

REGISTRATION FORM

INVITATION TO BID NO. TS12-CR-04

FOR SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO. 12

AVAILABLE DURATION FOR PURCHASING December 3, 2018 TO January 21, 2019

PRICE THB 2,000.-

COMPLETE DATA IS REQUIRED FOR THE BIDDER'S OWN BENEFITS

(โปรดกรอกรายละเอียดให้ครบถ้วนเพื่อประโยชน์ของบริษัท)

Step 1 : Fill out this Registration Form in English (Typing is preferred)

Step 2 : Submit this form for payment at Receivable Cashier Section (1st Floor, TOR 100 Bldg., Counter 4-8) Tel no. 02 436 5512

Step 3 : Bring the payment receipt and the copy of filled-out Registration Form to receive the bidding documents at International Procurement Department - Transmission Segment (Room No. 1202/2, 12th Floor, Building Tor. 101) Tel no. 02 436 0241-42

FOR PURCHASER				TAX ID :
NO.	RECEIPT NO. :		DATE :	PURCHASER (ผู้ซื้อ):
BIDDER'S NAME (บริษัทผู้ซื้อเอกสาร)				
ADDRESS (ที่อยู่)				
		COUNTRY :		
ATTN. (ผู้รับผิดชอบ):		FAX NO.:	TEL.:	
E-mail :		e-GP Registration Date :		
LOCAL REPRESENTATIVE (ตัวแทนในประเทศ)				
ADDRESS (ที่อยู่)				
		TAX ID :		
ATTN. (ผู้รับผิดชอบ):		FAX NO.:	TEL.:	
E-mail :				
FOR PROCUREMENT OFFICER			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 :		e-GP Registration Date :		
FOR PROCUREMENT OFFICER		FOR PURCHASER		
Procurement Officer (ผู้ส่งมอบเอกสาร)		Document received by (ผู้รับมอบเอกสาร)		



INVITATION TO BID NO. TS12-CR-04

(Revision 1)

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 *45,400,000.-

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 neither fail to submit the Revenue and Expense Accounts nor fail to present proper and complete accounts under the Notification of National Anti-Corruption Commission Concerning Principles and Methods of Preparing Revenue and Expense Accounts of Project between Individual/Company and Government Agencies B.E. 2554 (A.D. 2011) issued on August 11, 2011 as amended from time to time ("the Notification").
3. The Bidder shall register for e-Government Procurement (e-GP) at Thai Government Procurement website (www.gprocurement.go.th) at telephone No. 0 2127 7386 – 89) of the Comptroller General's Department of Thailand.
4. 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.
5. 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.
6. 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.
7. 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 December 3, 2018 to January 21, 2019 at THB 2,000.- 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/>

Nilantra Usotparapussit

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, January 29, 2019 and will be opened publicly at 10:00 hrs.

ELECTRICITY GENERATING AUTHORITY OF THAILAND

December 25, 2018

Nilanate Osotpavapusi

(Mrs. Nilanate Osotpavapusi)

Chief, International Procurement Department -
Transmission Segment

Remarks : Medium Cost (including Value Added Tax) is revised from THB 67,900,000.- to THB 45,400,000.-



ประกาศการไฟฟ้าฝ่ายผลิตแห่งประเทศไทย
เรื่อง ประกวดราคาซื้อ เลขที่ TS12-CR-04

(ฉบับแก้ไข ครั้งที่ 1)

