



## SUPPLEMENTAL / BID BULLETIN

### ADDENDUM NO. 01

This SBB Addendum No. 01 dated 14 March 2024, for the Project: "PROCUREMENT OF ELECTRICAL POWER SYSTEMS LABORATORY TRAINER" is issued to clarify, modify or amend items in the Bidding Documents. Accordingly, this shall form an integral part of said Documents (Note: For this SBB and a better understanding of its contents, the following rules shall apply: (a) ~~Double Strike-out~~ – denotes deletion, and (b) Underline with yellow highlights – implies inclusion or new item/requirement).

Based on the Discussion during the Pre-bid Conference and upon the recommendation of the Technical Working Group and the End-User Unit conducted last March 13, 2024 @ 01:00 pm for this Project, the following are the revisions:

1. On Section VII, Technical Specification, pages 25-28:

#### Technical Specifications

ITEM NO.	ITEM AND DESCRIPTION	QTY	UNIT	STATEMENT OF COMPLIANCE
				<p>[Bidders must state here either "Comply" or "Not Comply" against each of the individual parameters of each Specification stating the corresponding performance parameter of the Equipment offered. Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of Specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder's statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification, or the execution of the Contract may be regarded as fraudulent and render the Bidder or Supplier liable for prosecution subject to the applicable laws and issuances.]</p>
	<b>Procurement of Electrical Power Systems Laboratory Trainer</b>	1	Lot	
1	<b>Transmission Line Simulator</b> <b>Key Features</b>			



	<ul style="list-style-type: none"> <li>• Fault application switch and earth fault resistors allow studies of earth fault currents and the operation of relays of varying sensitivity</li> <li>• Enables 'Pi' or 'Tee' methods of loss profiling</li> <li>• Single and three-phase lines for separate tests</li> <li>• Built-in industrial-standard digital protection relay gives wide range of functions – module includes extra socket for additional relay to give more experiments •</li> <li>Includes supplies, circuit protection, internal load banks, instruments and controls</li> </ul>			
	<p>Key Specifications</p> <ul style="list-style-type: none"> <li>• Single-phase and three-phase lines</li> <li>• Six-section three-phase line</li> <li>• Resistive, inductive and capacitive loads</li> <li>• Overcurrent protection relay</li> </ul>			
	<p>Learning Outcomes Single-phase line:</p> <ul style="list-style-type: none"> <li>• Short-line investigation</li> <li>• Medium or long-line investigation (nominal 'Tee' and 'Pi' methods)</li> <li>• Effect of power and reactive power flow on voltage drop and transmission angle</li> <li>• Medium/long-line investigation of a natural load of a line</li> <li>• Voltage regulation at constant load and power factor</li> </ul> <p>Three-phase lines:</p> <ul style="list-style-type: none"> <li>• Per-unit values</li> <li>• Unbalanced loads and the neutral connection</li> <li>• Fault simulation and line protection studies</li> <li>• Parallel feeders and multi-section lines</li> </ul>			
	<p>The single-phase transmission line includes a set of inductive impedances connected in series. Tapping points allow the user to:</p> <ul style="list-style-type: none"> <li>• change the length of the simulated line;</li> <li>• set up 'Pi' or 'Tee' methods of loss profiling using different values of capacitance; and</li> <li>• monitor the voltage, current and power at any point along the line.</li> </ul>			
	<p>The three-phase transmission line is in six sections represented in 'per-unit' values. Facilities include:</p> <ul style="list-style-type: none"> <li>• Operating under variable balanced or unbalanced RLC (resistive, inductive and capacitive) loads</li> <li>• Selectable neutral</li> <li>• Provision to vary the length parameters</li> </ul>			
	<p>Line Simulation: Inductors, with three-phase line represented in per-unit values</p> <p>Three Phase Lines:</p> <p>Five sections, each at 0.15 p.u. value: 75 km of 132 kV line on a 100 MVA base</p> <p>One section at 0.25 p.u. value: 125 km of 132 kV line on a 100 MVA base</p> <p>Three - phase load banks : Resistive, inductive and capacitive</p>			

