การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย

REGISTRATION FORM

INVITATION TO BID NO. TS12-CR-08

FOR <u>SUPPLY OF CONTROL AND PROTECTION EQUIPMENT</u> TRANSMISSION SYSTEM EXPANSION PROJECT NO. 12

AVAILABLE DURATION FOR PURCHASING FEBRUARY 18, 2019 TO APRIL 17, 2019 PRICE THB 500.-

COMPLETE DATA IS REQUIRED FOR THE BIDDER'S OWN BENEFITS

(โปรดกรอกรายละเอียดให้ครบถ้วนเพื่อประโยชน์ของบริษัท)

Step 1 : Fill out this Re	egistration Form in English (Typing is preferr	red)	
	orm for payment at Receivable Cashier Section		
	ment receipt and the copy of filled-out Regis		=
_	- Transmission Segment (Room No. 1202/2	, 12 th Floor, Building Tor. 101) Tel	
FOR PURCHASER			TAX ID:
NO. RECEIPT NO	D. :	DATE :	PURCHASER (ผู้ซื้อ):
BIDDER'S NAME			
(บริษัทผู้ซื้อเอกสาร)			
ADDRESS			T
(ที่อยู่)			COUNTRY:
ATTN. (ผู้รับผิดชอบ):		FAX NO.:	TEL.:
E-mail :			
LOCAL REPRESENTATIVE			
(ตัวแทนในประเทศ)			
ADDRESS			
(ที่อยู่)			TAX ID:
ATTN. (ผู้รับผิดชอบ):		FAX NO.:	TEL.:
E-mail :			
FOR PROCUREMENT OFFICE	EER	CHANGE OF BIDDER'S NAME	TAX ID:
NEW BIDDER'S NAME			
(ชื่อผู้ซื้อเอกสารเปลี่ยนเป็น)			
ADDRESS			
(ที่อยู่)		COUNTRY:	
ATTN. (ผู้รับผิดชอบ):		FAX NO.:	TEL.:
E-mail :			
LOCAL REPRESENTATIVE			
(ตัวแทนในประเทศ)			
ADDRESS			
(ที่อยู่)		TAX ID:	
ATTN. (ผู้รับผิดชอบ):		FAX NO.:	TEL.:
E-mail :			
FOR PF	OCUREMENT OFFICER	FOR PUR	RCHASER
Procurement Officer		Document received by	
(ผู้ส่งมอบเอกสาร)		(ผู้รับมอบเอกสาร)	



INVITATION TO BID NO. TS12-CR-08

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT TRANSMISSION SYSTEM EXPANSION PROJECT NO. 12

The Electricity Generating Authority of Thailand (EGAT) is calling for the subject Invitation to Bid to be financed by EGAT's fund.

Place of Delivery

: Ex-works

Medium Cost (including Value Added Tax) : THB 16,000,000.-

Eligibility of Bidders

- 1. The Bidder shall be a local manufacturer or provide such locally manufactured materials and/or equipment and shall not be named in the List of Work Abandoners published by the Office of Prime Minister and/or in the Debarment List and/or in the List of Work Abandoners declared by EGAT.
- 2. The Bidder shall not be a Jointly Interested Bidder with other Bidders as from the date of EGAT's issuance of the Invitation, or shall not be a person who undertakes any action as an "Obstruction of Fair Price Competition" for this Invitation.
- 3. The Bidder shall not either be EGAT's consultant or involve in EGAT's consultancy company under this Invitation to Bid, or shall not have EGAT's personnel involved in his business as shareholder having voting right that can control his business, director, manager, officer, employee, agent, or consultant except those who are officially ordered by EGAT to act or participate therein.
- 4. The Bidder shall not be the person who is privileged or protected not to be taken any legal proceedings under Thai Court; Provided that such Bidder's government declares that such special privilege is waived.
- 5. The Bidder who is a joint venture or consortium shall carry out all the work under such formation from the time of bidding until the fulfillment of the Contract.

Availability of Bidding Documents

Bidding Documents in CD-ROM will be available for examination of Bidder's Qualifications and purchase during 8:00 hrs. to 15:00 hrs., Bangkok Standard Time, as from February 18, 2019 to April 17, 2019 at THB 500.- per copy, non-refundable, at the following address:

> International Procurement Department - Transmission Segment (Room No. 1202/2, 12th Floor, Building Tor. 101) Procurement and Inventory Management Division Electricity Generating Authority of Thailand Bangkruai, Nonthaburi 11130, Thailand Telephone no. 0 2436 0241

E-mail: procurement.tse@egat.co.th

For more details and downloading Registration Form for purchasing Bidding Documents on website:

http://www4.egat.co.th/fprocurement/biddingeng/

Delivery of Bids

Bids shall be submitted at Room No. 1202/1, 12th Floor, Building Tor. 101 during 9:30 hrs. to 10:00 hrs., Bangkok Standard Time, April 25, 2019 and will be opened publicly at 10:00 hrs.

ELECTRICITY GENERATING AUTHORITY OF THAILAND

February 11, 2019

Nilanate Osotpavapusit

(Mrs. Nilanate Osotpavapusit)

Chief, International Procurement Department -

Transmission Segment



ประกาศการไฟฟ้าฝ่ายผลิตแห่งประเทศไทย เรื่อง ประกวดราคาซื้อ เลขที่ TS12-CR-08

การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย (กฟผ.) มีความประสงค์จะซื้อ Control and Protection Equipment ภายใต้ โครงการขยายระบบส่งไฟฟ้าระยะที่ 12 โดยใช้งบประมาณ กฟผ.

สถานที่ส่งมอบ

หน้าโรงงานผู้ผลิต

ราคากลาง(รวมภาษีมูลค่าเพิ่ม) : 16,000,000.- บาท

<u>คุณสมบัติของผู้เสนอราคา</u>

ต้องเป็นนิติบุคคลผู้ผลิตพัสดุ หรือผู้มีอาชีพขายพัสดุที่ผลิตในประเทศไทยตามประกาศ และต้องไม่เป็นผู้ทิ้งงานซึ่งสำนักนายกรัฐมนตรี ได้แจ้งเวียนชื่อไว้ หรือต้องไม่เป็นผู้ที่ กฟผ. ห้ามติดต่อหรือห้ามเข้าเสนอราคา หรือต้องไม่เป็นผู้ที่ได้รับผลของการสั่งให้นิติบุคคลหรือ บุคคลอื่นเป็นผู้ทิ้งงานตามคำสั่ง กฟผ.

- ต้องไม่เป็นผู้มีผลประโยขน์ร่วมกันกับผู้เสนอราคารายอื่น ณ วันประกาศประกวดราคาครั้งนี้เป็นต้นไป หรือต้องไม่เป็นผู้กระทำการ อันเป็นการขัดขวางการแข่งขันราคาอย่างเป็นธรรมในการดำเนินการประกวดราคาครั้งนี้
- ต้องไม่เป็นที่ปรึกษาของ กฟผ. หรือมีส่วนร่วมในบริษัทที่ปรึกษาของ กฟผ. ในงานนี้ หรือต้องไม่มีผู้ปฏิบัติงาน กฟผ. เข้าไปมีส่วนร่วม ในกิจการของผู้เสนอราคา ไม่ว่าจะในฐานะผู้ถือหุ้นที่มีสิทธิควบคุมการจัดการ กรรมการ ผู้อำนวยการ ผู้จัดการ พนักงาน ลูกจ้าง ตัวแทน หรือที่ปรึกษา ยกเว้น ในกรณีที่ผู้ปฏิบัติงานได้รับคำสั่งอย่างเป็นทางการจาก กฟผ. ให้ไปปฏิบัติงานหรือเข้าร่วมในกิจการของผู้เสนอราคา
- ต้องไม่เป็นผู้ได้รับเอกสิทธิ์หรือความคุ้มกัน ซึ่งอาจปฏิเสธไม่ยอมขึ้นศาลไทย เว้นแต่รัฐบาลของผู้เสนอราคาได้มีคำสั่งให้สละสิทธิ์และ ความคุ้มกันเช่นว่านั้น
- ผู้ประสงค์เข้าประกวดราคาในนามของกิจการร่วมค้าหรือกิจการค้าร่วม (Joint Venture or Consortium) จะต้องดำเนินการทุก ขั้นตอนของการประกวดราคาในนามของกิจการร่วมค้าหรือกิจการค้าร่วม ตั้งแต่การเสนอราคาจนสิ้นสุดข้อผูกพันกับ กฟผ.

การขายเอกสารประกวดราคา

ผู้สนใจติดต่อขอทราบรายละเอียด เพื่อตรวจสอบคุณสมบัติของผู้เสนอราคา และขอซื้อเอกสารประกวดราคา ในราคา ชุดละ 500.- บาท ได้ที่ แผนกจัดซื้อต่างประเทศสายงานระบบส่ง (ห้อง 1202/2 ชั้น 12 อาคาร ท.101) กองจัดซื้อจัดจ้างต่างประเทศ สายงานระบบส่ง ฝ่ายจัดซื้อจัดจ้างและบริหารพัสดุ การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย เชิงสะพานพระราม 7 จังหวัดนนทบุรี ในวันทำ การระหว่างเวลา 08:00 น. ถึง 15:00 น. ตั้งแต่วันที่ 18 กุมภาพันธ์ 2562 ถึงวันที่ 17 เมษายน 2562 หรือสอบถามทางโทรศัพท์ หมายเลข 0 2436 0241 หรืออีเมล์ procurement.tse@egat.co.th ทั้งนี้ สามารถ download แบบฟอร์มลงทะเบียนผู้ชื้อเอกสาร ประกวดราคาได้ที่เว็บไซต์ http://www4.egat.co.th/fprocurement/biddingeng/

การยื่นซองประกวดราคา

กำหนดยื่นซองประกวดราคา ในวันที่ 25 เมษายน 2562 เวลา 9:30 น. ถึง 10:00 น. และเปิดชองประกวดราคาเวลา 10:00 น. ณ ห้อง 1202/1 ชั้น 12 อาคาร ท.101 การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย เชิงสะพานพระราม 7 จังหวัดนนทบุรี

ประกาศ ณ วันที่ 11 กุมภาพันธ์ 2562

พิมเนกร โฉรกภงภ_า

(นางนิลเนตร โอสถภวภูษิต) หัวหน้ากองจัดซื้อจัดจ้างต่างประเทศสายงานระบบส่ง

ตารางแสดงวงเงินงบประมาณที่ได้รับจัดสรรและราคากลาง(ราคาอ้างอิง) ในการจัดซื้อจัดจ้างที่บิใช่งานก่อสร้าง

1. **ชื่อโครงการ** ประกวดราคาเลขที่ TS12-CR-08

งานจัดซื้อ Control and Protection Equipment

โครงการขยายระบบส่งไฟฟ้าระยะที่ 12

/หน่วยงานเจ้าของโครงการ ฝ่ายแผนงานและโครงการระบบส่ง การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย

2. วงเงินงบประมาณที่ได้รับจัดสรร

โครงการขยายระบบส่งไฟฟ้าระยะที่ 12 งบประมาณ 60,000 ล้านบาท

- 3. วันที่กำหนดราคากลาง 24 มกราคม 2562 (วันที่ อวส. อนุมัติ) ราคารวมภาษีมูลค่าเพิ่มเป็นเงิน 16,000,000.00 บาท ราคา/หน่วย ตามเอกสารแนบ
- 4. **แหล่งที่มาของราคากลาง** หลักเกณฑ์การกำหนดราคากลางงานจัดซื้อจัดจ้างสายงานพัฒนาระบบส่ง
- 5. รายชื่อเจ้าหน้าที่ผู้กำหนดราคากลาง

วุฒยวนิช 5.1 นายเอนก

รก.หวคป-ส. กวป-ส.

5.2 น.ส. จินดาหรา หังสาจะระ วศ.6

กวป-ส.

นางสุนิศา แย้มอยู่ ทชตส-ท.

