

## POWER SYSTEM STANDARD DIVISION

Specification No.: RTES-102/2553: TRANSFORMER WINDING RESISTANCE TEST SET

Page 1 of 4

#### C3 Schedule of detailed requirement



	Invitati	Invitation to Bid No.:			
		PEA			
	Item	Material	Quantity		Description
		No.			
	1	1090150038	set(s)	Transformer winding res	istance test set, portable type, suitable for low
				resistances measurement o	n distribution transformer, with:
				Digital display	: not less than 31/2 digits
				Measuring channel	: not less than two (2) channels
				Test current	: up to 5 A DC, or better
)				Test voltage	
				(open circuit test)	: not less than 30 VDC
	<u> </u>			Resistance measuring	
				- range	: multi-range, 1.999 $m\Omega$ range to 1,999 $\Omega$
					range, or better
				- accuracy	: $\pm 0.5$ % of reading $\pm 0.5$ % of full scale, or
				a l	better
				- resolution	: 1 $\mu\Omega$ at 2 $m\Omega$ range, or better
				Power supply	: single- phase, 220 VAC, 50 Hz
				Operating temperature	: up to 40°C
1				Complete with:	
7				1. Power supply cord and plug.	
				2. Kelvin clip 10 A, with	lead of not less than 3 m longs.
				3. Built-in discharge circ	uit.
				4. Carrying case(s) for tra	ansportation and storage the equipment.
<ul><li>5. Instruction manual for operation.</li><li>6. Other accessories according to manufacturer's</li></ul>		operation.			
		cording to manufacturer's design and auxiliary			
The second second				equipment necessary to complete the sound function.	
	•				
	2	-	lot(s)	Spare parts, for two-year o	peration of the test instrument in Item 1.
	3	-	lot(s)	Optional accessories for Item 1	
					5
		II			
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## POWER SYSTEM STANDARD DIVISION

Specification No.: RTES-102/2553 : TRANSFORMER WINDING RESISTANCE TEST SET

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#### C3 Schedule of detailed requirement

-	1	on to blu No.:	Т			
		PEA	10000			
I	tem	Material	Quantity	Description		
		No.				
	4	1090150039	set(s)	Transformer winding resistance test set, portable type, suitable for low		
	-			resistances measurement on	distribution transformer, with:	
				Digital display	: not less than 4 digits	
				Measuring channel	: not less than two (2) channels, and can be	
					shown simultaneously	
				Test current	: up to 10 A DC, or better	
				Test voltage		
				(open circuit test)	: not less than 30 VDC	
	8			Resistance measuring	*	
				- range	: multi-range, 1.999 $m\Omega$ range to 1,999 $\Omega$	
				-	range, or better	
	10			- accuracy	: $\pm 0.1$ % of reading $\pm 0.1$ % of full scale, or	
					better	
				- resolution	: 0.1 $\mu\Omega$ at 2 $m\Omega$ range, or better	
				Power supply	: single- phase, 220 VAC, 50 Hz	
				Operating temperature	: up to 40°C	
<b>Y</b>						
1		=		Complete with:		
				1. Power supply cord and	plug.	
				2. Kelvin clip with lead o	f not less than 3 m longs.	
				3. Built-in discharge circu	uit.	
				4. Carrying case(s) for tra	insportation and storage the equipment.	
				5. Instruction manual for	operation.	
				6. Other accessories acc	cording to manufacturer's design and auxiliary	
				equipment necessary to	complete the sound function.	
	5	-	lot(s)	Spare parts, for two-year or	peration of the test instrument in Item 4.	
	6		lot(s)	Optional accessories for Item 4		
		II				



#### POWER SYSTEM STANDARD DIVISION

 $Specification\ No.:\ RTES-102/2553:TRANSFORMER\ WINDING\ RESISTANCE\ TEST\ SET$ 

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#### C3 Schedule of detailed requirement

Invitat	nvitation to Bid No.:			
	PEA	30.25		100 H 200
Item	Material	Quantity		Description
	No.			
7	S29	set(s)	Transformer winding resistant	nce test set, portable type, suitable for low
			resistances measurement and	d'heat run test on distribution and power
			transformers, with:	
			Display	: not less than 41/2 digits, LCD display, or
				better 🐇
			Measuring channel	: not less than two (2) channels, and can
				be shown simultaneously
			Test current	: up to 30 A at 30 VDC, or better
	e		Test voltage	
			(open circuit test)	: 30 VDC, or better
			Resistance measuring	
			- range	: 0.1 $\mu\Omega$ to 20 $k\Omega$ , or better
			- accuracy	: $\pm 0.1$ % of reading $\pm 0.05$ % of full scale, or
				±0.1 % of reading ±2 last significant
				digits(LSD), or better
			- resolution, the best	: 0.1 $\mu\Omega$ , or better
		=	Memory	: built in or external memory, up to 32
				measurement results
			Weight	: not more than 30 kg
			Power supply	: single- phase, 220 VAC, 50 Hz
			Operating temperature	: up to 40°C, or better
			Complete with:	
			1. Power supply cord and plug.	
			2. Surface temperature sensor with cable, not less than 30 m long/cable.	
			3. Two (2) high-current sup	oply cables with clamps, not less than 10 m
			long/cable.	
			4. Not less than two (2) mea	asuring cables with clamps, not less than 10 m
			long/cable.	
			5. Application software for	remote operation, data collecting, transformer
			heat run testing, export fun	ectionality to MS Excel and ASCII.
	II		6. Communication port for in	terfacing with PC and/or printer.