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

สถานที่ส่งมอบ : หน้าโรงงานผู้ผลิต

ราคากลาง (รวมภาษีมูลค่าเพิ่ม) : *45,400,000.- บาท

คุณสมบัติของผู้เสนอราคา

1. ต้องเป็นนิติบุคคลผู้ผลิตพัสดุ หรือผู้มีอาชีพขายพัสดุที่ผลิตในประเทศไทยตามประกาศ และต้องไม่เป็นผู้ที่งานซึ่งสำนักนายกรัฐมนตรีได้แจ้งเวียนชื่อไว้ หรือต้องไม่เป็นผู้ที่ กฟผ. ห้ามติดต่อหรือห้ามเข้าเสนอราคา หรือต้องไม่เป็นผู้ที่ได้รับผลของการสั่งให้นิติบุคคลหรือบุคคลอื่นเป็นผู้ทำงานตามคำสั่ง กฟผ.
2. ต้องไม่อยู่ในฐานะเป็นผู้ไม่แสดงบัญชีรายรับรายจ่าย หรือแสดงบัญชีรายรับรายจ่ายไม่ถูกต้องครบถ้วนในสาระสำคัญ ตามประกาศคณะกรรมการป้องกันและปราบปรามการทุจริตแห่งชาติ เรื่อง หลักเกณฑ์และวิธีการจัดทำและแสดงบัญชีรายการรับจ่ายของโครงการที่บุคคลหรือนิติบุคคลเป็นคู่สัญญากับหน่วยงานของรัฐ พ.ศ. 2554 และที่แก้ไขเพิ่มเติม
3. ต้องเป็นนิติบุคคลที่ลงทะเบียนในระบบอิเล็กทรอนิกส์ (e-Government Procurement : e-GP) ของกรมบัญชีกลางที่เว็บไซต์ศูนย์ข้อมูลจัดซื้อจัดจ้างภาครัฐ (www.gprocurement.go.th) โทรศัพท์ หมายเลข 0 2127 7386 – 89
4. ต้องไม่เป็นผู้มีผลประโยชน์ร่วมกันกับผู้เสนอราคารายอื่น ณ วันประกาศประกวดราคาครั้งนี้เป็นต้นไป หรือต้องไม่เป็นผู้กระทำการอันเป็นการขัดขวางการแข่งขันราคาอย่างเป็นธรรมในการดำเนินการประกวดราคาครั้งนี้
5. ต้องไม่เป็นที่ปรึกษาของ กฟผ. หรือมีส่วนร่วมในบริษัทที่ปรึกษาของ กฟผ. ในงานนี้ หรือต้องไม่มีผู้ปฏิบัติงาน กฟผ. เข้าไปมีส่วนร่วมในกิจการของผู้เสนอราคา ไม่ว่าจะในฐานะผู้ถือหุ้นที่มีสิทธิควบคุมการจัดการ กรรมการ ผู้อำนวยการ ผู้จัดการ พนักงาน ลูกจ้าง ตัวแทนหรือที่ปรึกษา ยกเว้น ในกรณีที่ผู้ปฏิบัติงานได้รับคำสั่งอย่างเป็นทางการจาก กฟผ. ให้ไปปฏิบัติงานหรือเข้าร่วมในกิจการของผู้เสนอราคา
6. ต้องไม่เป็นผู้ได้รับเอกสิทธิ์หรือความคุ้มกัน ซึ่งอาจปฏิเสธไม่ยอมขึ้นศาลไทย เว้นแต่รัฐบาลของผู้เสนอราคาได้มีคำสั่งให้สละสิทธิ์และความคุ้มกันเช่นนั้น
7. ผู้ประสงค์เข้าประกวดราคาในนามของกิจการร่วมค้าหรือกิจการร่วม (Joint Venture or Consortium) จะต้องดำเนินการทุกขั้นตอนของการประกวดราคาในนามของกิจการร่วมค้าหรือกิจการร่วม ตั้งแต่การเสนอราคาจนสิ้นสุดข้อผูกพันกับ กฟผ.

การขายเอกสารประกวดราคา

ผู้สนใจติดต่อขอทราบรายละเอียด เพื่อตรวจสอบคุณสมบัติของผู้เสนอราคา และขอซื้อเอกสารประกวดราคา ในราคาชุดละ 2,000.- บาท ได้ที่ แผนกจัดซื้อต่างประเทศสายงานระบบส่ง (ห้อง 1202/2 ชั้น 12 อาคาร ท.101) กองจัดซื้อจัดจ้างต่างประเทศสายงานระบบส่ง ฝ่ายจัดซื้อจัดจ้างและบริหารพัสดุ การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย เชียงสะพานพระราม 7 จังหวัดนนทบุรี ในวันทำการระหว่างเวลา 08:00 น. ถึง 15:00 น. ตั้งแต่วันที่ 3 ธันวาคม 2561 ถึงวันที่ 21 มกราคม 2562 หรือสอบถามทางโทรศัพท์ หมายเลข 0 2436 0241 หรืออีเมลล์ procurement.tse@egat.co.th ทั้งนี้ สามารถ download แบบฟอร์มลงทะเบียนผู้ซื้อเอกสารประกวดราคาได้ที่เว็บไซต์ <http://www4.egat.co.th/fprocurement/biddingeng/>

การยื่นซองประกวดราคา

กำหนดยื่นซองประกวดราคา ในวันที่ 29 มกราคม 2562 เวลา 9:30 น. ถึง 10:00 น. และเปิดซองประกวดราคาเวลา 10:00 น. ณ ห้อง 1202/1 ชั้น 12 อาคาร ท.101 การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย เชียงสะพานพระราม 7 จังหวัดนนทบุรี

ประกาศ ณ วันที่ 25 ธันวาคม 2561

พิณพร โสงถงอุมา


(นางนิลเนตร โอสภากฤษิต)

หัวหน้ากองจัดซื้อจัดจ้างต่างประเทศสายงานระบบส่ง

หมายเหตุ : แก้ไขราคากลาง (รวมภาษีมูลค่าเพิ่ม) จาก 67,900,000.- บาท เป็น 45,400,000.- บาท

ตารางแสดงวงเงินงบประมาณที่ได้รับจัดสรรและราคากลาง(ราคาอ้างอิง)
ในการจัดซื้อจัดจ้างที่มีใช้งานก่อสร้าง