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MEDIUM COST FOR BID NO. TS12-CR-08

SUMMARY OF BID PRICE

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

		Supply of Equipment
		Local Supply
Ma	Doggrintion	Ex-works Price
No.	Description	(excluding VAT)
		Baht
		Amount
1	Schedule 1: 230 kV and 115 kV Control and Protection Equipment	15,030,986.00
	1	Baht
	BID PRICE	15,030,986.00
		Baht
	IMPORT DUTY	XXXXX
		Baht
	VAT 7%	1,052,169.02
		Baht
	SUMMARY OF BID PRICE	16,083,155.02
		Baht
	SUMMARY OF BID PRICE (ROUNDED)	16,000,000.00

บางสาวพบา สุภาวกุล)

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1: 230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equ	
					Local Sup	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works I	
nom ivo.	Description	Brawing No. / Reference No.	QiJ.		(excluding	
					Baht	
					Unit Price	Amount
1-1	115 kV LINE PROTECTION (21, 67, 79, 1-BF, DTT)	Panel No. 23R				
		Specification No. 1002				
		Dwg. Nos. LS-E-1, LS-E-2, LS-E-3				
		and TP-E-10.1				
			1	EA	1,143,845.00	1,143,845.00
1-2	INTERPOSING PANEL TYPE IP1	Panel No. IP7-2				
		Specification No. 1002				
		Dwg. Nos. LS-E-1, LS-E-2, LS-E-3,				
		TP-E-6.4 sh.1/6-5/6 and TP-E-10.2				
			1	EA	615,193.00	615,193.00
1-3	WATT AND VAR TRANSDUCER (W&VAR-TDR)	For 3 ph .Supply as loose part, to be	1	D.1.	015,155.00	015,175.00
1-3	WATTAND VAR TRANSDOCER (WWVAR-1DR)	installed in Panel 7C				
		Specification No. 1002				
		Dwg Nos. LS-E-1 and LS-E-2				
			1	EA	18,198.00	18,198.00
1-4	CURRENT TRANSDUCER (A-TDR)	For 3 ph. Supply as loose part, to be				
		installed in Panel 7C				
		Specification No. 1002				
		Dwg Nos. LS-E-1 and LS-E-2				
			1	EA	9,792.00	9,792.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equ	
Item No.	Description	Drawing No. / Reference No.	Qty.	Qty. Unit	Local Supply Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-5	VOLTAGE TRANSDUCER (V-TDR)	For 3 ph. Supply as loose part, to be installed in Panel 7C Specification No. 1002 Dwg Nos. LS-E-1 and LS-E-2	1	EA	9,792.00	9,792.00
1-6	TEST SWITCH (FOR METERING)	Supply as loose part, to be installed in Existing Panel 2 for MP7-1 Panel and 1 for Panel 7C				,,,,
		Specification No. 1002 Dwg. Nos. LS-E-1 and LS-E-2	3	EA	18,556.00	55,668.00
1-7	kWh&kVARh METER	Supply as loose part, to be installed in Panel MP7-1 Specification No. 1002 Dwg. Nos. LS-E-1 and LS-E-2		T.A.	200 026 00	410.872.04
1-8	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed in Panel 17R Specification No. 1002 Dwg. Nos. LS-E-1 and LS-E-2	2	EA	209,936.00	419,872.00
			1	EA	18,327.00	18,327.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of E	quipment	
					Local S	Local Supply	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works	s Price	
	D door profit	Diawing Ivo. / Reference Ivo.	Qıy.		(excludin	xcluding VAT)	
					Bal	nt	
					Unit Price	Amount	
1-9	BREAKER CONTROL SWITCH (CS)	Supply as loose part, to be installed in Panel 7C					
		Specification No. 1002					
		Dwg. Nos. LS-E-1, LS-E-2 and TP-					
		E-9.1 rev.9					
			1	EA	3,948.00	3,948.00	
1-10	MANUALLY OPERATED DISCONECTED SWITCH	Supply as loose part, to be installed in Panel 7C					
		Specification No. 1002					
		Dwg. Nos. LS-E-1 and LS-E-2	ĺ				
			4	EA	511.00	2,044.00	
1-11	LL	Supply as loose part, to be installed in Panel 7C					
		Specification No. 1002					
		Dwg. Nos. LS-E-1 and LS-E-2					
			1	EA	1,024.00	1,024.00	
1-12	INDICATING LAMP (R,G,IL,LG)	1 RED, 1 GREEN Supply as loose					
		part, to be installed in Panel 7C					
		Specification No. 1002					
		Dwg. Nos. LS-E-1 and LS-E-2					
			2	EA	338.00	676.00	
				\sim			

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1: 230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equ	
Item No.	. Description	Drawing No. / Reference No.	Qty.	Unit	Local Supply Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
	CUT OFF SWITCH, 4 CONTACTS (50BFC0, SS, EPS, 43RCC, 284CS)	Supply as loose part, to be installed in Panel 7C Specification No. 1002 Dwg. Nos. LS-E-1, LS-E-2 and TP- E-9.1	•		1.004.00	1.004.00
1-14	TRIP TRANSFER SWITCH (43)	Supply as loose part, to be installed in Panel 7C Specification No. 1002 Dwg. Nos. LS-E-1, LS-E-2 and TP-E-9.1	1	EA	1,024.00	1,024.00
1-15	MCB, 0.5A, 3 POLE FOR PT	Supply as loose part, to be installed in Panel 7C Sperification No. 1002 Dwg. Nos. LS-E-1, LS-E-2 and TP-E-18.1 sh.3/3	1	EA	7,731.00	7,731.00
1-16 MCE	MCB, 0.5A, 3 POLE WITH AUX.	Supply as loose part, to be installed in Panel MP7-1 Specification No. 1002 Dwg. Nos. LS-E-1, LS-E-2 and TP-E-18.1 sh.3/3	1	EA	1,853.00	1,853.00
		D-10.1 SH.J/J	2	EA ^ มีศา แย้มอยู่	2,194.00	4,388.0

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of E	quipment
					Local S	
Itam No	Donariation	Drawing No. / Paferonce No.	Oby	Unit	Ex-works	
Item No.	Description	Drawing No. / Reference No.	Qty.	Oilit	(excludin	g VAT)
					Bal	nt
					Unit Price	Amount
1-17	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of				
		Ethernet Switch shall not be less				
		than 64 ports)				
		See Note No.1				
		Specification No. 1002 and SD-				
		FOT-P22				
		Dwg Nos. LS-E-2 and TP-E-10.15	1	EA	588,129.00	588,129.00
	115111 DE PROFESTION (951 OL 50 1 DE)	RELAY 87L SUPPLIED BY	1	EA	300,129.00	300,129.00
1-18	115 kV LINE PROTECTION (87L, 21, 79, 1-BF)	EGAT Panel No. 8F/8R				
		See Bill of Materials				
		Specification No. 1002				İ
İ		Dwg. Nos. PYK-E-1, PYK-E-2,				
		PYK-E-3 and TP-E-10.1				
		1 1K-E-3 and 11-E-10.1				
			1	EA	1,297,922.00	1,297,922.00
1-19	DISTANCE RELAY (21) FOR 115 kV without 79/25	Supply as loose part, to be installed			, , , ,	
		in Panel 7R				
		Specification No. 1002				
		Dwg. Nos. PYK-E-1, PYK-E-2 and				
		PYK-E-3			200 453 25	200 150 00
			1	EA	208,178.00	208,178.00

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- Project 1- C5 -

Rev.12

MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Supply of Eq Local Su Ex-works (excluding	pply Price VAT)
					Unit Price	Amount
1-20	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed in Panel 2R Specification No. 1002 Dwg. Nos. PYK-E-1, PYK-E-2 and PYK-E-3	1	EA	18,327.00	18,327.00
1-21	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part, to be installed in Panel 7R Specification No. 1002 Dwg. Nos. PYK-E-1, PYK-E-2 and PYK-E-3	1	EA	24,669.00	24,669.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of E	quipment
					Local S	
Item No.	Description	Drawing No. / Reference No.	Ohr	Unit	Ex-works	s Price
nem No.	Description	Drawing No. / Reference No. Qty.	Oint	(excludin	g VAT)	
					Bal	<u>it</u>
					Unit Price	Amount
1-22	INTERPOSING RELAY (CCX,CTX)	Supply as loose part, to be installed in Panel RTB Specification No. 1002 Dwg. Nos. PYK-E-1, PYK-E-2 and TP-E-6.4 sh. 2/6				
		1P-E-0.4 sn. 2/6	4	EA	221.00	884.00
1-23	LATCHING RELAY (8 contacts, 79COCX)	Supply as loose part, to be installed in Panel RTB Specification No. 1002 Dwg. Nos. PYK-E-1, PYK-E-2 and TP-E-6.4 sh. 2/6	,			
			1	EA	8,772.00	8,772.00
1-24	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in Fanel RTB, 7R Specification No. 1002 Dwg. Nos. PYK-E-1, PYK-E-2 and TP-E-6.4 sh. 2/6				
			3	EA	5,102.00	15,306.00
1-25	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in Panel 7R Specification No. 1002 Dwg. Nos. PYK-E-1, PYK-E-2 and PYK-E-3				
	("	F I K-E-3	4	EA	5,190.00	20,760.00
1	Algorithms Helician	1		1		•

