unit Unit	180.339	360.678	9.675	19.350
8.12 8.13 8.14 8.15 8.16 8.17 8.18	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle 33 kV Station service transformer unit cubicle 33 kV Dummy cubicle Or Bus adaptor POWER SUPPLY Station service transformer, oil-immersed type, three-phase, 100 kVA,	2	Unit Unit Unit Lot	180,339	360,678	9,675	19,350
3.12 3.13 3.14 3.15 3.16 3.17 3.18 9	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle 33 kV Station service transformer unit cubicle 33 kV Dummy cubicle Or Bus adaptor POWER SUPPLY Station service transformer, oil-immersed type, three-phase, 100 kVA, 22,000-416/240 VAC, 50 Hz, with cable connection boxes, for outdoor installation	2	Unit Unit Unit Lot Unit	180,339	360,678	9,675	19,350
8.12 8.13 8.14 8.15 8.16 8.17 8.18	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle 33 kV Station service transformer unit cubicle 33 kV Dummy cubicle Or Bus adaptor POWER SUPPLY Station service transformer, oil-immersed type, three-phase, 100 kVA, 22,000-416/240 VAC, 50 Hz, with cable connection boxes, for outdoor installation Station service transformer, oil-immersed type, three-phase, 100 kVA,	2	Unit Unit Unit Lot	180,339	360,678	9,675	19,350
3.12 3.13 3.14 3.15 3.16 3.17 3.18 9	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle 33 kV Station service transformer unit cubicle 33 kV Dummy cubicle Or Bus adaptor POWER SUPPLY Station service transformer, oil-immersed type, three-phase, 100 kVA, 22,000-416/240 VAC, 50 Hz, with cable connection boxes, for outdoor installation		Unit Unit Lot Unit Lot Unit	180,339	360,678	9,675	19,350
8.12 8.13 8.14 8.15 8.16 8.17 8.18 9	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle 33 kV Station service transformer unit cubicle 33 kV Dummy cubicle Or Bus adaptor POWER SUPPLY Station service transformer, oil-immersed type, three-phase, 100 kVA, 22,000-416/240 VAC, 50 Hz, with cable connection boxes, for outdoor installation Station service transformer, oil-immersed type, three-phase, 100 kVA,	2	Unit Unit Unit Lot Unit	180,339 355,408	360,678 710,816	9,675	19,350
8.12 8.13 8.14 8.15 8.16 8.17 8.18 9 9.1	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle 33 kV Station service transformer unit cubicle 33 kV Dummy cubicle Or Bus adaptor POWER SUPPLY Station service transformer, oil-immersed type, three-phase, 100 kVA, 22,000-416/240 VAC, 50 Hz, with cable connection boxes, for outdoor installation Station service transformer, oil-immersed type, three-phase, 100 kVA, 33,000-416/240 VAC, 50 Hz, with cable connection boxes, for outdoor installation		Unit Unit Lot Unit Lot Unit	355,408			
8.12 8.13 8.14 8.15 8.16 8.17 8.18 9 9.1 9.2	33 kV Bus coupler cubicle (included bus riser cubicle) 33 kV PT for synchronize 33 kV Capacitor bank cubicle 33 kV Station service transformer unit cubicle 33 kV Dummy cubicle Or Bus adaptor POWER SUPPLY Station service transformer, oil-immersed type, three-phase, 100 kVA, 22,000-416/240 VAC, 50 Hz, with cable connection boxes, for outdoor installation Station service transformer, oil-immersed type, three-phase, 100 kVA, 33,000-416/240 VAC, 50 Hz, with cable connection boxes, for outdoor installation AC distribution board.	2	Unit Unit Lot Unit Unit Unit Unit		710,816	6,683	13,366

				Part A	Part A	Part B	Part B
	Description Qu		Unit			Installation	Installation
Item		Quantity		Equipment (Baht)	Equipment (Baht)	(Baht)	(Baht)
				Unit Price	Total	Unit Price	Total
				Officialice	Totat	Offictrice	Totat
	- Breaker and a half		Lot				
	- Main and transfer		Lot				
	- GIS: Double Bus Single Breaker	1	Lot	875,570	875,570	11,542	11,542
	- MTS/Conventional H-Config. (Outdoor/Indoor)		Lot				
10	CABLE AND TERMINATION KIT						
						I	
10.1	115 kV XLPE power cable, 800 sq.mm.	126	m	6,262	789,012	191	24,066