1. ชื่อโครงการ ประกวตราค่าเลขที่ TS12-CR-04
งานจัดซื้อ Control and Protection Equipment
โครงการขยายระบบส่งไฟฟ้าระยะที่ 12
/หน่วยงานเจ้าของโครงการ ฝ่ายแผนงานและโครงการระบบส่ง การไฟฟ้าฝ่ายผลิตแห่งประเทศไทย
2. วงเงินงบประมาณที่ได้รับจัดสรร
โครงการขยายระบบส่งไฟฟ้าระยะที่ 12 งบประมาณ 60,000 ล้านบาท
3. วันที่กำหนดราคากลาง 17 ธันวาคม 2561 (วันที่ อวส. อนุมัติ)
ราคารวมภาษีมูลค่าเพิ่มเป็นเงิน 45,400,000.00 บาท ราคา/หน่วย ตามเอกสารแนบ
4. แหล่งที่มาของราคากลาง หลักเกณฑ์การกำหนดราคากลางงานจัดซื้อจัดจ้างสายงานพัฒนาระบบส่ง
5. รายชื่อเจ้าหน้าที่ผู้กำหนดราคากลาง
นางจุฬาร ตามใจจิตร นวร-วช. กวป-ส.


นางสุนิศา แยมอยู่
ทชตส-ท.
25 ธ.ค. 2561

MEDIUM COST FOR BID NO. TS12-CR-04

SUMMARY OF BID PRICE

SUPPLY OF CONTROL AND PROTECTION EQUIPMENT

TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

No.	Description	Supply of Equipment
		Local Supply
		Ex-works Price (excluding VAT) Baht
		Amount
1	Schedule 1 : 230 kV and 115 kV Control and Protection Equipment	42,467,547.00
SUMMARY		Baht 42,467,547.00
IMPORT DUTY		Baht XXXXXXXXXX
VAT 7 %		Baht 2,972,728.29
SUMMARY OF BID PRICE		Baht 45,440,275.29
SUMMARY OF BID PRICE (ROUNDED)		Baht 45,400,000.00

In case Bidder proposes price discount without specifying whether or not it includes Value Added Tax (VAT), EGAT will consider it as the price discount excluding VAT.

นางสุณิศา แยมอยู่
หจกส-ท.
25 ธ.ค. 2561

(นางสาวอรรษา อัครกุล)
อจก.

17 ธ.ค. 61

MEDIUM COST FOR BID NO. TS12-CR-04


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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-1	115 kV LINE PROTECTION (87L, 21, 79, 2-BF)	Panel Nos.45R and 46R Drawing Nos. TW-E-1.2,TW-E-2.2,TW-E-3.2 and TP-E-10.1	2	EA	1,142,847.00	2,285,694.00
1-2	MARSHALLING PANEL FOR FRS	Panel MP-FRS Drawing Nos. TW-E-1.2,TW-E-2.2,TW-E-3.2 and TP-E-10.3	1	EA	212,720.00	212,720.00
1-3	MARSHALLING PANEL FOR RTU	Panel MP-RTU Drawing Nos. TW-E-1.2,TW-E-2.2,TW-E-3.2 and TP-E-10.3	1	EA	222,704.00	222,704.00
1-4	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 64 ports) Drawing Nos. TW-E-2.2 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	494,244.00	494,244.00

นางสุนิศา แยมอยู่

หจทส-ท.
25 ธ.ค. 2561

 (นางสาวพนา สุภาภักดิ์)
 อวส.
 17 ธ.ค. 61

MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-5	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 64 ports) Drawing Nos. KNG-E-2 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	494,244.00	494,244.00
1-6	DISTANCE RELAY (21) FOR 115 kV without 79/25	Supply as loose part, to be installed in exisiting 7F/7R and 8F/8R panel. Drawing Nos.KNG-E-1,KNG-E-2 and KNG-E-3	2	EA	204,097.00	408,194.00
1-7	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in exisiting 7F/7R and 8F/8R panel. Drawing Nos.KNG-E-1,KNG-E-2 and KNG-E-3	6	EA	5,089.00	30,534.00
1-8	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part, to be installed in exisiting 7F/7R and 8F/8R panel. Drawing Nos.KNG-E-1,KNG-E-2 and KNG-E-3	6	EA	24,186.00	145,116.00

MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-9	CUT OFF SWITCH, 10 CONTACTS (DTTCO, 87CO, 86ACO, 50/51SCO)	Supply as loose part, to be installed in exisiting 7F/7R and 8F/8R panel. Drawing Nos.KNG-E-1,KNG-E-2 and KNG-E-3	2	EA	1,808.00	3,616.00
1-10	INDICATING LAMP (R,G,IL,LG)	Supply as loose part, to be installed in exisiting 7F/7R and 8F/8R panel. Drawing Nos.KNG-E-1,KNG-E-2 and KNG-E-3	2	EA	332.00	664.00
1-11	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in exisiting 7F/7R and 8F/8R panel. Drawing Nos.KNG-E-1,KNG-E-2 and KNG-E-3	2	EA	5,002.00	10,004.00
1-12	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part, to be installed in exisiting 7F/7R and 8F/8R panel. Drawing Nos.KNG-E-1,KNG-E-2 and KNG-E-3	2	EA	1,007.00	2,014.00
1-13	115 kV LINE PROTECTION (21, 21, 79, 1-BF)	Panel Nos. 9F/9R Drawing Nos. KK2-E-1, KK2-E-2, KK2-E-3, TP-E-10.1, See Bill of Material.	1	EA	1,237,442.00	1,237,442.00

MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-14	115 kV LINE PROTECTION (87L, 21, 79, 1-BF)	Panel Nos. 10F/10R and 11F/11R Drawing Nos. KK2-E-1, KK2-E-2, KK2-E-3 and TP-E-10.1, See Bill of Material.	2	EA	1,272,381.00	2,544,762.00
1-15	115 kV BUS CONTROL AND PROTECTION (LOW IMPEDANCE, NO SWITCHING ZONE, 16 feeders)	Panel Nos. 2F/2R Drawing Nos. KK2-E-1, KK2-E-2, KK2-E-3 and TP-E-10.1, See Bill of Material.	2	EA	2,198,760.00	4,397,520.00
1-16	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 64 ports) Drawing Nos. KK2-E-2 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	494,244.00	494,244.00
1-17	115 kV LINE PROTECTION (87L, 21, 79, 1-BF)	Panel Nos. 4F/4R Drawing Nos. MK-E-1, MK-E-2, MK-E-3 and TP-E-10.1, See Bill of Material.	1	EA	1,272,381.00	1,272,381.00

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-18	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 64 ports) Drawing Nos. ,MK-E-2 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	494,244.00	494,244.00
1-19	LINE CURRENT DIFFERENTIAL RELAY (87L)	Supply as loose part, to be installed in exisiting Panel No.2F/2R. Drawing Nos. MK-E-1,MK-E-2,MK-E-3 and TP-E-10.1	1	EA	336,515.00	336,515.00
1-20	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part, to be installed in exisiting Panel No.2F/2R. Drawing Nos. MK-E-1,MK-E-2,MK-E-3 and TP-E-10.1	1	EA	1,007.00	1,007.00
1-21	TRIPPING RELAY (94P, 94BU, 51X, 79X)	Supply as loose part, to be installed in exisiting Panel No.2F/2R. Drawing Nos. MK-E-1,MK-E-2,MK-E-3 and TP-E-10.1	1	EA	24,186.00	24,186.00

MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-22	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in exisiting Panel No.2F/2R. Drawing Nos. MK-E-1,MK-E-2,MK-E-3 and TP-E-10.1	1	EA	5,002.00	5,002.00
1-23	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in exisiting Panel No.2F/2R. Drawing Nos. MK-E-1,MK-E-2,MK-E-3 and TP-E-10.1	1	EA	5,089.00	5,089.00
1-24	CUT OFF SWITCH, 10 CONTACTS (DTTCO, 87CO, 86ACO, 50/51SCO)	Supply as loose part, to be installed in exisiting Panel No.2F/2R. Drawing Nos. MK-E-1,MK-E-2,MK-E-3 and TP-E-10.1	1	EA	1,808.00	1,808.00
1-25	INDICATING LAMP (R,G,IL,LG)	Supply as loose part, to be installed in exisiting Panel No. 4F/4R. Drawing Nos. MK-E-1,MK-E-2,MK-E-3 and TP-E-10.1	1	EA	332.00	332.00

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- Project 1-C6 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-26	115 kV LINE PROTECTION (87LP,21BU, 79)	Panel Nos.1R and 2R Drawing Nos. UR-E-1,UR-E-2,UR-E-3 and TP-E-10.1	2	EA	964,336.00	1,928,672.00
1-27	115 kV LINE PROTECTION (87L, 21, 79, 1-BF, 51S)	Panel Nos.23R and 24R Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3 and TP-E-10.1	2	EA	1,117,472.00	2,234,944.00
1-28	MARSHALLING PANEL FOR FRS	Panel MP-FRS Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3 and TP-E-10.3	1	EA	212,720.00	212,720.00
1-29	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 64 ports) Drawing Nos. NPO2-E-2.2 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	494,244.00	494,244.00
1-30	115 kV BUS PROTECTION (LOW IMPEDANCE, NO SWITCHING ZONE, 8 feeders)	Panel Nos.25R and 26R Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3 and TP-E-10.1	2	EA	862,213.00	1,724,426.00

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MEDIUM COST FOR BID NO. TS12-CR-04
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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-31	115 kV BREAKER FAILURE PROTECTION (4-BF)	Panel Nos. 27R Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3 and TP-E-10.1	1	EA	589,108.00	589,108.00
1-32	BREAKER CONTROL SWITCH (CS)	Supply as loose part, to be installed in exisiting Panel Nos. 10C and 11C Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3	6	EA	3,871.00	23,226.00
1-33	CUT OFF SWITCH, 4 CONTACTS (50BFC0, SS, EPS, 43RCC, 284CS)	Supply as loose part, to be installed in exisiting Panel Nos. 10C and 11C Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3	6	EA	1,004.00	6,024.00
1-34	CUT OFF SWITCH, 8 CONTACTS (25CO, 79CO)	Supply as loose part, to be installed in exisiting Panel Nos. 10C Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3	2	EA	1,554.00	3,108.00