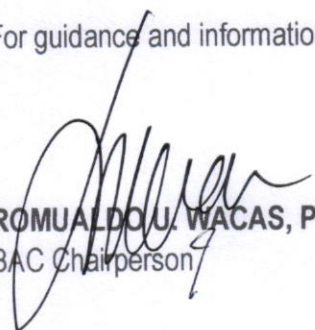


<p>Other controls and instrumentation:</p> <ul style="list-style-type: none"> <li>• Phase angle meter for single-phase and three-phase</li> <li>• Fault switch</li> <li>• Single-phase and three-phase selectable capacitor banks for p and T networks</li> <li>• Switchable neutral from transformer secondary Protection relay: Overcurrent relay</li> </ul>			
<p>Includes</p> <p>Power factor load bank</p> <p>Key features</p> <ul style="list-style-type: none"> <li>• Phase power factors independently adjustable from leading to lagging</li> <li>• Phase loads independently adjustable</li> <li>• Maintains the power factor even when the load is adjusted</li> <li>• For use with single and three-phase circuits</li> <li>• For use as a three-phase star or delta-connected load</li> <li>• Mobile unit for ease of use</li> <li>• Self-contained, needs no external power</li> <li>• Coloured, shrouded sockets for increased safety</li> <li>• Creates balanced and unbalanced loads on three-phase circuits</li> </ul>			
<p>The load bank provides three separate inputs: Lines 1, 2 and 3. This allows it to work with single and three-phase circuits. Each line is independent, which allows it to connect with the others as a star or delta load.</p>			
<p>The load bank includes three separate banks of resistive, inductive and capacitive loads. They give a choice and combination of types of loads to give unity (resistive only) and leading or lagging power factor. A voltage-selector switch allows the load bank to work with different line voltages for single and three-phase circuits. Each bank (line) may be set to different values, to give an unbalanced load for balanced and unbalanced load tests.</p>			
<p><b>Additional Project Requirement:</b></p> <p><u>The prospective bidders are required to conduct site inspection. The end-user shall issue Certificate of Site Inspection to the bidders after the visit and it shall be attached as part of the Technical Documents "Letter H" of the Technical Component Envelope.</u></p>			
<p><b>Terms and Conditions:</b></p>			
<p>a) All equipment and components should be branded (not clone, imitation, or assembled) and brand new. The units should be delivered duly packed and sealed by the direct company/ manufacturer.</p>			
<p>b) Availability of parts in the local market by local distributor.</p>			
<p>c) Provision of Technical Data Sheet indicating the brand name and model of item/s.</p>			
<p>d) Provision of Operations and Maintenance Manual of the item/s, if applicable.</p>			
<p>e) The supplier shall conduct training on the use of the delivered item/s using the operations and maintenance manual provided.</p>			



f)	The item/s as specified in this Technical Specifications shall be delivered only to the address indicated herein to be received by authorized personnel.	
g)	The Supplier shall notify the indicated authorized receiving personnel at the Project Site at the scheduled date of delivery at least three (3) working days in advance, and shall ensure that the authorized receiving personnel of the Purchaser is present during the date and time of delivery. The Receiving Personnel reserves the right to refuse to receive/accept delivered Goods made before 8:00 A.M. or after 5:00 P.M. and non-working days.	
h)	The Supplier shall replace any rejected item within fifteen (15) calendar days from receipt of a written notice from the end-user.	
i)	Prior to issuing the Certificate of Complete Deliveries, the item's testing and sealing must be conducted with the end-users, Inspectorate Team or TWGs. The winning supplier shall provide other unforeseen peripherals and accessories necessary for the equipment to function and be operational.	
j)	After the Testing and Sealing, the Supplier shall be evaluated and will conform to the end user's evaluation rating results as a requirement for payment.	
k)	3 years warranty of service for system and device/equipment based on the unit will start after the turn-over and orientation of the end-user.	
l)	The total price offered/quoted is subject to withholding tax and payable checks.	
m)	During or after the delivery, the Supplier shall submit the following requirements: 1. Delivery Receipt 2. Supplier's Sales Invoice 3. Operations and Maintenance Manual 4. Warranty or KSU will deduct the allowed maximum retention money at 5% on the total value of the items.	
<b>After Sales Requirements:</b>		
n)	Under warranty coverage: If unrepairable within 7 days, a free service backup unit (1:1) or service spare part of the same or higher specification must be provided by the supplier until the defective unit/part is considered repaired/replaced.	
o)	Under warranty Coverage: Supplier warrants that the Electrical Power Systems Laboratory Trainer will be free from material defects for a period of 3 years from the date of installation or commencement of use, whichever is earlier.	
p)	Under warranty Coverage: During the Warranty Period, supplier will provide support and maintenance to correct any material defects in the Electrical Power Systems Laboratory Trainer at no additional charge.	
q)	Monday to Friday, Supplier will provide technical support and services during normal office hours.	
r)	Capable of providing technical service/assistance within 24 hours OR next business day on-site (NBDOS) service warranty.	

For guidance and information of all concerned.

  
**ROMUALDO U. MACAS, Ph.D**  
 BAC Chairperson

Date issued: March 14, 2024  
 Copy furnished: Prospective Bidders