10.2	22 kV XLPE power cable, 500 sq.mm.	252	m	2,841	715,932	81	20,412
10.3	22 kV XLPE power cable, 400 sq.mm.	5652	m	2,421	13,683,492	75	423,900
10.4	22 kV XLPE power cable, 240 sq.mm.	180	m	1,723	310,140	62	11,160
10.5	22 kV XLPE power cable, 95 sq.mm.	348	m	769	267,612	55	19,140
10.6	115 kV Outdoor cable termination kit, for XLPE power cable 800 sq.mm. Completed with accessories.	3	Set	102,600	307,800	23,936	71,808
10.7	115 kV Indoor cable termination kit, for XLPE power cable 800 sq.mm. Completed with accessories.	3	Set	203,396	610,188	24,990	74,970
10.8	22 kV Outdoor cable termination kit, for XLPE power cable 500 sq.mm. Completed with accessories.	6	Set	3,381	20,286	2,449	14,694
	22 kV Indoor cable termination kit, for XLPE power cable 500 sq.mm. Completed with accessories.	6	Set	2,648	15,888	2,449	14,694
	22 kV Outdoor cable termination kit, for XLPE power cable 400 sq.mm. Completed with accessories.	30	Set	2,555	76,650	2,391	71,730
	22 kV Indoor cable termination kit, for XLPE power cable 400 sq.mm. Completed with accessories.	30	Set	2,841	85,230	2,391	71,730
	22 kV Outdoor cable termination kit, for XLPE power cable 240 sq.mm. Completed with accessories.		Set	,-	,	,	,
	22 kV Indoor cable termination kit, for XLPE power cable 240 sq.mm. Completed with accessories.	12	Set	1,034	12,408	2,120	25,440
	22 kV Outdoor cable termination kit, for XLPE power cable 95 sq.mm. Completed with accessories.	6	Set	3,900	23,400	2,113	12,678
	22 kV Indoor cable termination kit, for XLPE power cable 95 sq.mm. Completed with accessories.	6	Set	2,011	12,066	2,113	12,678
	22 kV Cable Splicing kit, for XLPE power cable 500 sq.mm.	Ť	Set	2 800	_,		-,0
				2,000			
_	22 kV Cable Splicing kit, for XLPE power cable 400 sq.mm.		Set	4,368			
	22 kV Cable Splicing kit, for XLPE power cable 240 sq.mm.		Set	4,931			
	33 kV XLPE power cable, 500 sq.mm.		m	3,650			
	33 kV XLPE power cable, 400 sq.mm.		m	3,232			
	33 kV XLPE power cable, 240 sq.mm.		m	1,976			
	33 kV XLPE power cable, 95 sq.mm.		m				
	33 kV Outdoor cable termination kit, for XLPE power cable 500 sq.mm. Completed with accessories.		Set				
10.24	33 kV Indoor cable termination kit, for XLPE power cable 500 sq.mm. Completed with accessories.		Set				
	33 kV Outdoor cable termination kit, for XLPE power cable 400 sq.mm. Completed with accessories.		Set				
10.26	33 kV Indoor cable termination kit, for XLPE power cable 400 sq.mm. Completed with accessories.		Set				
10.27	33 kV Outdoor cable termination kit, for XLPE power cable 240 sq.mm. Completed with accessories.		Set				
10.28	33 kV Indoor cable termination kit, for XLPE power cable 240 sq.mm. Completed with accessories.		Set				
10.29	33 kV Outdoor cable termination kit, for XLPE power cable 95 sq.mm. Completed with accessories.		Set				
	33 kV Indoor cable termination kit, for XLPE power cable 95 sq.mm. Completed with accessories.		Set				
10.31	33 kV Cable Splicing kit, for XLPE power cable 500 sq.mm.		Set				
10.32	33 kV Cable Splicing kit, for XLPE power cable 400 sq.mm.		Set				
10.33	Fire barrier system	1	Lot	143,005	143,005	20,247	20,247
10.34	Fire barrier system for Additional Bay						
	- Line bay		Lot				
	- Transformer bay and Power transformer		Lot				
11	LV POWER CABLE & CONTROL CABLE						
	GIS Double Bus Single Breaker 115 kV						
11.1	LV power cable, 750 V	1	Lot	380,676	380,676	13,827	13,827
11.2	Control cable, 600 V	1	Lot	903,774	903,774	72,906	72,906
12	SUPPORT STRUCTURE, CABLE SUPPORT, CONCRETE POLE, CONDUIT & PIPE						
12.1	Take off structure, Beam		Unit				
12.2	Take off structure, Post		Unit				
12.3	Bus support structure for Main & Transfer		Lot				
12.4	Bus support structure for H		Lot				
12.5	Bus support structure for MTS-H Outdoor/Indoor		Lot				