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Eq	uipment
					Local Su	604.00 1,027.00 1,027.00
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works	Price
		Diawing 140.7 Reference 140.	Qıy.	Oill	(excluding	VAT)
					Baht	
					Unit Price	Amount
1-26	MCB, 6A, 1 POLE FOR DC SUPPLY	Supply as loose part, to be installed in Panel RTB				
		Specification No. 1002				
		Dwg. Nos. PYK-E-1, PYK-E-2 and				
		TP-E-6.4 sh. 2/6		F.	604.00	
1-27	MCB, 6A, 2 POLE FOR DC SUPPLY	Completed lands must to be installed	1	EA	604.00	604.00
1-27	Meb, GA, 21 OLL FOR DC SUFFLY	Supply as loose part, to be installed in Panel 7R				
		Specification No. 1002				
		Dwg. Nos. PYK-E-1, PYK-E-2 and				
		PYK-E-3				
		THE-LI-S	1	EA	1.027.00	1.027.00
1-28	KNIFE SWITCH ISOLATOR FOR BREAKER	Surply as loose part, to be installed			.,	1,027.100
	CONTROL UNIT	in Panel RTB				
		Specification No. 1002				
		Dwg. Nos. PYK-E-1, PYK-E-2 and				
		TP-E-6.4 sh. 2/6				
			1	EA	81.00	81.00
1-29	INDICATING LAMP (R,G,IL,LG)	Supply as loose part, to be installed				
		in Panel 7R	1			
		Specification No. 1002	[
	N	Dwg. Nos. PYK-E-1 and PYK-E-2		F.	220.00	, e - a a
1	No. 1. Annual Control of Control	1.	2	EA	338.00	676.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1: 230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equ	uipment
					Local Sur	pply
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works I	rice
110111 1101	Dosoription	Diawing No. / Reference No.	Qıy.	Onit	(excluding)	VAT)
					Baht	
					Unit Price	Amount
1-30	PUSH BUTTON	Supply as loose part, to be installed				
		in Panel 7R				
		Specification No. 1002				
		Dwg Nos. PYK-E-1 and PYK-E-2				
			1	EA	338.00	338.00
1-31	MCB, 3A, 1 POLE WITH AUX.	Supply as loose part				
		Specification No. 1002				
		Dwg. Nos. PYK-E-1 and PYK-E-2				
		and TP-E-18.1 sh.2-3/3				
			2	EA	1,283.00	2,566.00
1-32	MCB, 0.5A, 1 POLE FOR PT	Supply as loose part, to be installed				
		in Panel 7F, 7R and Existing RTB				
		Panel				
		Specification No. 1002				
		Dwg. Nos. PYK-E-1, PYK-E-2, TP-				
		E-18.1 sh.2-3/3 and TP-E-6.4 sh.				
		2/6				
			7	EA	667.00	4,669.00
1-33	MCB, 0.5A, 3 POLE WITH AUX.	Supply as loose part, to be installed in Panel 7R				
		Specification No. 1002				
		Dwg. Nos. PYK-E-1, PYK-E-2 and				
	~	TP-E-18.1 sh.3/3				
			2	EA	2,194.00	4,388.00
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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of E	quipment
					Local S	upply
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works	s Price
Item 140.	Description	Drawing 140. / Reference 140.	Qty.	Ont	(excluding	g VAT)
					Bah	nt
					Unit Price	Amount
1-34	MCB, 0.5A, 3 POLE FOR PT	Supply as loose part, to be installed in Panel 7F Specification No. 1002				
		Dwg. Nos. PYK-E-1, PYK-E-2 and				
		TP-E-18.1 sh.3/3	1	EA	1,853.00	1,853.00
1-35	TRANSFORMER DIFFERENTIAL RELAY (87K, 2 restraint windings)	Supply as loose part for 115/22 kV Transformer, to be installed in			1,022.00	1,655.00
		Panel 4R Specification No. 1002				
		Dwg Nos. PYK-E-1, PYK-E-2 and				
		PYK-E-3	1	EA	69,119.00	69,119.00
1-36	TRANSFORMER OVERCURRENT RELAY	Supply as loose part for 115/22 kV	•			35,7.5.00
	(51T/51TG, 51L/51LG,51/51G,51S/51SG,51C/51CG)	Transformer Protection, to be installed in Panel 4R				
		Specification No. 1002				
		Dwg Nos. PYK-E-1, PYK-E-2 and				
		PYK-E-3	2	EA	64,864.00	129,728.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of H	Equipment
					Local S	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-work	
nem No.	Description	Diawing 140.7 Reference 140.	Qiy.		(excludir	ig VAT)
					Ba	ht
					Unit Price	Amount
1-37	BREAKER FAILURE RELAY (50BF+62BF)	Supply as loose part, to be installed in Panel 4R Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2 and				
		PYK-E-3	1	EA	90,366.00	90,366.00
1-38	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed in Panel 4R			, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	30,000.00
		Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2 and PYK-E-3				2.5.7.4.00
1-39	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part, to be installed	2	EA	18,327.00	36,654.00
		in Panel 4R				
		Specification No. 1002				
		Dwg Nos. PYK-E-1, PYK-E-2 and PYK-E-3				
			1	EA	24,669.00	24,669.00
1-40	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in Panel 4R				
		Specification No. 1002				
		Dwg Nos. PYK-E-1, PYK-E-2 and				
	(~	PYK-E-3	3	EA	5 102 00	15,306.00
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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of E	quipment
					Local Supply	
7	Description	Durating No. / Defense a No.	04.	Unit	Ex-works	s Price
Item No.		Drawing No. / Reference No.	Qty.		(excludin	g VAT)
					Bal	ht
					Unit Price	Amount
1-41	CURRENT TRANSDUCER (A-TDR)	For 1 ph, Supply as loose part, to be installed in Panel 4F Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2 and				
		PYK-E-3				
		F 1 K-E-3	1	EA	9,792.00	9,792.00
1-42	CURRENT TRANSDUCER (A-TDR)	For 3 ph, Supply as loose part, to be installed in Panel 4F Specification No. 1002				
		Dwg Nos. PYK-E-1, PYK-E-2 and				
		PYK-E-3	1	EA	9,792.00	9,792.00
1-43	VOLTAGE TRANSDUCER (V-TDR)	For 3 ph, Supply as loose part, to be installed in Panel 4F Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2 and PYK-E-3			3,152.00	3,1,22.00
			1	EA	9,792.00	9,792.00
1-44	RESISTANCE TRANSDUCER (R-TDR)	Supply as loose part, to be installed in Panel 4F Specification No. 1002				
		Dwg Nos. PYK-E-1, PYK-E-2 and PYK-E-3				
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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Eq	luipment
	Description				Local Supply Ex-works Price	
Item No.		Drawing No. / Reference No.	Qty.	Unit		
		Diawing 140.7 Reference 140.	Qıy.	Ont	(excluding	(VAT)
					Bahi	t
					Unit Price	Amount
1-45	TEST SWITCH (FOR METERING)	Supply as loose part, to be installed in Panel 4F Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2 and PYK-E-3				
			2	EA	18,556.00	37,112.00
1-46	INDICATING LAMP (R,G,IL,LG)	1 RED, Supply as loose part, to be installed in Panel 4R Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2 and PYK-E-3				
			1	EA	338.00	338.00
1-47	PUSH BUTTON	Supply as loose part, to be installed in Panel 4R Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2 and PYK-E-3				
			1	EA	338.00	338.00
1-48	MCB, 0.5A, 3 POLE FOR PT	Supply as loose part, to be installed in Panel 4F Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2,				
	~	PYK-E-3 and TP-E-18.1 SH.3/3				
	งเกลสอีสอ แย้งเลย		1	EA	1,853.00	1,853.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of E	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Local S Ex-works (excludin Bal	s Price g VAT)
					Unit Price	Amount
1-49	MCB, 0.5A, 1 POLE FOR PT	Supply as loose part, to be installed in Panel 4F Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2, PYK-E-3 and TP-E-18.1 SH.3/3				
1-50	MCB, 0.5A, 3 POLE WITH AUX.	Supply as loose part, to be installed in Panel 4R Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2, PYK-E-3 and TP-E-18.1 SH.2/3-3/3	1	EA	667.00	667.00
1-51	MCB, 3A, 3 POLE WITH AUX. 1NC	Supply as loose part Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2, PYK-E-3 and TP-E-18.1 SH.2/3-3/3	2	EA	2,194.00	4,388.00
			4	EA	2,248.00	8,992.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equ	uipment
		Drawing No. / Reference No.			Local Supply	
Item No.	Description		Qty.	Unit	Ex-works F	Price
1.00			Qty.	Oint	(excluding	VAT)
					Baht	
					Unit Price	Amount
	CUT OFF SWITCH, 4 CONTACTS (50BFC0, SS,	Supply as loose part, to be installed				
	EPS, 43RCC, 284CS)	in Panel 4R				
		Specification No. 1002				
		Dwg Nos. PYK-E-1, PYK-E-2,				
		PYK-E-3 and TP-E-9.1	2	EA	1.024.00	2.042.00
1-53	115/22 kV TRANSFORMER PROTECTION (2	For 115/22kV Transformer Panel		EA	1,024.00	2,048.00
1	RESTRAINS, 2-51, 1-BF)	No. 52R				
		Specification No. 1002				
		Dwg. Nos. AT2-E-1.2, AT2-E-2.1,				
		AT2-E-2.2, AT2-E-3.2 and TP-E-				
		10.1				,
			1	EA	607,886.00	607,886.00
1-54	WATT AND VAR TRANSDUCER (W&VAR-TDR)	Supply as loose part, to be installed				,
		in Panel 2AC				į
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2, AT2-E-2.1				
		and AT2-E-2.2				
			1	EA	18,198.00	18,198.00
1-55	CURRENT TRANSDUCER (A-TDR)	For 3 ph, Supply as loose part, to be				
		installed in Panel 2AC				
	~	Specification No. 1002				
	\	Dwg Nos. AT2-E-1.2, AT2-E-2.1 and AT2-E-2.2				
	นางสุนิศา แย้มอยู่	and A12-E-2.2	1	EA	9,792.00	9,792.00
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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Eq	uipment
	Description		Qty.		Local Supply Ex-works Price	
Thoma No.		Drawing No. / Reference No.		Unit		
Item No.	Description	Drawing No. / Reference No.	Qıy.	Onn	(excluding	(VAT)
					Baht	
					Unit Price	Amount
1-56	CURRENT TRANSDUCER (A-TDR)	For 1 ph, Supply as loose part, to be installed in Panel 2AC Specification No. 1002 Dwg Nos. AT2-E-1.2, AT2-E-2.1 and AT2-E-2.2				
		and 7,12-2-2.2	1	EA	9,792.00	9,792.00
1-57	VOLTAGE TRANSDUCER (V-TDR)	For 3 ph, Supply as loose part, to be installed in Panel 2AC Specification No. 1002 Dwg Nos. AT2-E-1.2, AT2-E-2.1 and AT2-E-2.2				
		WIN 1112 2 2.2	1	EA	9,792.00	9,792.00
1-58	RESISTANCE TRANSDUCER (R-TDR)	Supply as loose part, to be installed in Panel 2AC Specification No. 1002 Dwg Nos. AT2-E-1.2, AT2-E-2.1 and AT2-E-2.2				
		and A12-E-2.2	1	EA	11,053.00	11,053.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

		·			Supply of E	quipment
					Local Supply Ex-works Price	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit		
item No.		Drawing No. / Reference No.	Qıy.	Ont	(excluding	g VAT)
					Bah	nt
					Unit Price	Amount
1-59	TEST SWITCH (FOR METERING)	Supply as loose part, to be installed				
		in Existing Panel				
		2 for panel 2AC and 2 for panel				
		15C				
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2, AT2-E-2.1		}		
		and AT2-E-2.2				71 701 00
			4	EA	18,556.00	74,224.00
1-60	kWh&kVARh METER	Supply as loose part, to be installed				
		in Panel 15C				
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2, AT2-E-2.1				
		and AT2-E-2.2	2	T.A	200.026.00	419,872.00
		0 1 1 1 1 1 1 1 1 1 1 1	2	EA	209,936.00	419,072.00
1-61	INTERPOSING RELAY (CCX,CTX)	Supply as loose part, to be installed				
		in Panel IP				
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2, AT2-E-2.1,				
		AT2-E-2.2 and TP-E-6.4 sh. 2/6	2	EA	221.00	442 00
			2	EA	221.00	442.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1: 230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equ	iipment
					Local Supply	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works P	rice
nem No.			Qty.	Oilt	(excluding '	VAT)
					Baht	
					Unit Price	Amount
1-62	BREAKER CONTROL SWITCH (CS)	Supply as loose part, to be installed				
		in Panel 2AC				
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2, AT2-E-2.1				
		and AT2-E-2.2				
			1	EA	3,948.00	3,948.00
1-63	MANUALLY OPERATED DISCONECTED SWITCH	Supply as loose part, to be installed				
		in Panel 2AC				
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2, AT2-E-2.1				
		and AT2-E-2.2				
			3	EA	511.00	1,533.00
1-64	LL	Supply as loose part, to be installed				
		in Panel 2AC				
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2, AT2-E-2.1	ĺ			
		and AT2-E-2.2		_,	1 00 1 00	1 00 4 00
	W 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1	EA	1,024.00	1,024.00
1-65	INDICATING LAMP (R,G,IL,LG)	1 WHITE, Supply as loose part, to				
		be installed in Existing Panel IP1				
		Specification No. 1002				
	(C	Dwg. Nos. AT2-E-1.2, AT2-E-2.1	,	EA	220.00	220.00
i	นางสุนิศา แย้มอยู่		1	EA	338.00	338.00

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- Project 1- C18 -

Rev.12

MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

			Qty.		Supply of Eq	uipment
	Description				Local Supply Ex-works Price	
Item No.		Drawing No. / Reference No.		Unit		
nem No.	Description	Drawing No. / Reference No.		Omi	(excluding	VAT)
					Baht	
					Unit Price	Amount
1-66	PUSH BUTTON	Supply as loose part, to be installed in Existing Panel IP1				
		Specification No. 1002				
		Dwg. Nos. AT2-E-1.2, AT2-E-2.1				
			2	EA	338.00	676.00
1-67	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part, to be installed				
		in Panel 2AC and 15C				
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2		_		2 001 00
			3	EA	1,027.00	3,081.00
1-68	MCB, 0.5A, 3 POLE FOR PT	Supply as loose part, to be installed				
		in Panel 2AC, C-BANK NO.2				
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2 and TP-E-				
		18.1 SH.3/3		EA	1 952 00	2 706 00
	LOD O CA A DOLE WITHIN ALIV	G1	2	EA	1,853.00	3,706.00
1-69	MCB, 0.5A, 3 POLE WITH AUX.	Supply as loose part, to be installed				
		in Panel 15C				
		Specification No. 1002				
		Dwg Nos. AT2-E-1.2 and TP-E-				
	~	18.1 SH.2/3-3/3	2	EA	2,194.00	4,388.00
	} V	1	1 2	L DV	2,174.00	7,200.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

	Description				Supply of Equipment Local Supply Ex-works Price	
		Drawing No. / Reference No.				
Item No.			Qty.	Unit		
			4.7.		(excluding	g VAT)
				L	Bah	
					Unit Price	Amount
1-70	LINE CURRENT DIFFERENTIAL RELAY (87L)	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002 Dwg Nos. CM3-E-1.2, CM3-E-2.2 and CM3-E-3.1				
			2	EA	343,245.00	686,490.00
1-71	AUTO RECLOSING AND SYNCHRONISM CHECK RELAY (79+25)	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002 Dwg Nos. CM3-E-1.2, CM3-E-2.2 and CM3-E-3.1				000,+90.00
			2	EA	52,126.00	104,252.00
1-72	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002 Dwg Nos. CM3-E-1.2, CM3-E-2.2 and CM3-E-3.1				
1-73	TRIBBRIC DEL AV (OAD OADLI 6137 GOZZ)		2	EA	18,327.00	36,654.00
1-/3	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002				
	Ι'	Dwg Nos. CM3-E-1.2, CM3-E-2.2				
	นางสนิศา แย้มอยู่	and CM3-E-3.1				
	นางสุนทา แอมอยู	20.2	4	EA	24,669.00	98,676.00

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- Project 1- C20 -

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equ	ipment
	Description	Drawing No. / Reference No.			Local Supply Ex-works Price	
Item No.			Qty.	Unit		
			Qiy.	Omi	(excluding '	VAT)
					Baht	
					Unit Price	Amount
1-74	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002 Dwg Nos. CM3-E-1.2 and CM3-E- 2.2				
			6	EA	5,102.00	30,612.00
1-75	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002 Dwg Nos. CM3-E-1.2 and CM3-E- 2.2				
			6	EA	5,190.00	31,140.00
1-76	CUT OFF SWITCH, 8 CONTACTS (25CO, 79CO)	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002 Dwg Nos. CM3-E-1.2, CM3-E-2.2 and TP-E-9.1				,
	to the second of		2	EA	1,585.00	3,170.00
	CUT OFF SWITCH, 10 CONTACTS (DTTCO, 87CO, 86ACO, 50/51SCO)	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002 Dwg Nos. CM3-E-1.2, CM3-E-2.2				
	γ	and TP-E-9.1				
l i	นางสุนิคา แย้มอยู่		2	EA	1,844.00	3,688.00

