

Our Ref: KETRACO/PT/045/2023

30th July 2024

Notice to all Bidders.

TENDER ADDENDUM AND CLARIFICATION No. 15 (TAC 15)

RE: Procurement of Plant, Design, Supply and Installation of the 220kV Mariakani - Dongo Kundu Transmission Line and Associated Substations (KETRACO/PT/045/2023)

The following amendments are made to the specified provisions for the bidding documents for procurement of plant, design, supply and installation of the 220kV Mariakani - Dongo Kundu Transmission Line and Associated Substations (KETRACO/PT/045/2023).

Save where expressly amended by the terms of this clarification, the Principal Tender Document shall continue to be in full force and effect.

Find herein the ADDENDUM and CLARIFICATION No. 15, consisting of Eleven (11) pages into the Principal Tender Documents as attached. This document should be returned along with dully-filled Form of Tender.

All other terms and conditions of the Request for Proposal document remains the same.



HESBON KISERO
Ag. SENIOR MANAGER, SUPPLY CHAIN

Tender Addendum and Clarification No. 15 of Tender No. KETRACO/PT/045/2023 has been received and incorporated in the Tender Documents.

Name of Tenderer (in block letters):

Signature:

Date:

Signed for the Tenderer by (Name in block letters):

In the office bearer capacity of:

A. Addendum No. 15

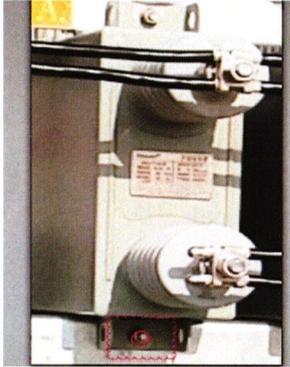
- i. Specification for Portable Earthing Equipment for 220KV Substation. (Attached)
- ii. NEMA License No. NEMA/EIA/PSL/8001and Conditions. (Attached)
- iii. The deadline for bid submission and the date for Technical Bid Opening as stated in Clause ITB 22.1 and 25.1 of Section II Bid Data Sheet respectively, has been amended as follows:

ITB 22.1	<p>For Bid submission purposes only, the Employer's address is: <i>Attention: Senior Manager, Supply Chain</i> <i>Kenya Electricity Transmission Company Ltd.</i> <i>Kawi Complex, Block B, Off Popo Road, Off Red Cross Road, South C</i> <i>Supply Chain Offices, 2nd Floor</i> <i>P.O. Box 34942 – 00100</i> <i>Nairobi, Kenya</i> <i>Tel: +254-020-4956000</i> <i>+254 719 018000</i> <i>+254 732 128000</i></p> <p>The deadline for Bid submission is: Date: 7th January 2025 Time: 10:00 a.m.</p>
ITB 25.1	<p>The Technical Bid opening shall take place at: <i>Kenya Electricity Transmission Company Limited</i> <i>KAWI Complex. Block B. Popo Lane. Off Red Cross Road. South C</i> <i>P.O. Box 34942 – 00100, Nairobi, Republic of Kenya</i></p> <p>Date: 7th January 2025 Time: Promptly after submission</p>