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- Project 1-C8 -

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MEDIUM COST FOR BID NO. TS12-CR-04
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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-35	MANUALLY OPERATED DISCONNECTED SWITCH	Supply as loose part, to be installed in exisiting Panel Nos. 10C and 11C Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3	20	EA	501.00	10,020.00
1-36	INDICATING LAMP (R,G,IL,LG)	Supply as loose part, to be installed in exisiting Panel Nos. 10C and 11C Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3	4	EA	332.00	1,328.00
1-37	LL	Supply as loose part, to be installed in exisiting Panel Nos. 10C and 11C Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3	3	EA	1,004.00	3,012.00
1-38	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in exisiting Panel Nos. 10C and 11C Drawing Nos. NPO2-E-1,NPO2-E-2.1,NPO2-E-2.2,NPO2-E-3	2	EA	5,089.00	10,178.00

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- Project 1-C9 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-39	VOLTAGE TRANSDUCER (V-TDR)	Supply as loose part, to be installed in exisiting Panel Nos. 10C Drawing Nos. NPO2-E-1,NPO2-E- 2.1,NPO2-E-2.2,NPO2-E-3	2	EA	9,600.00	19,200.00
1-40	CURRENT TRANSDUCER (A-TDR)	Supply as loose part, to be installed in exisiting Panel Nos. 10C Drawing Nos. NPO2-E-1,NPO2-E- 2.1,NPO2-E-2.2,NPO2-E-3	2	EA	9,600.00	19,200.00
1-41	WATT AND VAR TRANSDUCER (W&VAR- TDR)	Supply as loose part, to be installed in exisiting Panel Nos. 10C Drawing Nos. NPO2-E-1,NPO2-E- 2.1,NPO2-E-2.2,NPO2-E-3	1	EA	17,842.00	17,842.00
1-42	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in exisiting Panel Nos. 10C and 11C Drawing Nos. NPO2-E- 1,NPO2-E-2.1,NPO2-E-2.2,NPO2- E-3	10	EA	5,002.00	50,020.00

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- Project 1-C10 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-43	230/115 kV TRANSFORMER PROTECTION (4 RESTRAINS, 4-51, 1-BF)	Panel Nos. 801R Drawing Nos.SN3-E-1.1,SN3-E-1.2,SN3-E-2.1,SN3-E-2.2,SN3-E-3.1, SN3-E-3.2 and TP-E-10.1	1	EA	853,050.00	853,050.00
1-44	115 kV BREAKER FAILURE PROTECTION (2-BF)	Panel Nos. 711R Drawing Nos.SN3-E-1.1,SN3-E-1.2,SN3-E-2.1,SN3-E-2.2,SN3-E-3.1, SN3-E-3.2 and TP-E-10.1	1	EA	430,607.00	430,607.00
1-45	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 96 ports) Drawing Nos. SN3-E-2.1 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	576,583.00	576,583.00
1-46	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 64 ports) Drawing Nos. SN3-E-2.2 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	494,244.00	494,244.00

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- Project 1-C11 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-47	TEMPERATURE TRANSDUCER (T-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos. SN3-E-1.1,SN3-E-1.2,SN3-E-2.1,SN3-E-2.2,SN3-E-3.1and SN3-E-3.2	1	EA	10,837.00	10,837.00
1-48	RESISTANCE TRANSDUCER (R-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos. SN3-E-1.1,SN3-E-1.2,SN3-E-2.1,SN3-E-2.2,SN3-E-3.1and SN3-E-3.2	1	EA	10,837.00	10,837.00
1-49	VOLTAGE TRANSDUCER (V-TDR)	For 1 ph., Supply as loose part. to be installed in exisiting TDR panel. Drawing Nos.SN3-E-1.1,SN3-E-1.2,SN3-E-2.1,SN3-E-2.2,SN3-E-3.1and SN3-E-3.2	2	EA	9,600.00	19,200.00

MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-50	CURRENT TRANSDUCER (A-TDR)	For 3 ph., Supply as loose part. to be installed in exisiting TDR panel. Drawing Nos.SN3-E-1.1,SN3-E-1.2,SN3-E-2.1,SN3-E-2.2,SN3-E-3.1and SN3-E-3.2	1	EA	9,600.00	9,600.00
1-51	WATT AND VAR TRANSDUCER (W&VAR-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos. SN3-E-1.1,SN3-E-1.2,SN3-E-2.1,SN3-E-2.2,SN3-E-3.1and SN3-E-3.2	1	EA	17,842.00	17,842.00
1-52	TEST SWITCH (FOR METERING)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos. SN3-E-1.1,SN3-E-1.2,SN3-E-2.1,SN3-E-2.2,SN3-E-3.1and SN3-E-3.2	2	EA	18,193.00	36,386.00

