

C3 Schedule of detailed requirement

Invitation to Bid No.:

Item	PEA Material No.	Quantity	Description
1	-	set(s)	<p>Acoustic Sound Imaging for Ultrasound, one-handed carrying handle (built-in type), to use for locating sound sources from Electric power System (Partial Discharge) and to characterize them, It consists of a group of MEMS (Micro Electro Mechanical Systems), from which signals are simultaneously collected and processed to form a representation of the location of the sound sources, consisting of :</p> <p>1.1 Acoustic Sound Imaging for Ultrasound, with :</p> <p>1). General</p> <p>Carrying handle : one-handed carrying handle (built-in type) for convenience, The handle is designed to held with one hand in balance ergonomics to help users from fatigue. Convenience to hold camera by one hand and use other hand to take snapshots, zoom or adjust parameters.</p> <p>Display : not less than 5" LCD with touchscreen</p> <p>Display resolution : not less than 800 x 480 pixels</p> <p>Weight : not more than 1.25 kg (2.79 lb) including battery. Light weight, easy for carrying</p> <p>Operating temperature : up to 50°C (122°F), or better</p> <p>Protection standard : IP51, or better</p> <p>Relative humidity : 10% to 85%, or better</p> <p>Battery and Charging : rechargeable Battery with adapter single phase, 230 Vac ± 10%, 50 Hz</p> <p>Battery life : not less than 2 hours continuous operation</p> <p>Zoom : 2x digital zoom</p> <p>Storage capacity : up to 32 GB or up to 999 records</p> <p>Video format : *.avi or *.wmv or *.mpeg4 or *.webm, or more</p>

C3 Schedule of detailed requirement

Invitation to Bid No.:

Item	PEA Material No.	Quantity	Description
			<p>Interface : Wi-Fi and USB or more for transferring data for update a new firmware of wireless for uploading data to cloud.</p> <p>Languages : English and Thai for software and firmware, Thai and English languages support in the camera and cloud. Easy for users</p> <p>2). Camera & Optical System</p> <p>Video range : at least 5 minute, or more</p> <p>3). Acoustic Specification</p> <p>Microphones : not less than 124 low-noise MEMS microphones</p> <p>Frequency : not less than 2 to 65 kHz</p> <p>Detection distance range : 0.5 to 100 m, or better</p> <p>Sensitivity : up to -15 dB or detect a least 3.33 cc/sec at 10 m</p> <p>Acoustic frame rate : not less than 25 fps</p> <p>Source visualization : detect more than single source in display</p> <p>PD Classification features : real-time PRPD pattern on display, Recognizes the sounds partial discharges emit and distinguishes them from other sounds.</p> <p>4). Legal</p> <p>RoHS Compliant : yes</p> <p>Safety/Certifications : yes (Standard of EMC, CE, KC, FCC, etc.)</p>

C3 Schedule of detailed requirement

Invitation to Bid No.:

Item	PEA Material No.	Quantity	Description
			<p>5). Report</p> <p>Data analysis and reporting by machine learning based analysis on cloud comprising useful function for windows operating system, completed with offline software , with :</p> <ul style="list-style-type: none"> - Automatically generate PDF reports. Generate reports via use wireless connecting to cloud system, Support smart mobile device or computer. - Partial discharge type classification and severity assessment with recommended actions by using the AI-powered to analyzer problems. - Data transmission/Download file - Image/Video viewer - Replay Video <p>Complete with :</p> <ol style="list-style-type: none"> 1. Carrying Case 2. Instruction manual in English and Thai 3. Other accessories according to manufacturer's design and auxiliary equipment necessary to complete. 4. One (1) set battery charger and two (2) sets battery 5. AC Power adapter, single phase, 230 VAC, 50 Hz 6. Color inkjet multifunction printer (print, scan and copy), resolution 4,800x1,200 dpi for full color report, A4 document size or better 7. Other accessories according to manufacturer's design and auxiliary equipment necessary to complete.