12.6	Bus support structure for Breaker & A Half		Lot				
12.7	Supporting structure, for 115 kV MTS (Included in Item 3.3 or 3.4)		Unit	Inc	luded item 3.3	or 3.4	
12.8	Supporting structure, for 115 kV CB		Unit				
12.9	Supporting structure, for 115 kV DS with ground switch (Hanged On Wall)		Unit				
1210			Unit				
	Supporting structure, for 115 kV DS with ground switch (Hanged On 115 kV. Take-off structure)						
	Supporting structure, for 115 kV DS or DS with ground		Unit				
	Supporting structure, for 115 kV ES		Unit				
	Supporting structure, for 115 kV LA		Unit				
	Supporting structure, for 115 kV CT and Junction Box		Unit				
	Supporting structure, for 115 kV IVT and Junction Box		Unit				
	Supporting structure for Bus differentail Junction box		Unit				
	Supporting structure for Outdoor termination kit of Power transformer	1	Unit	43,141	43,141	6,608	6,608
	Cable support structure for connecting Metering structure (MS1&MS2) complete with accessories		Lot				
12.19	Incoming riser pole Cable support structure complete with accessories (two Incoming) excluding DS, LA,		Set				
	termination kit and concrete pole.						

				Part A	Part A	Part B	Part B
				Equipment	Equipment	Installation	Installation
Item	Description	Quantity	Unit	(Baht)	(Baht)	(Baht)	(Baht)
				Unit Price	Total	Unit Price	Total
12.20	Incoming riser pole Cable support structure complete with accessories (one Incoming) excluding DS, LA,		Set				
	termination kit and concrete pole.						
12.21	Sheath Voltage Litmiter; SVL (according to Specification of SVL)		Unit	5,401	0	1,609	0
12.22	Two Crossarm, Spun, Prestressed Concrete 100 x 100 x 2,500 mm for 22 kV DS	10	set	4,916	49,160	633	6,330
10.02	Completed with accessories.						
12.23	Two Crossarm, Spun, Prestressed Concrete $120 \times 120 \times 3,000$ mm for 33 kV DS Completed with accessories.		set				
12.24	One Crossarm, Spun, Prestressed Concrete 100 x 100 x 2,500 mm for 22 kV LA	10	set	3,437	34,370	580	5,800
	Completed with accessories.				,		, and the second
12.25	One Crossarm, Spun, Prestressed Concrete 120 x 120 x 3,000 mm for 33 kV LA		set				
40.06	Completed with accessories.	4.0		0.407	04.070	500	
12.26	One Crossarm, Spun, Prestressed Concrete $100 \times 100 \times 2,500$ mm for 22 kV Cable riser Completed with accessories.	10	set	3,437	34,370	580	5,800
12.27	One Crossarm, Spun, Prestressed Concrete 120 x 120 x 3,000 mm for 33 kV		set				
12.2.	Cable riser Completed with accessories.		500				
12.28	Concrete Pole, 12.20 m Long. ภาคเหนือ		Unit				
	Concrete Pole, 12.20 m Long. ภาคตะวันออกเฉียงเหนือ		Unit				
	Concrete Pole, 12.20 m Long. ภาคกลาง		Unit				
	Concrete Pole, 12.20 m Long. ภาคใต้		Unit				
12.29	Concrete Pole, 14.30 m Long. ภาคเหนือ		Unit				
	Concrete Pole, 14.30 m Long. ภาคตะวันออกเฉียงเหนือ		Unit				
	Concrete Pole, 14.30 m Long. ภาคกลาง		Unit				
	Concrete Pole, 14.30 m Long. ภาคใต้		Unit				
12.30	Concrete Pole, 22.00 m Long with ground plate 14 Point (ภาคเหนือ)		Unit				
	Concrete Pole, 22.00 m Long with ground plate 14 Point (ภาคตะวันออกเฉียงเหนือ)		Unit				
	Concrete Pole, 22.00 m Long with ground plate 14 Point (ภาคกลาง)		Unit				
	Concrete Pole, 22.00 m Long with ground plate 14 Point (ภาคใต้)		Unit				
12.31	F1/1 Single Pole Foundation (Ref. IB2-011/45004)		Unit				
	F3 Single Pole Foundation (Ref. IB2-011/44017)		Unit				
	F5 Single Pole Foundation (Ref. IB2-011/44014)		Unit				
	F6 Single Pole Foundation (Ref. IB2-011/44011)		Unit				
	F6/1 Single Pole Foundation (Ref. IB2-011/44011)		Unit				
12.32	115kV Underground Cable Riser Pole Structure Type SD-UG-2 : Reference DWG No.SA1-015/57008 (Assembly						
	No.7622). (Excluding Concrete pole (22 m. Long), 115 kV Underground Cable and Conduit Steel Guard Item		Set				
	35 of DWG.)						