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- Project 1- C21 -

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of E	quipment
	Description	Drawing No. / Reference No.			Local Supply Ex-works Price	
Item No.			06.	Unit		
Tion 110.		Diawing No. / Reference No.	Qty.	Unit	(excluding	VAT)
					Bah	t
					Unit Price	Amount
1-78	WATT AND VAR TRANSDUCER (W&VAR-TDR)	Supply as loose part, to be installed in Existing Panel 2C and 3C Specification No. 1002 Dwg Nos. CM3-E-1.2				
1-79	CURRENT TRANSDUCER (A-TDR)	For 3 ph, Supply as loose part, to be	2	EA	18,198.00	36,396.00
		installed in Existing Panel 2C and 3C Specification No. 1002				
		Dwg Nos. CM3-E-1.2	2	EA	0.702.00	10.504.00
1-80	VOLTAGE TRANSDUCER (V-TDR)	For 3 ph, Supply as loose part, to be installed in Existing Panel 2C and 3C Specification No. 1002 Dwg Nos. CM3-E-1.2	2	DA .	9,792.00	19,584.00
		- Nami	2	EA	9,792.00	19,584.00
1-81	INDICATING LAMP (R,G,IL,LG)	4 RED, Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002 Dwg Nos. CM3-E-1.2 and CM3-E-				
	Γ	2.2	4	EA	338.00	1,352.00

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- Project 1- C22 -

MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

						of Equipment	
				Local Supply			
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works P	rice	
		Diawing 110.7 Reference 110.	Q13.	Oint	(excluding '	VAT)	
					Baht		
					Unit Price	Amount	
1-82	PUSH BUTTON	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002 Dwg Nos. CM3-E-1.2 and CM3-E-					
		2.2					
1 02	MOD (A 2 DOLD FOR DO GUDDIN		4	EA	338.00	1,352.00	
1-83	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part, to be installed in Panel 7R and 9R Specification No. 1002					
		Dwg Nos. CM3-E-1.2	4	EA	1,027.00	4,108.00	
1-84	MCB, 0.5A, 1 POLE FOR PT	Supply as loose part, To be installed in Panel 7R and 9R Specification No. 1002	7	LA	1,027.00	4,108.00	
		Dwg Nos. CM3-E-1.2 and TP-E-18.1 SH.3/3					
1.05	MOD 2A 1 DOLD WEEK ALIX		4	EA	667.00	2,668.00	
1-85	MCB, 3A, 1 POLE WITH AUX.	Supply as loose part Specification No. 1002					
		Dwg Nos. CM3-E-1.2 and TP-E- 18.1 SH.2/3-3/3					
	M		3	EA	1,283.00	3,849.00	

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equipment	
					Local Sup	ply
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works P	rice
	*		٧٠٠.		(excluding '	VAT)
				_	Baht	
					Unit Price	Amount
1-86	MCB, 0.5A, 3 POLE WITH AUX.	Supply as loose part				
		Specification No. 1002				
		Dwg Nos. CM3-E-1.2 and TP-E- 18.1 SH.2/3-3/3				
		,	4	EA	2,194.00	8,776.00
1-87	MCB, 3A, 3 POLE WITH AUX. 1NC	Supply as loose part			_,	5,1100
		Specification No. 1002				
1		Dwg Nos. CM3-E-1.2 and TP-E-				
		18.1 SH.2/3-3/3				
			2	EA	2,248.00	4,496.00
1-88	EGAT-PEA INTERFACING PANEL(2-REMOTE I/O	Panel EGAT-PEA INTERFACING				
	AND ACCESSORIES)	Spec.No.1002 & SD-FOT-P22				
		Dwg. Nos. CM3-E-1.2, CM3-E-2.2,				
		CM3-E-3.1,				
		TP-E-6.10 sh.1/2-2/2, TP-E-10.1,				
		DW-FOT-D01-202-02 SH.P9&P11				
		and DW-FOT-D01-215-01 SH.P2				
			1	EA	275,406.00	275,406.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

				T	Supply of Equipment	
					Local Supply	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works F	Price
	Sourphon	Diawing 110.7 Reference 110.	Qıy.	Ont	(excluding)	VAT)
					Baht	
					Unit Price	Amount
1-89	6-WIRE CLEAT FOR COILING OPTICAL FIBER	Supply as loose part.				
	CABLE	Spec.No.1002 & SD-FOT-P22				
		Dwg Nos. CM3-E-1.2 and TP-E-				
		6.10 sh.1/2-2/2 and DW-FOT-D01-				
		202-02 SH.P9&P11 and DW-FOT-				
		D01-215-01 SH.P2				
			1	EA	1,600.00	1,600.00
1-90	2-Way Joint Boxes with Accessories for OPGW and	Supply as loose part.				
	36 Cores Non-metallic Optical Fiber Cable	Spec.No.1002 & SD-FOT-P22				
		Dwg Nos. CM3-E-1.2 and TP-E-				
		6.10 sh.1/2-2/2 and DW-FOT-D01-				
		202-02 SH.P9&P11 and DW-FOT-				
		D01-215-01 SH.P2				
			1	EA	9,000.00	9,000.00
1-91	CUT OFF SWITCH, 4 CONTACTS (50BFC0, SS,	Supply as loose part, to be installed				
	EPS, 43RCC, 284CS)	in Panel 9R				
		Specification No. 1002				
		Dwg. Nos. NK-E-1, NK-E-2 and				
		NK-E-3				
1			1	EA	1,024.00	1,024.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Eq	uipment
					Local Supply Ex-works Price	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit		
		Brawing 110.7 Reference 110.	Qiy.		(excluding	VAT)
					Baht	
					Unit Price	Amount
1-92	LINE CURRENT DIFFERENTIAL RELAY (87L)	Supply as loose part, to be installed in Panel 9R Specification No. 1002 Dwg. Nos. NK-E-1, NK-E-2 and NK-E-3				
1-93	DIRECTIONAL OVERCURRENT RELAY (67/67N)	Supply as loose part, to be installed in Panel 9R Specification No. 1002 Dwg. Nos. NK-E-1, NK-E-2 and NK-E-3	1	EA	343,245.00	343,245.00
		NK-D-3	1	EA	105,254.00	105,254.00
1-94	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part, to be installed in Panel 9R Specification No. 1002 Dwg. Nos. NK-E-1, NK-E-2 and NK-E-3	-		735,2500	100,2004.00
			1	EA	24,669.00	24,669.00
1-95	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in Panel 9R				
	Į	Specification No. 1002				
	•	Dwg. Nos. NK-E-1, NK-E-2 and				
	นางสุนิศา แย้มอยู่	NK-E-3	,	EA	5 100 00	15.550.00
l	พชตส -ท.	1	3	EA	5,190.00	15,570.00

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- Project 1- C26 -

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Eq	juipment
					Supply of Equipment Local Supply Ex-works Price (excluding VAT) Baht Unit Price Amount 9,792.00 9,792.	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works	Ртісе
nem No.	Description	Drawing 140.7 Reference 140.	Qıy.	Omt	(excluding	(VAT)
						t
					Unit Price	Amount
1-96	CURRENT TRANSDUCER (A-TDR)	For 3 ph, Supply as loose part, to be installed in Panel TDR1 Specification No. 1002				
		Dwg. Nos. NK-E-1	1	EA	0.702.00	0.702.00
1 07	MOLTA CE TRANSPUCER (U TOR)	E-2 -h S	1	EA	9,792.00	9,792.00
1-97	VOLTAGE TRANSDUCER (V-TDR)	For 3 ph, Supply as loose part, to be installed in Panel TDR1				
		1				
		Specification No. 1002 Dwg. Nos. NK-E-1				
		Dwg. Nos. NK-E-1	1	EA	9,792,00	9,792.00
1-98	PUSH BUTTON	Supply as loose part, to be installed in Panel 9R Specification No. 1002 Dwg. Nos. NK-E-1 and NK-E-2	_			,
		Dwg. Nos. NK-E-1 and NK-E-2	2	EA	338.00	676.00
1-99	MCB, 0.5A, 3 POLE WITH AUX.	Supply as loose part Specification No. 1002 Dwg Nos. NK-E-1, and TP-E-18.1 SH.2/3-3/3	-	21.	223.00	3,0100
			1	EA	2,194.00	2,194.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equipment	
					Local Sup	ply
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works P	rice
		Bluwing 140.7 Reference 140.	Qiy.	Oint	(excluding '	VAT)
				L	Baht	
					Unit Price	Amount
1-100	EGAT-PEA INTERFACING PANEL(1-REMOTE I/O	Panel EGAT-PEA INTERFACING				
	AND ACCESSORIES)	Spec.No.1002 & SD-FOT-P22				
		Dwg. Nos. NK-E-1, NK-E-2, NK-E-				
		3, TP-E-6.10 sh.1/2-2/2, TP-E-10.1,				
		DW-FOT-D01-202-02 SH.P9&P11				
		and DW-FOT-D01-215-01 SH.P2				
			1	EA	190,170.00	190,170.00
1-101	6-WIRE CLEAT FOR COILING OPTICAL FIBER	Supply as loose part	•		170,170.00	190,170.00
	CABLE	Spec.No.1002 & SD-FOT-P22				
		Dwg Nos. NK-E-1 and				
		TP-E-6.10 sh.1/2-2/2 and DW-FOT-				
		D01-202-02 SH.P9&P11 and DW-				
		FOT-D01-215-01 SH.P2				
			1	EA	1,600.00	1,600.00
1-102	2-Way Joint Boxes with Accessories for OPGW and	Supply as loose part				
	36 Cores Non-metallic Optical Fiber Cable	Spec.No.1002 & SD-FOT-P22				
		Dwg Nos. NK-E-1 and				
		TP-E-6.10 sh.1/2-2/2 and DW-FOT-				
		D01-202-02 SH.P9&P11 and DW-				
	A~	FOT-D01-215-01 SH.P2				
i	∫]	1	EA	9,000.00	9,000.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equipment	
					Local Su	upply
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works	Price
Rein No.	Description	Drawing No. / Reference No.	Qıy.		(excluding	gVAT)
	`				Bah	t
					Unit Price	Amount
1-103	CUT OFF SWITCH, 4 CONTACTS (50BFC0, SS, EPS, 43RCC, 284CS)	Supply as loose part, to be installed in Panel 8R Specification No. 1002 Dwg. Nos. MCN-E-1.2, MCN-E-2.1 and MCN-E-3.1	2	EA	1,024.00	2,048.00
1-104	LINE CURRENT DIFFERENTIAL RELAY (87L)	Supply as loose part, to be installed in Panel 8R Specification No. 1002 Dwg. Nos. MCN-E-1.2, MCN-E-2.1 and MCN-E-3.1				
			1	EA	343,245.00	343,245.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

		Drawing No. / Reference No.	Qty.		Supply of Equipment		
					Local Supply Ex-works Price (excluding VAT)		
Item No.	Description			Unit			
nem No.	Bescription	Diawing No. / Reference No.	Qıy.				
					Bah		
					Unit Price	Amount	
1-105	DIRECTIONAL OVERCURRENT RELAY (67/67N)	Supply as loose part, to be installed					
		in Fanel 8R					
		Specification No. 1002					
		Dwg. Nos. MCN-E-1.2, MCN-E-					
		2.1 and MCN-E-3.1	1	EA	105,254.00	105,254.00	
1 100	AUTO RECLOSING AND SYNCHRONISM CHECK	Summittees looge most to be installed	1	LA	103,234.00	103,234.00	
1		in Panel 8R					
	RELAY (79+25)	Specification No. 1002					
		Dwg. Nos. MCN-E-1.2, MCN-E-					
		2.1 and MCN-E-3.1					
		2.1 und Mach E 3.1	1	EA	52,126.00	52,126.00	
1-107	BREAKER FAILURE RELAY (50BF+62BF)	Supply as loose part, to be installed					
		in Panel 8R					
		Specification No. 1002			}		
		Dwg. Nos. MCN-E-1.2, MCN-E-					
		2.1 and MCN-E-3.1			00.266.00	00.266.00	
			1	EA	90,366.00	90,366.00	
1-108	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed					
		in Panel 8R					
	~	Specification No. 1002					
		Dwg. Nos. MCN-E-1.2, MCN-E-2.1 and MCN-E-3.1					
	นางสุนิศา แย้มอยู่	2.1 and MCN-E-5.1	2	EA	18,327.00	36,654.00	
	ทชตส -ท .		•	' '	71 6-	50,034.00	