No.	Volume	Part / Page	Section/ Clause No.	Reference	Clarification	Reply from KETRACO																																																																												
3.	10-Section VI-2B-06-Specifications-Power Transformer-20230704	TECHNICAL DATASHEETS FOR CIRCUIT BREAKERS Pdf Pg. 54/101 (VI-2B-06-53)	<table border="1"> <tr> <td>1.17</td> <td>Rated lightning impulse withstand voltage at:</td> <td></td> <td></td> </tr> <tr> <td></td> <td>HV terminals</td> <td>kV</td> <td>1050</td> </tr> <tr> <td></td> <td>LV terminals</td> <td>kV</td> <td>170</td> </tr> <tr> <td></td> <td>Neutral terminal</td> <td>kV</td> <td>170</td> </tr> <tr> <td></td> <td>TV Terminals</td> <td>kV</td> <td>170</td> </tr> <tr> <td>1.18</td> <td>Rated power frequency withstand voltage at:</td> <td></td> <td></td> </tr> <tr> <td></td> <td>HV terminal</td> <td>kV</td> <td>436</td> </tr> <tr> <td></td> <td>LV terminal</td> <td>kV</td> <td>70</td> </tr> <tr> <td></td> <td>Neutral terminal</td> <td>kV</td> <td>70</td> </tr> <tr> <td></td> <td>TV terminals</td> <td>kV</td> <td>70</td> </tr> <tr> <td>1.19</td> <td>Rated lightning impulse withstand voltage at:</td> <td></td> <td></td> </tr> <tr> <td></td> <td>HV Windings</td> <td>kV</td> <td>950</td> </tr> <tr> <td></td> <td>LV Windings</td> <td>kV</td> <td>170</td> </tr> <tr> <td></td> <td>Neutral Windings</td> <td>kV</td> <td>170</td> </tr> <tr> <td></td> <td>TV Windings</td> <td>kV</td> <td>170</td> </tr> <tr> <td>1.20</td> <td>Rated power frequency withstand voltage at:</td> <td></td> <td></td> </tr> <tr> <td></td> <td>HV Windings</td> <td>kV</td> <td>395</td> </tr> <tr> <td></td> <td>LV Windings</td> <td>kV</td> <td>70</td> </tr> <tr> <td></td> <td>Neutral Windings</td> <td>kV</td> <td>70</td> </tr> </table>	1.17	Rated lightning impulse withstand voltage at:				HV terminals	kV	1050		LV terminals	kV	170		Neutral terminal	kV	170		TV Terminals	kV	170	1.18	Rated power frequency withstand voltage at:				HV terminal	kV	436		LV terminal	kV	70		Neutral terminal	kV	70		TV terminals	kV	70	1.19	Rated lightning impulse withstand voltage at:				HV Windings	kV	950		LV Windings	kV	170		Neutral Windings	kV	170		TV Windings	kV	170	1.20	Rated power frequency withstand voltage at:				HV Windings	kV	395		LV Windings	kV	70		Neutral Windings	kV	70		<p>HV terminal insulation mentioned in data sheet is considered as bushing insulation level i.e. LI/PF (1050kVp/439kVrms) and HV winding insulation is considered as LI/PF: 950kVp / 395kVrms. Kindly confirm our understanding.</p>	<p>HV terminal bushing insulation level is LI/PF (1050kVp/436kVrms) and HV winding insulation is considered as LI/PF: 950kVp / 395kVrms. Values are as per technical data sheet.</p>
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4.	01-MSEZ-2022-DL-E-001-Substation-33kV Distribution System	Pdf Pg. 1/1			<p>Cannot be able to accommodate LBS (On Main Bus) in single panel, separate panel is used to connect the LBS panel by using cable connection (Refer below snap for proposed RMU) by all the manufacturers. Hence, confirm our proposal.</p>	<p>Main bus bar connection with cable is not acceptable. An extra panel can be adapted as required.</p>																																																																												



No.	Volume	Part / Page	Section/ Clause No.	Reference	Clarification	Reply from KETRACO
5.	Tender Addendum and Clarification No. 13 (TAC 13) KETRACO/PT/045 /2023 5 th June 2024	Clarification Item No. 11 (TAC 13) Pdf Pg. 10/22			Vendor have not used stud type before. However, the unpainted surface of unit's lifting lug will reliable assembly at the rack surface, the bolts on the rack can be used for ground, as following picture. Kindly Confirm. 	Acceptable, provided unpainted surface shall be protected for salty/corrosive environment with conductive compound.
6.	07-Section-VI-3B-04-Specifications-SF6 Ring Main Unit-20230704	4. Specification for SF6 Ring Main Unit Clause 4.4. Requirements ii. Design and Construction Pdf Pg. 4/12	The container shall have stud for earthing.	The lower surface of unit's lifting lug is not painted and can be used for grounding purposes as shown in the following picture. This is the standard manufacture earthing provision suppling for all customers. Kindly accept.	Above test facilities requiremnt is not clear hence kindly clarify the requirment.	During cable testing, the power cable sealing end leads is required to be accessible so that HV withstand test can easily be done. Capacitive voltage indicators on each circuit is also required.