C3 Schedule of detailed requirement

Invitation to Bid No.:

Item	PEA Material No.	Quantity	Description
			<p>1.2 Notebook computer with</p> <p>Processor CPU : Intel Core i7, Gen 11th, 2.80 GHz or better</p> <p>Core CPU : not less than 4 cores, 8 threads</p> <p>Cache CPU : not less than 12 MB</p> <p>Memory RAM : not less than 16 GB LPDDR4x or better</p> <p>Storage : not less than 256 GB SSD (removable)</p> <p>Display : not less than 12.3” color display, 100% sRGB color or better with touchscreen</p> <p>Operation System : Window 10 Pro 64-bit or later edition with Digital license or Full package Product (FPP)</p> <p>Wireless : Wi-fi 6 and Bluetooth 5.0 and LTE Advanced with removeable SIM or eSIM support or better</p> <p>Network port : Ethernet port (Adapter accepted)</p> <p>Connection port : USB-A 3.0 and USB-C 3.1 or better</p> <p>Display port : VGA or HDMI (Adapter accepted)</p> <p>Battery Life : up to 15 hours (for typical device usage)</p> <p>Camera : Front-facing camera with 5.0MP or better Rear-facing camera with 8.0MP or better</p> <p>Accessories : Bluetooth Pen, Bluetooth Mouse, Bluetooth Keyboard with trackpad</p> <p>Weight : not more than 1.000 kg (exclude accessories)</p> <p>Power supply : Single phase, 230 VAC, 50 Hz and battery operated</p> <p>Warranty : 1-year limited hardware warranty</p>

C3 Schedule of detailed requirement

Invitation to Bid No.:

Item	PEA Material No.	Quantity	Description
			<p>The notebook computer shall be completed with :</p> <ul style="list-style-type: none"> ● Microsoft Office Home & Business 2019 with product license or later edition ● Antivirus software (later edition) with product license ● Power supply adapter and Power cord ● Notebook Bag <p>Note :</p> <ol style="list-style-type: none"> 1. The bidder has to quote the unit costs. 2. The bidders shall be sole distributor or authorized representative and have permanent office in Thailand; otherwise, shall not be accepted. 3. The device is able to search details or catalogs on the manufacturer's website. If any information does not match the manufacturer's website, PEA will not be considered. 4. The bidder has to quote training course, spare parts and optional accessories with a list of quantities and their itemized prices, if any; PEA reserves the right to purchase the training course, spare parts and optional accessories by some or all of items, to adjust their quantities, or to cancel them. 5. Evaluation and comparison of bid price shall not include the training course, spare parts and optional accessories. 6. The bidder has to submit sufficient references describing the previous experience of the suppliers (e.g. list of supply of equipment and/or materials having the same of similar design as proposed, field experience, the registration of TISI, the copies of license, etc.) to the satisfaction of PEA. 7. Training course shall be provided by the contractor for two (2) PEA's personnel per each unit, not less than one (1) day, for operation and maintenance of Acoustic Sound Imaging for Ultrasound complete with



C3 Schedule of detailed requirement

Invitation to Bid No.:

Item	PEA Material No.	Quantity	Description
			<p>software training, the contractor has to support for all expenses.</p> <p>8. The Contractor has to guarantee the quality of Acoustic Sound Imaging for Ultrasound including service and technical support for one (1) year from date of issuance of the notice of acceptance. During the guarantee period, the contractor shall replace the defective Acoustic Sound Imaging for Ultrasound for free of charge or shall pay an amount equal to the exact purchasing value for the defective quantity of the Acoustic Sound Imaging for Ultrasound.</p> <p>9. The bidders have to supply one (1) complete set the Acoustic Sound Imaging for Ultrasound and accessories to the site of PEA for demonstration, within five (5) days, counted from the bid closing date. The sample will be returned after consideration. Any bidder cannot supply sample, the bid shall be rejected. In case of the Acoustic Sound Imaging for Ultrasound and/or accessories are not functional with PEA's requirement, the bid shall be rejected</p> <p>10. กฟภ. ขอสงวนสิทธิ์ในการแจ้งให้บริษัทยื่นเสนอราคานำอุปกรณ์มาทดสอบเพื่อทำการตรวจรับกับอุปกรณ์ในระบบไฟฟ้า ตามหัวข้อการทดสอบที่ กฟภ. มีการใช้งาน</p>



