E L E C T R I C I T Y G E N E R A T I N G A U T H O R I T Y O F T H A I L A N D

SUPPLEMENTAL NOTICE NO. 1

INVITATION TO BID NO. RTS2-S-10

SUPPLY AND CONSTRUCTION OF 115 kV KHON KAEN 1 SUBSTATION (GIS)
AND IMPROVEMENT OF 115 kV KHON KAEN 2 SUBSTATION

TRANSMISSION SYSTEM EXPANSION AND RENOVATION PROJECT PHASE 2
FIRE PROTECTION SYSTEM PHASE 3

The attached Supplemental Notice shall be considered as part of the bidding documents No. RTS2-S-10.

As acknowledgement of receipt that all additions, deletions and revisions contained in this Supplemental Notice are incorporated into the above bidding documents, Bidder is requested to sign and return this acknowledgement via email address : pirada.s@egat.co.th within three (3) days from the date of the announcement of this Supplemental Notice on http://www4.egat.co.th/fprocurement/biddingeng/.

The original acknowledgement which is manually signed in ink by a person or persons duly authorized shall be included in the proposal to be submitted on the bid opening date.

ELECTRICITY GENERATING AUTHORITY OF THAILAND

September 23, 2019

ACKNOWLEDGEMENT

This undersigned Bidder hereby certifies that the additions, deletions and revisions set forth in this Supplemental Notice to Invitation to Bid No. RTS2-S-10 are incorporated as part of the above bidding documents and will be fully included in any bid which he may submit.

Signed _____

Title _____

Company _____

Date _____

ELECTRICITY GENERATING AUTHORITY OF THAILAND

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TRANSMISSION SYSTEM EXPANSION AND RENOVATION PROJECT PHASE 2

FIRE PROTECTION SYSTEM PHASE 3

The following supplemental information is hereby given for the above described Invitation:

Volume II of IV

Section I : Ratings and Features

Replace Ratings and Features No. MS2782(IEC) pages I26-I29 with the revised pages with (Rev.1) attached.

Bid submitted must be in accordance with this Notice. Receipt of this Notice shall be acknowledged by the Bidder on the proposal included in the Bidding Documents in the space provided on page Part 3-C21, Article C-5 Supplemental Notices.

ELECTRICITY GENERATING
AUTHORITY OF THAILAND

September 23 , 2019

a.	Type	Metal-Clad, Indoor installation, SF_6- insulated	
b.	Enclosure	Single phase or three phases enclosure	
c.	Rated voltage	24	kV
d.	Number of phase	3	
e.	Rated frequency	50	Hz
f.	The maximum permissible partial discharge level at 110 % rated voltage	< 20	pC
g.	Rated insulation level		
	- Rated short-duration power-frequency withstand voltage, r.m.s	50	kV
	- Rated lightning impulse withstand voltage, peak	125	kV
h.	Current rating		
	- Rated normal current		
	- Busbar	2,000	A
	- Feeders		
	- Incoming Feeder	2,000	A
	- Outgoing Feeder 1 (to PEA)	2,000	A
	- Outgoing Feeder 2 (to C-Bank)	630	A
	- Rated short time (1 s) withstand current for main and earthing circuit	25	kA
	- Rated peak withstand current for main and earthing circuit	63	kA
i.	Busbar material	Copper or better	
j.	Circuit Breaker		
	- Type of mechanism	Vacuum circuit breaker, 3 pole, Spring operated	
	- Rated insulation level		
	- Rated short-duration power-frequency Withstand voltage, r.m.s	50	kV
	- Rated lightning impulse withstand voltage, peak	125	kV
	- The maximum permissible partial discharge level at 110 % rated voltage	< 20	pC
	- Rated normal current		
	- Feeder Circuits		
	- Outgoing Feeder 1(to PEA)	2,000	A
	- Outgoing Feeder 2(to C-Bank)	630	A
	- Rated short time (1 s) withstand current	25	kA
	- Rated short circuit breaking current	25	kA
	- Rated interrupting time	5	Cycles
	- Rated short circuit making current	63	kA
	- Type of tripping	Three poles	
	- Rated operating sequence	CO – 15s - CO	
	- Rated control circuit voltage	125	Vdc