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- Project 1-C13 -

(นางสาวชนัน สุภาวดี)
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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-53	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed in exisiting 701R and 702R panel Drawing Nos. SN3-E-1.1,SN3-E-1.2,SN3-E-2.1,SN3-E-2.2,SN3-E-3.1and SN3-E-3.2	2	EA	17,968.00	35,936.00
1-54	115 kV LINE PROTECTION (21, 67, 79, 2-BF, DTT)	Panel Nos. 9R Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1,KA-E-3.2 and TP-E-10.1	1	EA	1,211,253.00	1,211,253.00
1-55	230/115 kV TRANSFORMER PROTECTION (4 RESTRAINS, 4-51, 2-BF)	Panel Nos. 49R Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1,KA-E-3.2 and TP-E-10.1	1	EA	942,965.00	942,965.00

MEDIUM COST FOR BID NO. TS12-CR-04
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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-56	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 96 ports) Drawing Nos. KA-E-2.2,KA-E-2.3 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	576,583.00	576,583.00
1-57	TEMPERATURE TRANSDUCER (T-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	10,837.00	10,837.00
1-58	RESISTANCE TRANSDUCER (R-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	10,837.00	10,837.00

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- Project 1-C15 -

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MEDIUM COST FOR BID NO. TS12-CR-04
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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-59	VOLTAGE TRANSDUCER (V-TDR)	For 1 ph.,Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	9,600.00	9,600.00
1-60	CURRENT TRANSDUCER (A-TDR)	For 1 ph.,Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	9,600.00	9,600.00
1-61	WATT AND VAR TRANSDUCER (W&VAR-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	17,842.00	17,842.00
1-62	TEST SWITCH (FOR METERING)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	18,193.00	18,193.00

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- Project 1-C16 -

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MEDIUM COST FOR BID NO. TS12-CR-04
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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-63	BREAKER FAILURE RELAY (50BF+62BF)	Supply as loose part, to be installed in exisiting panel 2R. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	88,595.00	88,595.00
1-64	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed in exisiting panel 2R. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	17,968.00	17,968.00
1-65	CUT OFF SWITCH, 4 CONTACTS (50BFC0, SS, EPS, 43RCC, 284CS)	Supply as loose part, to be installed in exisiting panel 2R. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	1,004.00	1,004.00
1-66	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in exisiting panel 2R. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	5,002.00	5,002.00

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- Project 1-C17 -

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MEDIUM COST FOR BID NO. TS12-CR-04
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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-67	PUSH BUTTON	Supply as loose part, to be installed in exisiting panel 2R. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	332.00	332.00
1-68	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part, to be installed in exisiting panel 2R. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	1,007.00	1,007.00
1-69	INDICATING LAMP (R,G,IL,LG)	Supply as loose part, to be installed in exisiting panel 2R. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	332.00	332.00
1-70	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in exisiting panel 2R. Drawing Nos.KA-E-1.1,KA-E-1.2,KA-E-2.2,KA-E-2.3,KA-E-3.1 and KA-E-3.2	1	EA	5,089.00	5,089.00

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-71	230/115 kV TRANSFORMER PROTECTION (5 RESTRAINS, 5-51, 1-BF, 59)	Panel Nos. 205R Drawing Nos. SKI2-E-1.1, SKI2-E-1.2, SKI2-E-2.1, SKI2-E-2.2, SKI2-E-3.1, SKI2-E-3.2 and TP-E-10.1	1	EA	951,365.00	951,365.00
1-72	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 64 ports) Drawing Nos. SKI2-E-2.1, SKI2-E-2.2 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	3	EA	494,244.00	1,482,732.00
1-73	TEMPERATURE TRANSDUCER (T-TDR)	Supply as loose part, to be installed in existing TDR panel. Drawing Nos. SKI2-E-1.1, SKI2-E-1.2, SKI2-E-2.1, SKI2-E-2.2, SKI2-E-3.1 and SKI2-E-3.2	1	EA	10,837.00	10,837.00

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- Project 1-C19 -

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17 ธ.ค. 61

Filename : TS12-CR-04.xlsx

MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-74	RESISTANCE TRANSDUCER (R-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	10,837.00	10,837.00
1-75	VOLTAGE TRANSDUCER (V-TDR)	For 1 ph. Supply as loose part. to be installed in exisiting TDR panel. Drawing Nos.SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	2	EA	9,600.00	19,200.00
1-76	CURRENT TRANSDUCER (A-TDR)	For 1 ph. Supply as loose part. to be installed in exisiting TDR panel. Drawing Nos.SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	9,600.00	9,600.00
1-77	WATT AND VAR TRANSDUCER (W&VAR-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	17,842.00	17,842.00

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- Project 1-C20 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-78	TEST SWITCH (FOR METERING)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	18,193.00	18,193.00
1-79	BREAKER FAILURE RELAY (50BF+62BF)	Supply as loose part, to be installed in exisiting 4R panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	88,595.00	88,595.00
1-80	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed in exisiting 4R panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	17,968.00	17,968.00