12.33	115kV Underground Cable Riser Pole Structure Type SD-UG-3 : Reference DWG No.SA1-015/57009 (Assembly						
	No.7623). (Excluding Concrete pole (22 m. Long), 115 kV Underground Cable and Conduit Steel Guard Item 33		Set				
	of DWG.)						
12.34	115 kV Operating platform and foundation						
	- 115 kV Circuit breaker or MTS		Set				
	- 115 kV DS or ES		Set				
12.35	Cable tray, Cable ladder, Cable support and Wire way complete with accessories.	1	Lot	226,330	226,330	17,235	17,235
	GIS Double Bus Single Breaker 115 kV & (Outdoor to Indoor) Renovate						
12.36	RSC, IMC, PVC pipe and HDPE pipe complete with accessories for all equipment.	1	Lot	122,103	122,103	11,245	11,245
	Conventional type						
12.37	RSC, IMC, PVC pipe and HDPE pipe complete with accessories for all equipment.		Lot				
12 20	Support structure, Cable support, Pipe for Additional bay Bus support structure						
12.38	Bus support structure - Main and transfer						
	- Main ana transfer - AlS H-Config.		Lot Lot				
	- MTS H-Config. (Outdoor/Indoor)		Lot				
	- Breaker and a half		Lot				
12.39	Cable tray, Cable ladder, Cable support and Wire way complete with accessories.		Lot				
12.40	RSC, IMC, PVC pipe and HDPE pipe complete with accessories for all equipment.		Lot				
13	CONDUCTOR, INSULATOR AND ACCESSORIES						
	GIS Double Bus Single Breaker 115 kV						
13.1	Stranded conductor, aluminium, 400 sq.mm.	1	Lot	46,046	46,046	4,890	4,890
13.2	Insulator Post Type, Horizontal mounting for 115 kV Riser (SD-UG)		Unit				
13.3	Insulator Post Type, Horizontal mounting for 115 kV Riser(SD-UG-2,Insulator Post Type 8 EA)		Set				
13.4	Insulator Post Type, Horizontal mounting for 115 kV Riser(SD-UG-3,Insulator Post Type 6 EA)		Set				
	Substation connectors, Stranded conductor accessories	1	Lot	67,399	67,399	6,645	6,645
14	GROUNDING SYSTEM						
	Conductor, copper, Bare 95 sq.mm. for switchyard only. (Included cable trench)	1800	m	403	725,400	56	100,800
	Conductor, copper, Bare 120 sq.mm. for switchyard only.		m				
	Ground rod, Copper covered steel, diameter 5/8", 6 m Long		pc				
	Ground rod, Copper covered steel, diameter 5/8", 3 m Long	37	рс	716	26,492	285	10,545
	Earthing test pit	2	Unit	2,660	5,320	735	1,470
	CU. conductor cable for Parallel Ground Continuity Conductor (PGCC), 185 sq.mm. XLPE, 1kV.		m				
14.7	Disconnecting Box for PGCC		Unit				

Part A Part A Part B Part B

1	Description Quantity		Part A	Part A	Part B	Part B	
Item		Ouantity	Unit	Equipment	Equipment	Installation	Installation
1.0	Description	Quantity	Cint	(Baht)	(Baht)	(Baht)	(Baht)
L				Unit Price	Total	Unit Price	Total
<u> </u>	GIS Double Bus Single Breaker 115 kV / MTS Indoor						
	Earhting system and lightning protection system						
	-earthing system & lightning protection system in control building and for antenna tower (included						
14.8	potential ring, ground rod, conductor 50, 95 and 120 Sq.mm., complete with accessories.)	1	Lot	1,260,833	1,260,833	72,902	72,902
	-earthing system outside control building and Guard House (Excluding ground rod and						
<u> </u>	conductor 95 and 120 sq.mm.)						