### POWER SYSTEM STANDARD DIVISION

Specification No.: RTES-102/2553: TRANSFORMER WINDING RESISTANCE TEST SET

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#### C3 Schedule of detailed requirement

No.   Post   P	Invitation to Bid No.:			
No.  7. Built-in discharge circuit.  8. Carrying case(s) for transportation and storage the equipment.  9. Instruction manual for operation.  10. Other accessories according to manufacturer's design and auxiliary equipment necessary to complete the sound function.  8 - lot(s)  Spare parts, for two-year operation of the test instrument in Item 7.  Note:  1. The bidder has to quote the unit costs.  2. The bidder has to quote spare parts and optional accessories (if any) with a list of quantities and their itemized prices, if any, PEA reserves the right to purchase the spare parts and the optional accessories by some or all of items, to adjust their quantities, or to cancel them.  3. Evaluation and comparison of bid price shall not include the spare parts and optional accessories.  4. The bidder shall be sole distributor or authorized representative and have a permanent office in Thailand; otherwise shall not be accepted.  5. 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.  6. The contractor has to submit the Certificate of calibration and calibration test report from Accreditation Bodies (PTB, NPL, NIST, or equivalent) or from the laboratories, which have been accredited by such the Accreditation Bodies.	PEA Quantity		Quantity	Description
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# PROVINCIAL ELECTRICITY AUTHORITY TECHNICAL SPECIFICATION DIVISION

อุปกรณ์ประกอบเพิ่มเติมเครื่องมือ Transformer Winding Resistance Test Set

Specification No.: RTES-102/2553 Approved date: Rev. No.: - Form No.: - Page 1 of 1

## เอกสารเพิ่มเติมแนบท้ายรายละเอียดสเปค (ADDENDUM)

เอกสารเพิ่มเติม (ADDENDUM) นี้ ให้ถือเป็นส่วนหนึ่งของรายละเอียดสเปคที่เอกสารฯ นี้ได้แนบอยู่ด้วย

ผู้ยื่นข้อเสนอที่ได้รับการคัดเลือกให้เป็นผู้ขายจะต้องจัดหาอุปกรณ์ประกอบการใช้งานเครื่องมือ Transformer Winding Resistance Test Set เพิ่มเติมจากรายละเอียดคุณลักษณะเฉพาะ จำนวน 3 รายการดังนี้

- 1. Transformer Winding Resistance Test Set
  - 1.1 Built-in Battery ซึ่งสามารถใช้งานอย่างต่อเนื่องไม่น้อยกว่า 4-6 ชั่วโมง
  - 1.2 Built-in printer , มีหน่วยความจำในต่อเครื่อง ,โอนย้ายข้อมูลผ่าน USB Memory ได้
  - 1.3 Communication: USB or Bluetooth
  - 1.4 Display: Colour and Touch screen
  - 1.5 ต้องมีฟังก์ชั่น Demagnetization and Heat Run Test สำหรับการทดสอบขดลวดหม้อแปลงไฟฟ้า
  - 1.6 ต้องมีสายทดสอบความยาวไม่น้อยกว่า 3 เมตร และมีสายเพิ่มเติมไม่น้อยกว่า 5 เมตร
- 2. Multifunction Laser Printer จำนวน 1 เครื่อง

2.1 Technology : laser

2.2 Function : Print ,Copy ,Scan

2.3 Memory : 256 MB DDR, 256 MB Flash or better

2.4 CPU : 800 MHz ,or better

2.5 Media sizes : up to A4

2.6 Resolution : 600 dpi x 600 dpi, or better
2.7 Printing speed : up to 12 ppm (color) in A4
2.8 Communication and : USB port, Wi-Fi ,TCP/IP
2.9 Power supply : Power supply 220VAC,50 Hz

3. Notebook computer จำนวน 1 เครื่อง

3.1 CPU : Intel Core i7 -10510U (4core/8 threads,1.80 GHz, up to 4.9 GHz, with

Turbo Boost,8MB Cache), or better

3.2 Memory : 8 GB DDR4, or better

3.3 Hard Disk : not less than 1000 GB M.2 2280 SSD

3.4 Monitor : 15.6-inch FHD, or better

3.5 Video Memory: not less than 1 GB

3.6 ติดตั้งระบบปฏิบัติการ Windows และ Microsoft office (เวอร์ชั่นล่าสุด)

โดยให้ผู้ยื่นข้อเสนอที่ได้รับการคัดเลือกให้เป็นผู้ขายจะต้องจัดส่งอุปกรณ์ดังกล่าวมาพร้อมกับพัสดุหลัก