- Max/Min control circuit voltage
  - Trip coil 137.5/87.5 Vdc/Vdc
  - Closing coil 137.5/106.25 Vdc/Vdc
- External AC power source 400/230 Vac, 50 Hz

k. Disconnecting Switch Combined with Standard Earthing Switch (Class A)
- Type: Triple pole, Triple throw and Single break
- Rated insulation level
  - Rated short-duration power-frequency withstand voltage, r.m.s.
    - Phase-to-earth: 50 kV
    - Across the isolating distance: 60 kV
  - Lightning impulse withstand voltage, peak
    - Phase-to-earth: 125 kV
    - Across the isolating distance: 145 kV
- Rated normal current
  - Feeder Circuits
    - Incoming Feeder: 2,000 A
    - Outgoing Feeder 1 (to PEA): 2,000 A
    - Outgoing Feeder 2 (to C-Bank): 630 A
- Rated short time (1 s) withstand current: 25 kA
- Rated peak withstand current: 63 kA
- Operating mechanism: Motor and emergency manual operation
- Mechanical interlocks: to be provided
- Operating and control voltage: 125 Vdc

l. Standard Earthing Switch at Main Bus (Class A)
- Type: Triple pole, Single throw and Single break
- Rated short time (1 s) withstand current: 25 kA
- Rated peak withstand current: 63 kA
- Operating mechanism: Motor and emergency manual operation
- Operating and control voltage: 125 Vdc

m. Voltage Transformer
- for all VTs As specified in DWG. No. KK1-S-1 sheet 04/04
- Quantity per bus: 3
- Highest voltage for equipment (Um): 24 kV
- Rated primary voltage (U_{Pr}): $22/\sqrt{3}$ kV
- Voltage ratio: 200 & 200 : 1
- Secondary voltage rating
  - No 1 secondary winding: $110/\sqrt{3}$ V
  - No 2 secondary winding: $110/\sqrt{3}$ V
- Burden
  - No 1 secondary winding: 25 VA
  - No 2 secondary winding: 25 VA
  - Simultaneous: 25 VA
- Accuracy class
  - No 1 secondary winding: 0.2
  - No 2 secondary winding: 0.2
- Polarity: Subtractive

n. Current Transformer

- for QW11A, QW12A and QW13A As specified in DWG. No. KK1-S-1 sheet 04/04

- Quantity per phase	1	
- No of core	2	
- Current ratio		
- Core No 1	1800 : 1	
- Core No 2	1800 : 1	
- Continuous thermal current rating factor	1.0	
- Accuracy class	5P20, 30 VA	
- Polarity	Subtractive	
- Thermal short time current rating for 1 s	25	kArms
- Mechanical short time current rating, peak	63	kApeak

- for QW11B, QW12B and QW13B As specified in DWG. No. KK1-S-1 sheet 04/04

- Quantity per phase	1	
- No of core	2	
- Current ratio		
- Core No 1	800/1600 : 1	
- Core No 2	800/1600 : 1	
- Continuous thermal current rating factor	1.0	
- Accuracy class	0.2S, 30 VA	
- Polarity	Subtractive	
- Thermal short time current rating for 1 s	25	kArms
- Mechanical short time current rating, peak	63	kApeak

- for QW31A, QW32A and QW33A As specified in DWG. No. KK1-S-1 sheet 04/04

- Quantity per phase	1	
- No of core	2	
- Current ratio		
- Core No 1	600 : 1	
- Core No 2	600 : 1	
- Continuous thermal current rating factor	1.0	
- Accuracy class	5P20, 30 VA	
- Polarity	Subtractive	
- Thermal short time current rating for 1 s	25	kArms
- Mechanical short time current rating, peak	63	kApeak

o. Surge Arrester

- Voltage rating	24	kVrms
- Duty cycle test current	10	kA

p. Terminations

- Type	Cable terminations, Dry type plug in	
- Number per feeder	as specified in Single Line Diagram Drawing	
- Rated insulation level		
- Rated short-duration power-frequency Withstand voltage, r.m.s.	50	kV
- Rated lightning impulse withstand voltage, peak	125	kV
- Rated normal current		
- Feeder Circuits		
- Incoming Feeder	2,000	A
- Outgoing Feeder 1(to PEA)	2,000	A
- Outgoing Feeder 2 (to C-Bank)	630	A

- Cable size
  - Feeder Circuits
    - Incoming Feeder — 2x1/C-500 — mm^2/phase
    - Outgoing Feeder 1 (to PEA) — 2x1/C-500 — mm^2/phase
    - Outgoing Feeder 2 (to C-Bank) — 1x1/C-500 — mm^2/phase
  - Rated short time (1 s) withstanding current — 25 — kA
  - Rated peak withstand current — 63 — kA

q. Rated control circuit voltage — 125 — Vdc

r. Application Standard — IEC 62271-200