15	LIGHTING SYSTEM						
15.1	Area floodlight luminaires						
1	- Type L (LED, ≤ 215 W, ≥ 16,500 lm)		Set				
15.0	- Type L1 (LED, ≤ 420 W, ≥ 38,000 lm)		Set				
15.2	Street and area lighting luminaires		C +				
	- Type M (LED, ≤ 70 W, ≥ 6,650 lm) long 6 m. - Type M1 (LED, ≤ 70 W, ≥ 6,650 lm) long 4 m.	11	Set	16,886	185,746	2,095	23,045
	- Type M2 (LED, ≤ 70 W, ≥ 6,650 lm) long 2.7 m.	11	Set	10,000	103,740	2,093	25,045
1	- Type M3 (LED, ≤ 70 W, ≥ 6,650 lm) long 4.7 m.		Set				
15.3	Termination box for floodlight						
	- Type L (215 W)		Set				
l	- Type L1 (420 W)		Set				
16	IDENTIFICATION PLATES						
	GIS Double Bus Single Breaker 115 kV						
16.1	Identification plates and danger notice complete with accessories.	1	Lot	26,217	26,217	4,509	4,509
	COMPUTER-BASE SUBSTATION CONTROL SYSTEM (CSCS) & SUBSTATION CONTROL AND PROTECTION	1	LOI	20,211	20,211	4,507	4,307
17	CONFO LEGENCE SUBSTATION CONTINUE STSTEM (CSCS) & SUBSTATION CONTINUE AND THOTECHION						
<u> </u>	GIS Double Bus Single Breaker 115 kV	1					
17.1	Computer-base Substation Control System (CSCS) for 10 outgoing		Lot				
17.2	Computer-base Substation Control System (CSCS) for 5 outgoing		Lot				
17.3	IEC 61850 BASED SUBSTATION CONTROL AND PROTECTION SYSTEM (SCPS) TOPOLOGY 1 (2 Line Bay , 2 TP. Bay,	1	Lot	3,790,555	3,790,555	1,744,864	1,744,864
17.5	1 Tie Bay)	1	LOC	5,190,555	3,190,333	1,744,004	1,744,004
17.4	IEC 61850 BASED SUBSTATION CONTROL AND PROTECTION SYSTEM (SCPS) TOPOLOGY 2		Lot				
18	AUTOMATIC SWITCHING CAPACITOR BANK						
18.1	22 kV Automatic switching capacitor bank	2	Unit	2,712,247	5,424,494	28,079	56,158
18.2	33 kV Automatic switching capacitor bank		Unit				
19	ANTENNA TOWERS AND ACCESSORIES	•					
19.1	Antenna tower, grid structure, corner-legs made of round steel bars, triangle type, with :	1	Set	119,332	119,332	13,253	13,253
	Free length over-floor : 32 m						
<u> </u>	Base width : 0.75 m						
<u> </u>	End width : 0.35 m						
<u> </u>	The round steel bars shall have characteristics as follow:						
<u> </u>	Tensile stress : not less than 39 kg/sq.mm. Yield stress : not less than 24 kg/sq.mm.						