PROVINCIAL ELECTRICITY AUTHORITY

Specification No.: RTES-N1-กบข.-002/2565 : Acoustic Sound Imaging for Ultrasound

C4 Price schedule

Invitation to Bid No.:

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
1			<p>Acoustic Sound Imaging for Ultrasound, one-handed carrying handle (built-in type), to use for locating sound sources from Electric power System (Partial Discharge) and to characterize them, It consists of a group of MEMS (Micro Electro Mechanical Systems), from which signals are simultaneously collected and processed to form a representation of the location of the sound sources, consisting of :</p> <p>1.1 Acoustic Sound Imaging for Ultrasound, with :</p> <p>1). General</p> <p>Carrying handle :</p> <p>Display :</p> <p>Display resolution :</p> <p>Weight :</p>			



PROVINCIAL ELECTRICITY AUTHORITY

Specification No.: RTES-N1-กบข.-002/2565 : Acoustic Sound Imaging for Ultrasound

C4 Price schedule

Invitation to Bid No.:

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
			Operating temperature : Protection standard : Relative humidity : Battery and Charging : Battery life : Zoom : Storage capacity : Video format : Interface : Languages : 2). Camera & Optical System Video range : 3). Acoustic Specification Microphones :			



PROVINCIAL ELECTRICITY AUTHORITY

Specification No.: RTES-N1-กบข.-002/2565 : Acoustic Sound Imaging for Ultrasound

C4 Price schedule

Invitation to Bid No.:

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
			Frequency : Detection distance range : Sensitivity : Acoustic frame rate : Source visualization : PD Classification features : 4). Legal RoHS Compliant : Safety/Certifications : 5). Report: - -			



PROVINCIAL ELECTRICITY AUTHORITY

Specification No.: RTES-N1-กบข.-002/2565 : Acoustic Sound Imaging for Ultrasound

C4 Price schedule

Invitation to Bid No.:

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
			<p>-</p> <p>-</p> <p>-</p> <p>Complete with :</p> <p>1.</p> <p>2.</p> <p>3.</p> <p>4.</p> <p>5.</p> <p>6.</p> <p>7.</p>			



PROVINCIAL ELECTRICITY AUTHORITY

Specification No.: RTES-N1-กบข.-002/2565 : Acoustic Sound Imaging for Ultrasound

C4 Price schedule

Invitation to Bid No.:

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
			1.2 Notebook computer with Processor CPU : Core CPU : Cache CPU : Memory RAM : Storage : Display : Operation System : Wireless : Network port : Connection port :			



PROVINCIAL ELECTRICITY AUTHORITY

Specification No.: RTES-N1-กบข.-002/2565 : Acoustic Sound Imaging for Ultrasound

C4 Price schedule

Invitation to Bid No.:

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
			Display port :			
			Battery Life :			
			Camera :			
			Accessories :			
			Weight :			
			Power supply :			
			Warranty :			



PROVINCIAL ELECTRICITY AUTHORITY

Specification No.: RTES-N1-กบข.-002/2565 : Acoustic Sound Imaging for Ultrasound

C4 Price schedule

Invitation to Bid No.:

Manufacturer :

Country of origin :

Trade-mark :

Item	PEA Material No.	Catalogue No.	Description	Quantity	Unit Cost (See details & conditions attached)	Total Cost (See details & conditions attached)
			<p>Spare parts (Give detail)</p> <p>1)</p> <p>2)</p> <p>3)</p> <p>4)</p> <p>5)</p> <p>Optional accessories (Give details)</p> <p>1).....</p> <p>2)</p> <p>3)</p> <p>4)</p>			