- Project 1- C30 -

MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equipment	
					Local Supply	
Item No.	o. Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works F	rice
20022	2 doinption	Brawing No. / Reference No.	Qıy.	Onit	(excluding '	VAT)
					Baht	
					Unit Price	Amount
1-109	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part, to be installed				
		in Panel 8R				
		Specification No. 1002				
		Dwg. Nos. MCN-E-1.2, MCN-E-				
		2.1 and MCN-E-3.1				
			. 3	EA	24,669.00	74,007.00
1-110	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in Panel 8R				
		Specification No. 1002				
		Dwg. Nos. MCN-E-1.2 and MCN-				
		E-2.1				
			5	EA	5,102.00	25,510.00
1-111	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in Panel 8R			,	·
		Specification No. 1002				
		Dwg. Nos. MCN-E-1.2 and MCN-				
		E-2.1				
			6	EA	5,190.00	31,140.00
1-112	VOLTAGE TRANSDUCER (V-TDR)	For 3 ph. Supply as loose part, to be installed in Panel 8F				
	~	Specification No. 1002				
	í	Dwg. Nos. MCN-E-1.2 and MCN-				
	นางสุนีศา แย้มอยู่	E-2.1		'		
	, ,		1	EA	9,792.00	9,792.00
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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

	Description				Supply of E	quipment
			Qty.	Unit	Local Supply	
Item No.		Drawing No. / Reference No.			Ex-works	Price
110111 110.		Diawing No. / Reference No.		Onit	(excluding	gVAT)
					Bah	t
					Unit Price	Amount
1-113	PUSH BUTTON	Supply as loose part, to be installed in Panel 8R Specification No. 1002 Dwg. Nos. MCN-E-1.2 and MCN-				
		E-2.1		_,	222.00	656.00
1 114	DIDICATDICI AMB CD CIT I CO	I DED G	2	EA	338.00	676.00
1-114	INDICATING LAMP (R,G,IL,LG)	1 RED. Supply as loose part, to be installed in Panel 8F				
		Specification No. 1002				
		Dwg. Nos. MCN-E-1.2 and MCN-				
		E-2.1	į į			
			1	EA	338.00	338.00
1-115	MCB, 0.5A, 3 POLE WITH AUX.	Supply as loose part Specification No. 1002				
		Dwg. Nos. MCN-E-1.2 and TP-E-18.1 SH.2/3-3/3				
			2	EA	2,194.00	4,388.00
1-116	MCB, 3A, 1 POLE WITH AUX.	Supply as loose part Specification No. 1002				·
		Dwg. Nos. MCN-E-1.2 and TP-E-18.1 SH.2/3-3/3				
	~		1	EA	1,283.00	1,283.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

	Description	Drawing No. / Reference No.	Qty.	Unit	Supply of Equ	
					Local Supply	
Item No.					Ex-works F	1
nem No.	Description	Blawing No. / Reference No.			(excluding '	VAT)
					Baht	
					Unit Price	Amount
1-117	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part. To be installed in 8R				
		Specification No. 1002				
		Dwg. Nos. MCN-E-1.2				
			5	EA	1,027.00	5,135.00
1-118	MCB, 0.5A, 1 POLE FOR PT	Supply as loose part. To be				
		installed in 8R				
		Specification No. 1002				
		Dwg. Nos. MCN-E-1.2 and TP-E-				
		18.1 SH.3/3				
			2	EA	667.00	1,334.00
1-119	EGAT-PEA INTERFACING PANEL(1-REMOTE I/O	Panel EGAT-PEA INTERFACING				
	AND ACCESSORIES)	Spec.No.1002 & SD-FOT-P22				
		Dwg. Nos. MCN-E-1.2, MCN-E-				
		2.1, MCN-E-3.1, TP-E-6.10 sh.1-2,				
		TP-E-10.1, DW-FOT-D01-202-02				
		SH.P9&P11 and DW-FOT-D01-				
		215-01 SH.P2		_	100 150 00	100 150 00
			1	EA	190,170.00	190,170.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

	Description	Drawing No. / Reference No.			Supply of Equipment Local Supply Ex-works Price	
Item No.			Qty.	Unit		
Rom 140.	Description		Qıy.	Om	(excluding	VAT)
					Baht	
				ļ	Unit Price	Amount
1-120	6-WIRE CLEAT FOR COILING OPTICAL FIBER	Supply as loose part				
	CABLE	Spec.No.1002 & SD-FOT-P22				
		Dwg Nos. MCN-E-1.2 and				
		TP-E-6.10 sh.1/2-2/2 and DW-FOT-				
		D01-202-02 SH.P9&P11 and DW-				
		FOT-D01-215-01 SH.P2				
			1	EA	1,600.00	1,600.00
1-121	2-Way Joint Boxes with Accessories for OPGW and	Supply as loose part				
	36 Cores Non-metallic Optical Fiber Cable	Spec.No.1002 & SD-FOT-P22				
		Dwg Nos. MCN-E-1.2 and				
		TP-E-6.10 sh.1/2-2/2 and DW-FOT-				
		D01-202-02 SH.P9&P11 and DW-				
		FOT-D01-215-01 SH.P2				
			1	EA	9,000.00	9,000.00
1-122	LINE CURRENT DIFFERENTIAL RELAY (87L)	Supply as loose part, to be installed				
		in Panel 25R, 26R				
		Specification No. 1002				
		Dwg. Nos. NR3-E-1.1, NR3-E-1.2,				
		NR3-E-2.2 and NR3-E-3				
	· · · · · · · · · · · · · · · · · · ·		2	EA	343,245.00	686,490.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1: 230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Supply of E Local S Ex-work (excludin Ba	s Price g VAT)
					Unit Price	Amount
i i	AUTO RECLOSING AND SYNCHRONISM CHECK RELAY (79+25)	Supply as loose part, to be installed in Panel 25R, 26R Specification No. 1002 Dwg. Nos. NR3-E-1.1, NR3-E-1.2, NR3-E-2.2 and NR3-E-3	2	EA	52,126.00	104,252.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

		Drawing No. / Reference No.	Qty.	Unit	Supply of Equipment Local Supply	
Item No.	Description				Ex-works I	rice
		Brawing Ivo. / Reference Ivo.			(excluding '	VAT)
					Baht	
					Unit Price	Amount
1-124	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part, to be installed				
		in Panel 25R, 26R				
		Specification No. 1002				
		Dwg. Nos. NR3-E-1.1, NR3-E-1.2,				
		NR3-E-2.2 and NR3-E-3				
			4	EA	24,669.00	98,676.00
1-125	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed				
		in Panel 25R, 26R				
		Specification No. 1002				
		Dwg. Nos. NR3-E-1.1, NR3-E-1.2,				
		and NR3-E-2.2				
			2	EA	5,102.00	10,204.00
1-126	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed				
		in Panel 25R, 26R				
		Specification No. 1002				
		Dwg. Nos. NR3-E-1.1, NR3-E-1.2,				
		and NR3-E-2.2				
1 107	CUIT OFF SWITTON & CONTRACTO (AFGO TOGO)	<u> </u>	4	EA	5,190.00	20,760.00
1-127	CUT OFF SWITCH, 8 CONTACTS (25CO, 79CO)	Supply as loose part, to be installed				
		in Panel 25R, 26R				
		Specification No. 1002				
	~	Dwg. Nos. NR3-E-1.1, NR3-E-1.2,				
		NR3-E-2.2 and TP-E-9.1	,	P.A	1.505.00	0.475.55
i	บางสบีสา แย้บอย่		2	EA	1,585.00	3,170.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Ec	quipment
			Qty.		Local Supply	
Item No.	Description	Drawing No. / Reference No.		Unit	Ex-works	Price
nem No.	Description	Drawing No. / Reference No.		Om	(excluding	(VAT)
					Bah	t
					Unit Price	Amount
1-128	INDICATING LAMP (R,G,IL,LG)	2 RED. Supply as loose part, to be				
		installed in Panel 25R, 26R				
		Specification No. 1002				
		Dwg. Nos. NR3-E-1.1, NR3-E-1.2,				
		NR3-E-2.2	2	EA	338.00	676.00
1 120	MCD 64 2 DOLE FOR DC SURDLY	Summly as loose most to be installed		EA	336.00	676.00
1-129	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part, to be installed in Panel 25R, 26R				
		Specification No. 1002	Ì			
		Dwg. Nos. NR3-E-1.1				
		Dwg. 1405. 14K5-E-1.1	2	EA	1,027.00	2,054.00
1-130	MCB, 0.5A, 3 POLE WITH AUX.	Supply as loose part	_	2	1,021100	2,0000
1-150	WITH THOSE	Specification No. 1002				
		Dwg. Nos. NR3-E-1.1 and TP-E-				
		18.1 SH.2/3-3/3				
		10.1 011.2/3 5/5	2	EA	2,194.00	4,388.00
1-131	MCB, 3A, 1 POLE WITH AUX.	Supply as loose part				ŕ
	, , =	Specification No. 1002				
		Dwg. Nos. NR3-E-1.1 and TP-E-				
		18.1 SH.2/3-3/3				
	W		4	EA	1,283.00	5,132.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

	Description				Supply of Eq	uipment
		Drawing No. / Reference No.	Qty.	Unit	Local Supply Ex-works Price	
7. 37-						
Item No.					(excluding	VAT)
					Baht	i
					Unit Price	Amount
1-132	MCB, 0.5A, 1 POLE FOR PT	Supply as loose part, to be installed in Panel 25R, 26R Specification No. 1002 Dwg. Nos. NR3-E-1.1 and TP-E-				
		18.1 SH.3/3	4	EA	667.00	2,668.00
1-133	EGAT-PEA INTERFACING PANEL(2-REMOTE I/O AND ACCESSORIES)	Panel EGAT-PEA INTERFACING Spec.No.1002 & SD-FOT-P22 Dwg. Nos. NR3-E-1.1, NR3-E-1.2, NR3-E-2.2, NR3-E-3, TP-E-6.10 sh.1-2, TP-E-10.1, DW-FOT-D01- 202-02 SH.P9&P11 and DW-FOT- D01-215-01 SH.P2				
Ì		<u>.</u> m	1	EA	275,406.00	275,406.00
1-134	6-WIRE CLEAT FOR COILING OPTICAL FIBER CABLE	Supply as loose part. Spec.No.1002 & SD-FOT-P22 Dwg Nos. NR3-E-1.1, TP-E-6.10 sh.1/2-2/2 and DW-FOT-D01-202- 02 SH.P9&P11 and DW-FOT-D01-				
	· m	215-01 SH.P2	1	EA	1,600.00	1,600.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

	Description				Supply of Equipment Local Supply	
		Drawing No. / Reference No.				
Item No.			Qty.	Unit	Ex-works	Price
			Qiy.		(excluding	VAT)
					Baht	
					Unit Price	Amount
1-135	2-Way Joint Boxes with Accessories for OPGW and	Supply as loose part.				
	36 Cores Non-metallic Optical Fiber Cable	Spec.No.1002 & SD-FOT-P22				
		Dwg Nos. NR3-E-1.1, TP-E-6.10				
		sh.1/2-2/2 and DW-FOT-D01-202-				
		02 SH.P9&P11 and DW-FOT-D01-				
		215-01 SH.P2				
			1	EA	9,000.00	9,000.00
1-136	CUT OFF SWITCH, 4 CONTACTS (50BFC0, SS,	Supply as loose part, to be installed				
	EPS, 43RCC, 284CS)	in Panel 9R				
		Specification No. 1002				
		Dwg. Nos. KN-E-1, KN-E-2.3 and				
		KN-E-3				
			2	EA	1,024.00	2,048.00
1-137	DIRECTIONAL OVERCURRENT RELAY (67/67N)	Supply as loose part, to be installed				
		in Panel 9R				
		Specification No. 1002				
		Dwg. Nos. KN-E-1, KN-E-2.3 and				
		KN-E-3				
1			1	EA	105,254.00	105,254.00
1-138	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed				
		in Panel 7R, 9R				
	~	Specification No. 1002				
	1	Dwg. Nos. KN-E-1, KN-E-2.3 and				
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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