	Zinc coating thickness : not less than 50 micro meter						
	Complete with installation material and part list						
19.2	Accessories for the antenna tower in 19.1 each set consists of :	1	Lot	49,579	49,579	9,268	9,268
	(1) Obstruction light, long life heavy duty, double-luminaries,						
	double-circuit, manual on-off switch, with :						
	Lamp life : not less than 8,000 h						
	Lamp rating : not less than 100 w						
\sqsubseteq	AC circuit breaker : not less than 10 A						
	Power supply : single-phase, 220 VAC, 50 Hz						
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories						
	Power supply : single-phase, 220 VAC, 50 Hz						
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories						
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Tableof TIS 11, 750 V, PVC insulation and PVC sheath.						
20	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Tableof TIS 11, 750 V, PVC insulation and PVC sheath. (3) Paints (Rust Oleum water reducible coatings 5258 orange/one gallon and 5291 white/one gallon)						
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Table T1S 11, 750 V, PVC insulation and PVC sheath. (3) Paints (Rust Oleum water reducible coatings 5258 orange/one gallon and 5291 white/one gallon) SOLAR ROOFTOP SYSTEM	1		1 0//7 155	1 047 155	155,000	155,000
20 20.1	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Tableof TIS 11, 750 V, PVC insulation and PVC sheath. (3) Paints (Rust Oleum water reducible coatings 5258 orange/one gallon and 5291 white/one gallon)	1	Lot	1,047,155	1,047,155	155,080	155,080
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Table T1S 11, 750 V, PVC insulation and PVC sheath. (3) Paints (Rust Oleum water reducible coatings 5258 orange/one gallon and 5291 white/one gallon) SOLAR ROOFTOP SYSTEM	1	Lot	1,047,155	1,047,155	155,080	
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Tableof TIS 11, 750 V, PVC insulation and PVC sheath. (3) Paints (Rust Oleum water reducible coatings 5258 orange/one gallon and 5291 white/one gallon) SOLAR ROOFTOP SYSTEM Solar Rooftop 20 kW	1	Lot	1,047,155	137,291,139	155,080	
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Tableof TIS 11, 750 V, PVC insulation and PVC sheath. (3) Paints (Rust Oleum water reducible coatings 5258 orange/one gallon and 5291 white/one gallon) SOLAR ROOFTOP SYSTEM Solar Rooftop 20 kW TOTAL (Equipment & Installation)	1	Lot		137,291,139		4,875,132
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Tableof TIS 11, 750 V, PVC insulation and PVC sheath. (3) Paints (Rust Oleum water reducible coatings 5258 orange/one gallon and 5291 white/one gallon) SOLAR ROOFTOP SYSTEM Solar Rooftop 20 kW TOTAL (Equipment & Installation)	1	Lot	PAF	137,291,139	9,367.09	4,875,132
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Tableof TIS 11, 750 V, PVC insulation and PVC sheath. (3) Paints (Rust Oleum water reducible coatings 5258 orange/one gallon and 5291 white/one gallon) SOLAR ROOFTOP SYSTEM Solar Rooftop 20 kW TOTAL (Equipment & Installation)	1	Lot	PAF Equip	137,291,139 2,05 RT A	9,367.09 PAR	4,875,132 T B
	Power supply : single-phase, 220 VAC, 50 Hz Complete with circuit breaker box and accessories (2) Copper cable, Tableof TIS 11, 750 V, PVC insulation and PVC sheath. (3) Paints (Rust Oleum water reducible coatings 5258 orange/one gallon and 5291 white/one gallon) SOLAR ROOFTOP SYSTEM Solar Rooftop 20 kW TOTAL (Equipment & Installation) TRANSPORTATION COST (PART B) 1.5% OF EQUIPMENT	1	Lot	PAF Equip	137,291,139 2,05 RT A oment 5,088.36	9,367.09 PAR Transportation	4,875,132 T B Installation

หมายเห

- 1. 📋 ใช้ราคาค่าอุปกรณ์จากราคากลางพัสดุ ประจำปี 2565 ครั้งที่ 1 ลว. 21 ม.ค. 2565 และราคามาตรฐานพัสดุ กฟก. ปี 2565 ครั้งที่ 1 ลว. 25 ก.พ. 2565 (ตามลำดับ)
- 2. ราคานี้ใช้สำหรับประกวดราคาจ้างก่อสร้างสถานีไฟฟ้า
- 3. ราคาค่าอุปกรณ์และค่าแรงไม่รวมภาษีมูลค่าเพิ่ม
- 4. อัตราเงินเฟ้อทั่วไปปี 2565 = 1.7 %