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- Project 1-C21 -

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filename : TS12-CR-04.xlsx

MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-81	CUT OFF SWITCH, 4 CONTACTS (50BFC0, SS, EPS, 43RCC, 284CS)	Supply as loose part, to be installed in exisiting 4R panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	1,004.00	1,004.00
1-82	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in exisiting 4R panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	5,002.00	5,002.00
1-83	PUSH BUTTON	Supply as loose part, to be installed in exisiting 4R panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	332.00	332.00
1-84	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part, to be installed in exisiting 4R panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	1,007.00	1,007.00

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- Project 1-C22 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-85	INDICATING LAMP (R,G,IL,LG)	Supply as loose part, to be installed in exisiting 4R panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	332.00	332.00
1-86	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in exisiting 4R panel. Drawing Nos. SKI2-E-1.1,SKI2-E-1.2,SKI2-E-2.1,SKI2-E-2.2,SKI2-E-3.1 and SKI2-E-3.2	1	EA	5,089.00	5,089.00
1-87	115/22 kV TRANSFORMER PROTECTION (5 RESTRAINS,2 RESTRAINS, 2-51)	Panel Nos. 4R Drawing Nos.SK-E-1.2,SK-E-2.3,SK-E-3.1 and TP-E-10.1	1	EA	818,926.00	818,926.00
1-88	115/22 kV TRANSFORMER PROTECTION (2 RESTRAINS, 2-51)	Panel Nos. 5R Drawing Nos.SK-E-1.2,SK-E-2.3,SK-E-3.1 and TP-E-10.1	1	EA	524,097.00	524,097.00

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- Project 1-C23 -

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filename : TS12-CR-04.xlsx

MEDIUM COST FOR BID NO. TS12-CR-04
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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-89	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 64 ports) Drawing Nos.SK-E-2.3 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	494,244.00	494,244.00
1-90	MARSHALLING PANEL FOR FRS	MP-FRS Panel Drawing Nos.SK-E-1.2,SK-E-3.1 and TP-E-10.3	1	EA	212,720.00	212,720.00
1-91	230 kV BUS PROTECTION (LOW IMPEDANCE, SWITCHING ZONE, 14 feeders)	Panel Nos. 28R,29R,30R and 31 Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3,NT-E-3.1 and TP-E-10.1	2	SET	2,711,765.00	5,423,530.00
1-92	230/115 kV TRANSFORMER PROTECTION (3 RESTRAINS, 4-51, 1-BF)	Panel Nos. 27R Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3,NT-E-3.1 and TP-E-10.1	1	EA	819,390.00	819,390.00
1-93	115/22 kV TRANSFORMER PROTECTION (2 RESTRAINS, 2-51, 1-BF)	Panel Nos. 1F/1R Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3,NT-E-3.1 and TP-E-10.1 and Bill of Material.	1	EA	1,065,943.00	1,065,943.00

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- Project 1-C24 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-94	GPS RECEIVER PANEL	Panel No. GPS Receiver (Ports of Ethernet Switch shall not be less than 96 ports) Drawing Nos. NT-E-2.2,NT-E-2.3 and TP-E-10.15. Spec. No. 1002 and SD-FOT-P22. See Note No.1	1	EA	576,583.00	576,583.00
1-95	TEMPERATURE TRANSDUCER (T-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	10,837.00	10,837.00
1-96	RESISTANCE TRANSDUCER (R-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	10,837.00	10,837.00
1-97	VOLTAGE TRANSDUCER (V-TDR)	For 1 ph., Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	9,600.00	9,600.00

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- Project 1-C25 -

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MEDIUM COST FOR BID NO. TS12-CR-04
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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-98	CURRENT TRANSDUCER (A-TDR)	For 1 ph.,Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	9,600.00	9,600.00
1-99	WATT AND VAR TRANSDUCER (W&VAR-TDR)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	17,842.00	17,842.00
1-100	TEST SWITCH (FOR METERING)	Supply as loose part, to be installed in exisiting TDR panel. Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	2	EA	18,193.00	36,386.00
1-101	BREAKER FAILURE RELAY (50BF+62BF)	Supply as loose part, to be installed in exisiting panel 8R . Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	88,595.00	88,595.00

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- Project 1-C26 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
1-102	LOCKOUT RELAY (86, 10 contacts)	Supply as loose part, to be installed in exisiting panel 8R . Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	17,968.00	17,968.00
1-103	BREAKER CONTROL SWITCH (CS)	Supply as loose part, to be installed in exisiting panel 8R . Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	3,871.00	3,871.00
1-104	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as loose part, to be installed in exisiting panel 8R . Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	5,002.00	5,002.00
1-105	PUSH BUTTON	Supply as loose part, to be installed in exisiting panel 8R . Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	332.00	332.00

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- Project 1-C27 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-106	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as loose part, to be installed in exisiting panel 8R . Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	1,007.00	1,007.00
1-107	LL	Supply as loose part, to be installed in exisiting panel 8R . Drawing Nos.NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	1,004.00	1,004.00
1-108	TEST SWITCH (TS, for relays)	Supply as loose part, to be installed in exisiting panel 8R . Drawing Nos. NT-E-1.1,NT-E-2.2,NT-E-2.3 and NT-E-3.1	1	EA	5,089.00	5,089.00
1-109	BUS DIFFERENTIAL RELAY (Low Impedance-No Switching Zone)	Supply as loose part.Specification No. 1002. Dwg.No.KK2-E-2	1	EA	486,869.00	486,869.00
1-110	LINE CURRENT DIFFERENTIAL RELAY (87L)	Supply as loose part.Specification No. 1002	1	EA	336,515.00	336,515.00