	Description				Supply of Equipment Local Supply	
Item No.		Drawing No. / Reference No.	Qty.	Unit	Ex-works F	rice
110111 110.			Qty.	Omt	(excluding '	VAT)
					Baht	
					Unit Price	Amount
1-139	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part. To be installed in Existing EGAT-PEA				
		Interfacing Panel Spec.No.1002 & SD-FOT-P22				
		Dwg. Nos. KN-E-1, KN-E-2.3, KN-				
		E-3, TP-E-6.10 sh.1-2 and TP-E-				
		10.1				
			4	EA	24,669.00	98,676.00
1-140	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed				
		in Panel 7R, 9R and Existing				
		EGAT-PEA Interfacing Panel				
		Spec.No.1002 & SD-FOT-P22				
		Dwg. Nos. KN-E-1, KN-E-2.3, KN-				
		E-3, TP-E-6.10 sh.1-2 and TP-E-				
		10.1	_			
			4	EA	5,102.00	20,408.00
1-141	INTERPOSING RELAY (CCX,CTX)	Supply as loose part. To be				
		installed in Existing EGAT-PEA	1			
		Interfacing Panel				
		Spec.No.1002 & SD-FOT-P22				
		Dwg. Nos. KN-E-1, KN-E-2.3, KN-				
	\ \frac{\sigma}{2}	E-3, TP-E-6.10 sh.1-2 and TP-E-				
	, , , , , , , , , , , , , , , , , , ,	10.1	12	EA	221.00	2 662 00
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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Eq	uipment
		D	05.		Local Supply Ex-works Price	
Team No				Unit		
Item No.	Description	Drawing No. / Reference No.	Qty.	Onit	(excluding	(VAT)
					Bah	
					Unit Price	Amount
1-142	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in Panel 9R				
		Specification No. 1002				
	·	Dwg. Nos. KN-E-1, KN-E-2.3 and				
		TP-E-9.1 Rev.9				
			2	EA	5,190.00	10,380.00
1-143	CUT OFF SWITCH, 10 CONTACTS (DTTCO, 87CO,	Supply as loose part, to be installed				
	86ACO, 50/51SCO)	in Panel 7R, 9R				
		Specification No. 1002				
		Dwg. Nos. KN-E-1, KN-E-2.3 and				
		TP-E-9.1 Rev.9		_	1 044 00	2 (00 00
	The state of the s		2	EA	1,844.00	3,688.00
1-144	PUSH BUTTON	Supply as loose part, to be installed				
		in Panel 7R, 9R				
		Specification No. 1002				
		Dwg. Nos. KN-E-1 and KN-E-2.3	4	EA	338.00	1,352.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1 $\,:\,230~kV$ and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

	Description	Drawing No. / Reference No.			Supply of Equipment Local Supply Ex-works Price (excluding VAT)	
Item No.			Qty.	Unit		
					Bal	-
					Unit Price	Amount
1-145	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part, to be installed in Panel 7R, 9R and Existing EGAT-PEA Interfacing Panel Spec.No.1002 & SD-FOT-P22 Dwg. Nos. KN-E-1, KN-E-2.3, KN-E-3, TP-E-6.10 sh.1-2, TP-E-10.1, DW-FOT-D01-202-02 SH.P9&P11 and DW-FOT-D01-215-01 SH.P2				
			4	EA	1,027.00	4,108.00
1-146	CURRENT TRANSDUCER (A-TDR)	For 3 ph. Supply as loose part, to be installed in Panel 9F Specification No. 1002 Dwg. Nos. KN-E-1, KN-E-2.3				,
			1	EA	9,792.00	9,792.00
1-147	WATT AND VAR TRANSDUCER (W&VAR-TDR)	For 3 ph. Supply as loose part, to be installed in Panel 7F Specification No. 1002				
	~	Dwg. Nos. KN-E-1, KN-E-2.3	1	EA	18,198.00	18,198.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Ec	quipment
		:			Local Supply	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works	Price
			Qiy.	Oint	(excluding	(VAT)
					Bah	t
					Unit Price	Amount
1-148	REMOTE INPUT/OUTPUT (RIO)	Rack Mounted Type				
		Supply as loose part. To be				
		installed in Existing EGAT-PEA				
		Interfacing Panel				
		Spec.No.1002 & SD-FOT-P22				
		Dwg. Nos. KN-E-1, KN-E-2.3, KN-				
		E-3, TP-E-6.10 sh.1-2, TP-E-10.1,				
		DW-FOT-D01-202-02 SH.P9&P11				
		and DW-FOT-D01-215-01 SH.P2				
			2	EA	28,443.00	56,886.00
1-149	LINE CURRENT DIFFERENTIAL RELAY (87L)	Supply as loose part, to be installed				
		in Panel 6R, 12R, 16R				
		Specification No. 1002				
		Dwg. Nos. LLA-E-1, LLA-E-2 and				
		LLA-E-3			242 245 00	1 000 50 50
1 150	ALITO BEGI OCINIC AND CARICUPONION OFFICE	G	3	EA	343,245.00	1,029,735.00
1-150	AUTO RECLOSING AND SYNCHRONISM CHECK					
	RELAY (79+25)	in Panel 6R, 12R, 16R				
		Specification No. 1002 Dwg. Nos. LLA-E-1, LLA-E-2 and				
	~	LLA-E-3				
	·	LUA-U-3	3	EA	52,126.00	156,378.00
1	บางสนีค่า แย้มอย่		·	1	52,125.00	150,570.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Eq	uipment	
		,			Local Supply		
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works Price		
Tion 140.	Description	Diawing 10.7 Reference 110.	Qij.		(excluding VAT)		
				-	Baht		
					Unit Price	Amount	
1-151	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part, to be installed					
		in Panel 6R, 12R, 16R					
		Specification No. 1002					
		Dwg. Nos. LLA-E-1, LLA-E-2 and					
		LLA-E-3	6	EA	24,669.00	148,014.00	
1-152	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed	"	L'A	24,005.00	140,014.00	
1-152	De dident dell'i (2770,2771)	in Panel 6R, 12R, 16R					
		Specification No. 1002					
		Dwg. Nos. LLA-E-1 and LLA-E-2					
			3	EA	5,102.00	15,306.00	
1-153	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed					
		in Panel 6R, 12R, 16R					
		Specification No. 1002					
		Dwg. Nos. LLA-E-1 and LLA-E-2	١.		5 100 00	15 570 00	
	1 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		3	EA	5,190.00	15,570.00	
1-154	INDICATING LAMP (R,G,IL,LG)	3 RED, Supply as loose part, to be					
		installed in Panel 6R, 12R, 16R					
		Specification No. 1002					
	<i>~</i>	Dwg. Nos. LLA-E-1 and LLA-E-2	3	EA	338.00	1,014.00	

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Eq	uipment	
	o. Description Drawing N				Local Su		
Item No.		Drawing No. / Reference No.	Qty.	Unit	Ex-works	Price	
		Drawing No. / Reference No.	Qty.	Oint	(excluding	Price VAT) Amount 4,755.00	
					Baht		
					Unit Price	Amount	
1-155	CUT OFF SWITCH, 8 CONTACTS (25CO, 79CO)	Supply as loose part, to be installed in Panel 6R, 12R, 16R					
		Specification No. 1002 Dwg. Nos. LLA-E-1, LLA-E-2 and TP-E-9.1					
		11-1-9.1	3	EA	1,585.00	4 755 00	
1-156	MCB, 0.5A, 1 POLE FOR PT	Supply as loose part Specification No. 1002 Dwg. Nos. LLA-E-1 and TP-E-18.1	_		2,202.00	1,755.00	
		SH.3/3					
			6	EA	667.00	4,002.00	
1-157	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part					
		Specification No. 1002					
		Dwg. Nos. LLA-E-1					
1-158	MCB, 0.5A, 3 POLE WITH AUX.	S	3	EA	1,027.00	3,081.00	
1-136	MCB, 0.3A, 3 FOLE WITH AUX.	Supply as loose part Specification No. 1002					
		Dwg. Nos. LLA-E-1 and TP-E-18.1 SH.2/3-3/3					
		511.213 313	3	EA	2,194.00	6,582.00	
1-159	MCB, 3A, 1 POLE WITH AUX.	Supply as loose part Specification No. 1002				0,2 0 210 0	
	~	Dwg. Nos. LLA-E-1 and TP-E-18.1 SH.2/3-3/3					
1	นางสุนิศา แย้มอยู่		3	EA	1,283.00	3,849.00	

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Eq	uipment	
	Description				Local Supply Ex-works Price		
Item No.		Drawing No. / Reference No.	Qty.	Unit			
		Diawing No. / Reference No.	Qıy.	Om	(excluding	VAT)	
					Baht		
					Unit Price	Amount	
1-160	EGAT-PEA INTERFACING PANEL(3-REMOTE I/O	Panel EGAT-PEA INTERFACING					
	AND ACCESSORIES)	Spec.No.1002 & SD-FOT-P22					
		Dwg. Nos. LLA-E-1, LLA-E-2,					
		LLA-E-3, TP-E-6.10 sh.1/2-2/2, TP-					
		E-10.1, DW-FOT-D01-202-02					
		SH.P9&P11 and DW-FOT-D01-					
		215-01 SH.P2					
			1	EA	360,642.00	360,642.00	
1-161	6-WIRE CLEAT FOR COILING OPTICAL FIBER	Supply as loose part					
	CABLE	Spec.No.1002 & SD-FOT-P22				•	
ļ		Dwg Nos. LLA-E-1, TP-E-6.10					
		sh.1/2-2/2, DW-FOT-D01-202-02					
		SH.P9&P11 and DW-FOT-D01-					
		215-01 SH.P2					
1.160			1	EA	1,600.00	1,600.00	
1-162	2-Way Joint Boxes with Accessories for OPGW and	Supply as loose part					
Ì	36 Cores Non-metallic Optical Fiber Cable	Spec.No.1002 & SD-FOT-P22			ì		
		Dwg Nos. LLA-E-1, TP-E-6.10					
		sh.1/2-2/2, DW-FOT-D01-202-02					
		SH.P9&P11 and DW-FOT-D01-					
	~	215-01 SH.P2	1	_{E4}	0.000.00	0.000.00	
I	l	1	Ţ	EA	9,000.00	9,000.00	

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of Equ	uipment	
	. Description				Local Supply		
Item No.		Drawing No. / Reference No.	Qty.	Unit	Ex-works F	rice	
		Brawing No. / Reference No.	Qıy.	Oint	(excluding '	VAT)	
					<u>Baht</u>		
					Unit Price	Amount	
1-163	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part Specification No. 1002 Dwg. Nos. NS-E-1.2, NS-E-2.2 and NS-E-3.2					
	<u></u>		2	EA	24,669.00	49,338.00	
1-164	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part Specification No. 1002 Dwg. Nos. NS-E-1.2 and NS-E-2.2					
		5 vg. 1100. 110 15 1.2 and 110-15-2.2	2	EA	5,102.00	10,204.00	
1-165	TEST SWITCH (TS, for relays)	Supply as loose part Specification No. 1002 Dwg. Nos. NS-E-1.2 and NS-E-2.2	. -		5,202.00	10,204,00	
			4	EA	5,190.00	20,760.00	
1-166	CUT OFF SWITCH, 10 CONTACTS (DTTCO, 87CO, 86ACO, 50/51SCO)	Supply as loose part Specification No. 1002 Dwg. Nos. NS-E-1.2, NS-E-2.2 and TP-E-9.1				,,	
			2	EA	1,844.00	3,688.00	
1-167	INDICATING LAMP (R,G,IL,LG)	2 RED. Supply as loose part Specification No. 1002 Dwg. Nos. NS-E-1.2, NS-E-2.2					
		, ===	2	EA	338.00	676.00	

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1: 230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of l	Equipment	
					Local Supply		
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-work		
Tiom 110.	Dosonption	Drawing 140.7 Reference 140.	4.3.			ng VAT)	
					Ba		
					Unit Price	Amount	
1-168	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part					
		Specification No. 1002					
		Dwg. Nos. NS-E-1.2					
			2	EA	1,027.00	2,054.00	
1-169	MCB, 0.5A, 3 POLE WITH AUX.	Supply as loose part					
		Specification No. 1002					
		Dwg. Nos. NS-E-1.2 and TP-E-18.1					
		SH.2/3-3/3			2 12 1 22	4.000.00	
			2	EA	2,194.00	4,388.00	
1-170	EGAT-PEA INTERFACING PANEL (WITHOUT	Panel EGAT-PEA INTERFACING					
	REMOTE I/O UNIT)	WITHOUT REMOTE I/O UNIT					
		SEE BILL OF MATERIALS					
		Spec.No.1002 & SD-FOT-P22					
		Dwg. Nos. NS-E-1.2, NS-E-2.2, NS-					
		E-3.2, TP-E-6.10 sh.1-2, TP-E-10.1,					
		DW-FOT-D01-202-02 SH.P9&P11					
		and DW-FOT-D01-215-01 SH.P2					
			1	EA	218,520.00	218,520.00	

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Supply of E Local S Ex-work (excludin Bal	upply s Price g VAT)
					Unit Price	Amount
1-171	36 Cores Non-metallic Optical Fiber Cable	Supply as loose part, For: - CM3 300 Meters - NK 300 Meters - NK 300 Meters - MCN 200 Meters - NR3 400 Meters - LLA 300 Meters - LLA 300 Meters Spec.No.1002 & SD-FOT-P22 Dwg Nos. CM3-E-1.2, NK-E-1, MCN-E-1.2, NR3-E-1.1, LLA-E-1, TP-E-6.10 sh.1/2-2/2, DW-FOT-D01-202-02 SH.P9&P11 and DW-FOT-D01-215-01 SH.P2	1500	Meters	100.00	150,000.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of I	quipment
					Local Supply	
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-work	s Price
nem No.	Description	Diawing No. / Reference No.	Qty.	Oint	(excludir	g VAT)
					Ba	ht
			Unit Price	Amount		
1-172	RIGID STEEL CONDUIT	Supply as loose part, For:				
		- CM3 20 Meters				
		- NK 20 Meters				
		- MCN 20 Meters	į			
		- NR3 20 Meters				
		- LLA 20 Meters				
		Spec.No.1002 & SD-FOT-P22				
		Dwg Nos. CM3-E-1.2, NK-E-1,				
		MCN-E-1.2, NR3-E-1.1, LLA-E-1,				
		TP-E-6.10 sh.1/2-2/2, DW-FOT-	İ			
		D01-202-02 SH.P9&P11 and DW-				
		FOT-D01-215-01 SH.P2				
			100	Meters	600.00	60,000.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of E	quipment
					Local S	upply
Tan 31-	Description	Drawing No / Deference No	05.	Unit	Ex-work	s Price
Item No.	Description	Drawing No. / Reference No.	Qty.	Omi	(excludin	g VAT)
		1			Bai	ht
					Unit Price	Amount
1-173	EFLEX AND/OR HDPE CONDUIT WITH HOT-	Supply as loose part, For:				
	DIP GALVANIZED STEEL CLAMP	- CM3 300 Meters				
		- NK 300 Meters				
		- MCN 200 Meters				
		- NR3 400 Meters				
		- LLA 300 Meters				
		Spec.No.1002 & SD-FOT-P22				
		Dwg Nos. CM3-E-1.2, NK-E-1,				
		MCN-E-1.2, NR3-E-1.1, LLA-E-1,				
		TP-E-6.10 sh.1/2-2/2, DW-FOT-				
		D01-202-02 SH.P9&P11 and DW-				
		FOT-D01-215-01 SH.P2				
		Manager and a second	1500	Meters	60.00	90,000.00
1-174	TRANSFORMER DIFFERENTIAL RELAY (87K, 2	Supply as loose part for 115/22 kV				
	restraint windings)	Transformer Protection				
		Specification No. 1002				
		In = 5 A				
		Dwg Nos. PYK-E-1, PYK-E-2 and				
		PYK-E-3		TZA	60 110 00	60 110 00
1	~		1	EA	69,119.00	69,119.00

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1:230 kV and 115 kV Control and Protection Equipment

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

					Supply of I	Equipment	
					Local Supply		
Item No.	Description	Drawing No. / Reference No.	Qty.	Unit	Ex-works Price		
100	2 distribution	Drawing 140. / Reference 140.	Qty.	Omi	(excludir	ng VAT)	
					Ba	ht	
					Unit Price	Amount	
1-175	LINE CURRENT DIFFERENTIAL RELAY (87L)	Supply as loose part for 115 kV Specification No. 1002 In = 5 A					
1-176	LINE CURRENT DIFFERENTIAL RELAY (87L)	Supply as loose part for 115 kV Specification No. 1002 In = 1 A	1	EA	343,245.00	343,245.00	
1-177	DISTANCE RELAY (21) FOR 115 kV without 79/25	Supply as loose part for 115 kV Specification No. 1002 In = 5 A	1	EA	343,245.00	343,245.00	
1-178	DIRECTIONAL OVERCURRENT RELAY (67/67N)	Supply as loose part for 115 kV Specification No. 1002 In = 5 A	1	EA	208,178.00	208,178.00	
1-179	TRANSFORMER OVERCURRENT RELAY (51T/51TG, 51L/51LG,51/51G,51S/51SG,51C/51CG)	Supply as loose part for 115/22 kV Transformer Protection Specification No. 1002 Dwg Nos. PYK-E-1, PYK-E-2 and PYK-E-3	1	EA	105,254.00	105,254.00	
		I I IX-D-3	1	EA	64,864.00	64,864.00	

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- Project 1- C52 -

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MEDIUM COST FOR BID NO. TS12-CR-08

Schedule 1: 230 kV and 115 kV Control and Protection Equipment SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

				***************************************	Supply of E			
					Local S	Local Supply		
Itam Na	Description	Drawing No. / Pofesson as No.	04-	Unit	Ex-work	s Price		
Item No.		Drawing No. / Reference No.	Qty.	Unit	(excludin	g VAT)		
					Bal	-		
					Unit Price	Amount		
1-180	AUTO RECLOSING AND SYNCHRONISM CHECK	Supply as loose part						
	RELAY (79+25)	Specification No. 1002						
			1	EA	52,126.00	52,126.00		
1-181	BREAKER FAILURE RELAY (50BF+62BF)	Supply as loose part						
	,	Specification No. 1002						
		In = 5 A						
			1	EA	90,366.00	90,366.00		
1-182	TEST SWITCH (FOR METERING)	Supply as loose part				,		
~		Specification No. 1002						
			30	EA	18,556.00	556,680.00		
	Note:	-				,		
	1. GPS Receiver Panel consists of the following							
	equipment:							
	- 19" Rack Panel and Accessories							
	- GPS Receiver/Antenna and Accessories							
	- Ethernet switch							
	- Cable and Accessories							
	- Cable and Accessories							
					Baht			
						15,030,986.00		
	Total Price for Sci	hedule 1				12,020,700.00		
	~							
	The state of the s							

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- Project 1- C53 -

DATA SHEET

for

Invitation to Bid No. TS12-CR-08

This section consists of provisions that are specific to each procurement and supplement the information or requirements included in bidding documents.

Provisions Regarding Foreign Equipment

Equipment proposed for this invitation to bid/enquiry shall be manufactured locally. Any provisions regarding foreign Equipment found in the bidding documents are not applicable.

Article B-3. Bid Security

The amount of bid security shall be THB 800,000.-.

Article B-4. Validity of Bids

The validity of the bid shall be for one hundred and twenty (120) Days from the date specified for opening of bid.

Article B-8. <u>Information to be Submitted with Bid</u>:

Item n. is not applicable

Article B-12. Evaluation and Comparison of Bids:

The evaluation of bid prices shall be on schedule basis.

Article E-29. Failure to Meet Requirements and F-10. Maintenance Guarantee

Maintenance Guarantee Period

For all Equipment except Shunt Reactor, 200 MVA 230 kV and above Power Transformer and 500 kV System Voltage Equipment

The Contractor shall guarantee the proper functioning of Equipment for a period of one (1) Year except the following Equipment the guarantee period of which shall be as follows:

<u>Equipment</u>	Period of Guarantee (Year)
- Fault Recording System	2
- Control and Protection System	2

- For Shunt Reactor, 200 MVA 230 kV and above Power Transformer and 500 kV System Voltage Equipment

The Contractor shall guarantee the proper functioning of Equipment for a period of five (5) Years.

Defective Equipment to be replaced with the whole new set

For GIS, Power Transformer, Power Circuit Breaker, Shunt Reactor, in case EGAT, at its sole discretion, requires the Contractor to replace any defected Equipment, the Contractor shall replace the Equipment with the whole new set as specified in <u>Failure to Meet Requirements</u> in section E and <u>Maintenance Guarantee</u> in section F.

Article F-9. Liquidated Damages for Late Delivery of Equipment

The Liquidated Damages shall be at the rate of one-tenth of one (0.10) per cent of the price of each complete item of Equipment not timely delivered for each Day of delay. This sum is payable regardless of the actual loss and/or damages incurred, provided that the total claim of liquidated damages shall not exceed ten (10) per cent of the Contract Price of such delayed Item.

INVITATION TO BID NO. TS12-CR-08

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

Invitation

The Electricity Generating Authority of Thailand (EGAT) hereby invites sealed bids for furnishing and delivering of Control and Protection Equipment under Transmission System Expansion Project No. 12 hereinafter called Equipment in accordance with the terms, conditions and Specifications described in these Bidding Documents.

Eligibility of Bidders: General Requirements

All Bidders shall meet the following requirements; failure to so comply shall constitute sufficient ground for rejection.

- The Bidder shall be a partnership, firm or company, either alone or in joint venture or in consortium.
- b. The Bidder shall be a purchaser of the bidding documents from EGAT. For a joint venture or consortium, only one (1) member of the joint venture or consortium is required to purchase the bidding documents.
 - In the case where the Bidder is not the purchaser of the bidding documents, the purchaser shall notify EGAT of the name of the Bidder in writing five (5) Days prior to the bid opening date.
- c. The Bidder shall be well-established and maintain a permanent place of business. For a joint venture or consortium, all members of the joint venture or consortium are required to meet this qualification.
- d. The Bidder shall not be named in the List of Work Abandoners published by the Office of the Prime Minister and/or in the Debarment List and/or in the List of Work Abandoners declared by EGAT.
- e. For the Bidder who changes name before submitting the bid, his experience records in previous name shall be considered as the experience records of the Bidder.
- f. The Bidder shall not be a Jointly Interested Bidder with other Bidders as from the date of EGAT's issuance of this invitation to bid, or shall not be a person who undertakes any action as an "Obstruction of Fair Price Competition" as defined in Additional Regulation for this invitation.
- g. The Bidder shall not either be EGAT's consultant or involve in EGAT's consultancy company under this invitation, or have EGAT's personnel involved in his business as shareholder having voting right that can control his business, director, manager, officer, employee, agent or consultant except the ones who are officially ordered by EGAT to act or participate therein.

- h. The Bidder shall not be the person who is privileged or protected not to be taken any legal proceeding under Thai court; provided that such Bidder's government declares that such special privilege is waived.
- In case of a joint venture or consortium, the Bidder shall carry out all the provision of
 the Equipment and all Work under such formation from the time of bidding until the
 fulfillment of the Contract and the parties to the joint venture or the consortium shall
 accept joint and several liability for performing all obligations under the bid and the
 Contract.
- j. The Bidder shall not propose to supply the Equipment from the country under the state of war whether declared or not.
- k. The Bidder shall have adequate fund to meet financial obligations incidental to this Contract.
- 1. The Bidder shall submit documentary evidence established in accordance with Article B-8. <u>Information to be Submitted with Bid</u> to demonstrate the Bidder's sufficient eligibility to bid and qualification to perform the Contract.

Eligibility of Bidders: Technical Requirements

I. All Bidders shall meet the following requirements; failure to so comply <u>shall</u> constitute sufficient ground for rejection.

- a. The Bidder shall manufacture or supply the Equipment or Work as required under this invitation to bid.
- b. If the Bidder is a new company formed by acquisition of or merger with other companies or business units before submitting the Bid, the experience records of any of such previous companies or business units that meet the requirements set forth herein are acceptable as the experience records of the Bidder.
 - Reference records of either the parent or affiliated companies shall not be considered as the record of such Bidder.
- c. The Bidder shall have no just or proper claims pending against him with respect to breach in the performance of Contract on other similar works awarded by EGAT.
 - If the Bidder is a new company formed by acquisition of or merger with other companies or business units, the pending claim of any of such previous companies or business units shall be considered as pending claim of the Bidder.
- d. The Bidder shall have sufficient capacity to carry out the Work.
- e. The Bidder shall propose the Equipment manufactured by the qualified manufacturers who shall fulfill the following requirements:
 - 1. Being well-established and maintaining a permanent place of business.
 - 2. Regular manufacturing of Equipment of the type and similar ratings proposed.
 - 3. Being a local manufacturer.

4. For 500 kV Control and Protection System, having one of the following qualifications:

Having supply records of successful operation/use of at least three (3) units of each type of Protective Relay Panels of which the characteristics are similar to the ones specified herein in EGAT's 500 kV Transmission System for at least three (3) consecutive years.

OR

Having a letter of acceptance for manufacturing and/or fabrication of the specific Equipment issued by EGAT within the scope specified therein.

5. For 230 kV Control and Protection System and below, having one of the following qualifications:

Having supply records of successful operation/use of at least three (3) units of each type of Protective Relay Panels of which the characteristics are similar to the ones specified herein in EGAT's or other Electricity Authorities of Thailand's 220 kV or above Transmission System for at least three (3) consecutive years.

OR

Having a letter of acceptance for manufacturing and/or fabrication of the specific Equipment issued by EGAT within the scope specified therein.

- 6. If the manufacturer is a new company formed by acquisition of or merger with other companies or business units, and any of such previous companies or other business units has the experience records that meet the requirements set forth herein, such experience records are acceptable as the experience records of the new company.
- 7. Having no just or proper claims pending against Equipment on other similar works.

In case the manufacturer is a new company formed by acquisition of or merger with other companies or business units, the pending claim of any of such previous companies or business units shall be considered as pending claim of the manufacturer.

- f. The proposed protective relays shall be the products from the manufacturers as listed in EGAT's Specifications and shall be in compliance with the details specified in EGAT's Specifications. Type/Model of the proposed main protective relays shall be as specified in EGAT ACCEPTED MAIN RELAY LIST No. 1 which is attached at the end of Section A. Invitation to Bid.
- II. All Bidders should preferably meet the following technical requirements; failure to so comply may constitute sufficient ground for rejection.