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- Project 1-C28 -

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MEDIUM COST FOR BID NO. TS12-CR-04
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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-111	BREAKER FAILURE RELAY (50BF+62BF)	Supply as loose part.Specification No. 1002	1	EA	88,595.00	88,595.00
1-112	TRANSFORMER DIFFERENTIAL RELAY (87K, 5 restraint windings)	Supply as loose part.Specification No. 1002. Dwg.No.KA-E-2.2	1	EA	264,648.00	264,648.00
1-113	FREQUENCY RELAY (81)	Supply as loose part.Specification No. 1002	1	EA	26,980.00	26,980.00
1-114	DISTANCE RELAY (21) FOR 115 kV without 79/25	Supply as loose part.Specification No. 1002	1	EA	204,097.00	204,097.00
1-115	TRANSFORMER OVERCURRENT RELAY (51T/51TG, 51L/51LG,51/51G,51S/51SG,51C/51CG)	Supply as loose part.Specification No. 1002	1	EA	63,593.00	63,593.00
1-116	AUTO RECLOSING RELAY (79)	Supply as spare part,Specification No. 1002	1	EA	59,056.00	59,056.00
1-117	OVERCURRENT GROUND BACKUP RELAY (51GB)	Supply as spare part,Specification No. 1002	1	EA	63,593.00	63,593.00

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- Project 1-C29 -

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT)	
					Baht	
					Unit Price	Amount
1-118	MCB, 6A, 2 POLE FOR DC SUPPLY	Supply as spare part, Specification No. 1002	50	EA	1,007.00	50,350.00
1-119	DC UNDERVOLTAGE RELAY (27XB,27XR)	Supply as spare part, Specification No. 1002	20	EA	5,002.00	100,040.00
1-120	CUT OFF SWITCH, 10 CONTACTS (DTTCO, 87CO, 86ACO, 50/51SCO)	Supply as spare part, Specification No. 1002	20	EA	1,808.00	36,160.00

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MEDIUM COST FOR BID NO. TS12-CR-04

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 Equipment	
					Local Supply	
					Ex-works Price (excluding VAT) Baht	
					Unit Price	Amount
	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 2. OFC INTERFACING PANEL consists of the following equipment - 19" Rack Panel and accessories - Fiberframe Termination Cabinet with Cable Tray - 36 Pigtails (1.5 m) - Patch Cord Cable Remark : The length of patch cord cable shall be 50 meter					
Total Price for Schedule 1					Baht	42,467,547.00

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DATA SHEET
for
Invitation to Bid No. TS12-CR-04

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 3,395,000.-.

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. Information to be Submitted with Bid:

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>	<u>Period of Guarantee (Year)</u>
- Fault Recording System	2
- Control and Protection System	2
- <u>For Shunt Reactor, 200 MVA 230 kV and above Power Transformer and 500 kV System Voltage Equipment</u>	

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 Failure to Meet Requirements in section E and Maintenance Guarantee 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-04
SUPPLY OF CONTROL AND PROTECTION EQUIPMENT
TRANSMISSION SYSTEM EXPANSION PROJECT NO.12

A-1. 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.

A-2. Eligibility of Bidders: General Requirements

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

- a. 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. The Bidder shall neither fail to submit the Revenue and Expense Accounts nor fail to present proper and complete accounts to the Revenue Department of Thailand, in accordance with the Notification of the National Anti-Corruption Commission Concerning Principles and Methods of Preparing Revenue and Expense Accounts of Project between Individual/Company and Government Agencies B.E. 2554 (A.D. 2011) as amended from time to time (“the Notification”).
- f. The Bidder shall register for e-Government Procurement (e-GP) at Thai Government Procurement website (www.gprocurement.go.th) at telephone No. 662 1277386 – 89) of the Comptroller General’s Department of Thailand.

Due to the fact that the e-GP system is not ready for registration for foreign Bidders who have no taxpayer identification number at this moment, foreign Bidders are, therefore, temporarily released from this qualification. However, whenever the e-GP system is ready, all foreign Bidders shall register in the e-GP system.

- g. 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.
- h. 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.
- i. 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.
- j. 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.
- k. 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.
- l. The Bidder shall not propose to supply the Equipment from the country under the state of war whether declared or not.

- m. The Bidder shall have adequate fund to meet financial obligations incidental to this Contract.
- n. The Bidder shall submit documentary evidence established in accordance with Article B-8. Information to be Submitted with Bid to demonstrate the Bidder's sufficient eligibility to bid and qualification to perform the Contract.

A-3. Eligibility of Bidders: Technical Requirements

I. All Bidders shall meet the following requirements; failure to so comply shall 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.