The proposed protective relays shall be the products from the manufacturers as listed in EGAT's Specifications and shall be in compliance with the details specified in EGAT's Specifications. Type/Model of the proposed protective relays shall be as specified in EGAT ACCEPTED MAIN RELAY LIST No. 2 which is attached at the end of Section A. Invitation to Bid.

Scheme	Technique	Accepted	Manufacturer	A	cceptance f	or	Notes
ļ	•	Type/Model		500kV	230kV	115&69kV	
Current	Numerical	RED670	ABB	YES	YES	YES	Only software version 1.1 is accepted.
Differential		P543	GE	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		L90	GE	YES	YES	YES	
ĺ		SEL-311L	SEL	YES	YES	YES	
ł		7SD52	Siemens	YES	YES	YES	
		GRL100	Toshiba	YES	YES	YES	
		P543	Schneider Electric	YES	YES	YES	
1		EF-LD	INGETEAM	YES	YES	YES	
		PCS-931	NR Electric	YES	YES	YES	
Distance	Numerical	REL670	ABB	YES	YES	YES	Only software version 1.1 is accepted.
Protection		P443	GE	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		D30	GE		YES	YES	Only for three pole tripping and line protection that no need carrier scheme.
l		D60	GE		YES	YES	
Į		ALPSDA1	GE	YES	YES	YES	
		SEL-311C	SEL			YES	Only for three pole tripping and line protection that no need carrier scheme.
		SEL-421	SEL	YES	YES	YES	For 21P, 85, 67N. The relay with auto-reclosing function can not be accepted.
1		7SA522	Siemens	YES	YES	YES	
1		7SA6 series	Siemens	YES	YES	YES	
İ		GRZ100	Toshiba		YES	YES	
		GRZ200	Toshiba		YES	YES	
1		ZLV	ZIV		YES	YES	
		P443	Schneider Electric	YES	YES	YES	
		EF-ZT	INGETEAM	YES	YES	YES	
		PCS-902	NR Electric	YES	YES	YES	
Transformer	Numerical	RET670	ABB	YES	YES	YES	Only software version 1.1 is accepted.
Differential		RET650	ABB	YES	YES	YES	3-restraints.
1		P64x	GE	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"

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Scheme	Technique	Accepted	Manufacturer	A	Acceptance for	OT	Notes
		Type/Model		500kV	230kV	115&69kV	
Transformer	Numerical	T35	GE		YES	YES	
Differential		T60	GE		YES	YES	
		Duobias	Siemens		YES	YES	The manufacturer's name "Reyrolle" is changed to "Siemens"
		SEL-387	SEL		YES	YES	4-restraints.
		SEL-487E	SEL	YES	YES	YES	
	<u> </u>	SEL-587	SEL			YES	2-restraints.
		SEL-787	SEL			YES	2-restraints.
		7UT6	Siemens	YES	YES	YES	5-restraints.
		GRT100	Toshiba	YES	YES	YES	
		GRT200	Toshiba	YES	YES	YES	
1		IDV	ZIV	YES	YES	YES	
		P645	Schneider Electric	YES	YES	YES	
		EF-TD	INGETEAM	YES	YES	YES	3-restraints.
		PCS-978	NR Electric	YES	YES	YES	
Busbar	High	REB650	ABB	YES	YES	YES	
Protection	Impedance	SEL-587Z	SEL	YES	YES	YES	
		GRB150	Toshiba	YES	YES	YES	
Busbar	Numerical	REB670	ABB	YES	YES	YES	Only software version 1.1 is accepted.
Protection	Low Impedance	REB500	ABB	YES	YES	YES	
		P746	GE	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		P740	GE	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
1		B90	GE	YES	YES	YES	
		B30	GE	YES	YES	YES	Only use in case that the bus arrangement is Breaker-and-a half, Double-bus-Double-Breaker or Main-and-Transfer.
	İ	P747	GE	YES	YES	YES	
		SEL-487B	SEL	YES	YES	YES	
		78852	Siemens	YES	YES	YES	
		7SS60	Siemens	YES	YES	YES	Only use in case that the bus arrangement is Breaker-and-a half, Double-bus-Double-Breaker or Main-and-Transfer.

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Scheme	Technique	Accepted	Manufacturer	· ·	Acceptance f	or	Notes
		Type/Model		500kV	230kV	115&69kV	
Busbar	Numerical	78885	Siemens	YES	YES	YES	
Protection	Low Impedance	GRB100	Toshiba	YES	YES	YES	
		P746	Schneider Electric	YES	YES	YES	
		P740	Schneider Electric	YES	YES	YES	
Breaker	Numerical	RAHB411	ABB	YES	YES	YES	
Failure		REQ650	ABB			YES	
Protection	P141	GE	YES	YES	YES	3-phase Breaker failure function only. The manufacturer's name "ALSTOM" is changed to "GE"	
		P14Nx	GE	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		C60	GE		YES	YES	
		F60	GE		YES	YES	
		SEL-501	SEL	YES	YES	YES	3-phase Breaker failure function only.
		P821	Schneider Electric		YES	YES	Only firmware version 1.F is accepted.
		7VK6 series	Siemens	YES	YES	YES	The function and the operating time for each system shall be conform to Specification nos. 1005 and 1002.
		GRC100	Toshiba		YES	YES	
		GRD200	Toshiba	YES	YES	YES	
		EF-ZT	INGETEAM	YES	YES	YES	
		PCS-9611	NR Electric	YES	YES	YES	3-phase Breaker failure function only.

Note

- -The procedures for being listed in EGAT ACCEPTED MAIN RELAY LIST can be requested from Transmission System Engineering Division.
- -if any type of relay in the list is planned not to be manufactured, the manufacturer or the representative is reponsible for informing EGAT at least 1 year before it is obsolete.
- -The relays shall be configurated to comply with all EGAT's needed functions.



Scheme	Technique	Accepted	Manufacturer		Accept	ance for		Notes
		Type/Model		500kV	230kV	69&115kV	22&33kV	
Directional	Numerical	REQ650	ABB	YES	YES	YES	YES	
Overcurrent Relay		P14Dx	GE	YES	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		P841	GE	YES	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		SEL-351A	SEL	YES	YES	YES	YES	
	İ	SEL-451	SEL	YES	YES	YES	YES	
		SEL-751	SEL	YES	YES	YES	YES	
		GRE140	Toshiba	YES	YES	YES	YES	
		GRD200	Toshiba	YES	YES	YES	YES	
		7SJ62	Siemens	YES	YES	YES	YES	
		7SJ85	Siemens	YES	YES	YES	YES	
		IRV	ZIV		YES	YES	YES	
		EF-MD	INGETEAM	YES	YES	YES	YES	
		PCS-9611	NR Electric				YES	None of line fault locator. Only use with feeder.
Overcurrent	Numerical	REQ650	ABB	YES	YES	YES	YES	
Relay		P141	GE	YES	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		P14Dx	GE	YES	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		P14Nx	GE	YES	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		P841	GE	YES	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		F60	GE	YES	YES	YES	YES	
		F650	GE	YES	YES	YES	YES	
		SR350	GE	YES	YES	YES	YES	
		P120	Schneider Electric	YES	YES	YES	YES	

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Scheme	Technique	Accepted	Manufacturer		Accept	ance for	Notes	
	•	Type/Model		500kV	230kV	69&115kV	22&33kV	
Overcurrent	Numerical	P122	Schneider Electric	YES	YES	YES	YES	
Relay	j	SEL-351A	SEL	YES	YES	YES	YES	
•		SEL-451	SEL	YES	YES	YES	YES	
		SEL-551	SEL	YES	YES	YES	YES	
		SEL-751	SEL	YES	YES	YES	YES	
		SEL-751A	SEL	YES	YES	YES	YES	
	ĺ	7SJ61	Siemens	YES	YES	YES	YES	
	}	7SJ62	Siemens	YES	YES	YES	YES	
		7SJ85	Siemens	YES	YES	YES	YES	
		GRE140	Toshiba	YES	YES	YES	YES	
		GRD200	Toshiba	YES	YES	YES	YES	
		IRV	ZIV		YES	YES	YES	
		EF-MD	INGETEAM	YES	YES	YES	YES	
		PCS-9611	NR Electric	YES	YES	YES	YES	3 pole trip only
Synchronism	Numerical	REQ650	ABB	YES	YES	YES		
Check Relay		SPAU140C	ABB	YES	YES	YES		
		P841	GE	YES	YES	YES		The manufacturer's name "ALSTOM" is changed to "GE"
		F60	GE	YES	YES	YES		
		F650	GE	YES	YES	YES		
		SEL-279H	SEL	YES	YES	YES		
		SEL-351A	SEL	YES	YES	YES		
		SEL-451	SEL	YES	YES	YES		
		SEL-751	SEL	YES	YES	YES		
		SEL-751A	SEL	YES	YES	YES		
		7VK61	Siemens	YES	YES	YES		
		7SJ85	Siemens	YES	YES	YES		
		GRD200	Toshiba	YES	YES	YES		

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Scheme	Technique	Accepted	Manufacturer		Accept	ance for		Notes
		Type/Model		500kV	230kV	69&115kV	22&33kV	
Synchronism	Numerical	EF-MD	INGETEAM	YES	YES	YES		
Check Relay	:	PCS-9611	NR Electric	YES	YES	YES		
_	Static	RASC	ABB	YES	YES	YES		only use in Interposing Panel.
Auto	Numerical	REQ650	ABB	YES	YES	YES		
Reclosing Relay		P841	GE	YES	YES	YES		The manufacturer's name "ALSTOM" is changed to "GE"
		F60	GE		YES	YES		3 pole reclose only
		F650	GE		YES	YES		3 pole reclose only
		DRS	GE		YES	YES		3 pole reclose only
		SEL-279H	SEL		YES	YES		3 pole reclose only
		SEL-351A	SEL		YES	YES		3 pole reclose only
		SEL-451	SEL		YES	YES		3 pole reclose only
	1	SEL-751	SEL		YES	YES		3 pole reclose only
		7VK512	Siemens	YES	YES	YES		
		7VK61	Siemens	YES	YES	YES		
		GRR100	Toshiba	YES	YES	YES		
	1	GRD200	Toshiba	YES	YES	YES		
		EF-ZT	INGETEAM	YES	YES	YES		
		PCS-9611	NR Electric		YES	YES		3 pole reclose only
Overfluxing	Static	RALK	ABB	YES	YES	YES		
Relay	Numerical	7RW600	Siemens	YES	YES	YES		
ļ	<u> </u>	EF-TD	INGETEAM	YES	YES	YES		
Frequency Relay	Numerical	P94Vx	GE	YES	YES	YES	YES	The manufacturer's name "ALSTOM" is changed to "GE"
		MIV	GE		YES	YES	YES	
	-	SEL-351A	SEL	YES	YES	YES	YES	
		SEL-451	SEL	YES	YES	YES	YES	
		SEL-751	SEL	YES	YES	YES	YES	

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Scheme	Technique	Accepted	Manufacturer		Accept	ance for	Notes	
		Type/Model		500kV	230kV	69&115kV	22&33kV	
Frequency Relay	Numerical	SEL-751A	SEL	YES	YES	YES	YES	
	}	7SJ85	Siemens	YES	YES	YES	YES	
		EF-MD	INGETEAM	YES	YES	YES	YES	
		PCS-9611	NR Electric	YES	YES	YES	YES	
Under/Overvoltage	Numerical	MIV	GE		YES	YES	YES	
Relay		P94V	GE	YES	YES	YES	IYES	None of VT input (open delta connection) for 59N.
		SEL-351A	SEL	YES	YES	YES	YES	
1		SEL-751	SEL	YES	YES	YES	YES	
1		SEL-751A	SEL	YES	YES	YES	YES	
		7SJ62	Siemens	YES	YES	YES	YES	
	1	7SJ85	Siemens	YES	YES	YES	YES	
		GRD200	Toshiba	YES	YES	YES	YES	
		IRV	ZIV	YES	YES	YES	YES	
		EF-MD	INGETEAM	YES	YES	YES	YES	
		PCS-9611	NR Electric		YES	YES	YES	C-Bank protection only

Note

- The procedures for being listed in EGAT ACCEPTED MAIN RELAY LIST can be requested from Transmission System Engineering Division.
- If any type of relay in the list is planned not to be manufactured, the manufacturer or the representative is reponsible for informing EGAT at least 1 year before it is obsolete.
- The relays shall be configurated to comply with all EGAT's needed functions.



EGAT ACCEPTED MANUFACTURER LIST FOR PROTECTIVE RELAY

Description	Manufacturer / Country
Protective Relay	ABB / Sweden, Switzerland, USA
	GE / USA, Canada, Spain, UK
	SEL / USA
	Siemens / Germany
	Reyrolle / UK
	Toshiba / Japan, Vietnam
	Schneider Electric / France, UK
	ZIV / Spain
	INGETEAM / Spain
	NR Electric / China
	Mitsubishi / Japan

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