No.	Volume	Part / Page	Section/ Clause No.	Reference	Clarification	Reply from KETRACO
7.	05-Section-VI-2B-01-Specifications-Circuit Breakers-20230704	1.Circuit Breakers 1.1.5. Mechanical Ratings and Requirements Clause 1.1.5.2 Circuit Breaker Operating Mechanisms Pdf Pg. 8/22		Each mechanism shall be fitted with duplicate trip-coils and phase discrepancy remote indication shall also be provided.	Indication for Pole discrepancy shall be made available remotely through spare contacts. Kindly Confirm.	Pole discrepancy system and contacts shall be implemented within the circuit breaker.
8.	05-Section-VI-2B-01-Specifications-Circuit Breakers-20230704	1.Circuit Breakers 1.1.5. Mechanical Ratings and Requirements Clause 1.1.5.2 Spring/SF6 Mechanism Pdf Pg. 9/22			The Proposed SF6 gas monitoring shall be with temperature compensated gas density monitor with two levels – one of alarm @ 6.2 bar (absolute) @ 20 deg C and blocking at 6.0 bar (absolute) @ 20 deg C. Kindly Confirm.	There shall be two levels. The first level is the alarm level and second is the lock-out/blocking stage. The values of the alarm level and lock-out/blocking stage shall depend on the circuit breaker manufacturer. These shall be filled in the technical data sheet.
9.	05-Section VI-2B-01-Specifications-Circuit Breakers-20230704	1.Circuit Breakers 1.1.5. Mechanical Ratings and Requirements Clause 1.1.5.2		The heaters shall be thermostatically controlled for continuous operation at 415V AC volts, 50 Hz to prevent condensation. It shall be possible to adjust thermostat settings over range of the local ambient conditions	The heater and lighting shall be rated for 230V AC supply, this is the most of the vendor practice. Kindly Confirm.	Refer to Tender Addendum and Clarification No.11, item no. 16.



No.	Volume	Part / Page	Section/ Clause No.	Reference	Clarification	Reply from KETRACO
		Mechanism Housings Pdf Pg. 10/22				
10.	07-Section VI-2B-03-Specifications-Disconnectors & Earthing Switches-20230704	3.Disconnectorsand Earthing Switches Clause 3.4 Electrical Ratings and Requirements Pdf Pg. 4/20		The material of the terminals and the surface of the terminals shall be aluminium. High -voltage terminals shall be equipped with a vertical connecting rod.	Please clarify the application of vertical rod	Vertical rod is applied to support conductors.
11.	07-Section VI-2B-03-Specifications-Disconnectors & Earthing Switches-20230704	3.Disconnectorsand Earthing Switches 3.6 Control, Monitoring and Protection Clause 3.6.3 Interlocks Interlocks Pdf Pg. 8/20	3.6.3 Interlocks	<p>All disconnectors and earthing switches within the substation shall be mechanically and electrically interlocked in a manner that ensures that they always operate safely. Interlocking associated with normal system operation and switching is intended to ensure that unsafe switching actions are prevented. The system employed shall satisfy "Operational interlocking"</p> <p>All disconnectors and circuit breakers shall be electrically interlocked in a manner that ensures that they always operate safely.</p> <p>Disconnector - earth switch electrical interlocking shall be achieved through auxiliary contacts and magnetic interlock coil/solenoid.</p> <p>Contacts used for interlocking shall be directly driven auxiliary contacts of the main device.</p> <p>All operational interlocks shall function through the electrical bolt interlock circuit. Electrical bolt interference interlocks shall be provided and energized, in the case of hand operation, only when the operating handle of the hand mechanism is brought into the working position or in the case of power operation, when the motor is called upon to operate. A means of overriding the electrical interlock, in the event of loss of auxiliary supplies, shall be provided; the override shall be lockable.</p>	Electro-mechanical interlock like blocking magnet is provided to prevent manual operation of the motor mechanism unless the associated CB is open. In such case it is not possible to insert the manual drive handle in the drive unless the associated CB is in open position. Kindly Confirm.	Insertion of the manual drive handle should not be possible unless all required interlocks are met/satisfied.
12.	07-Section VI-2B-03-Specifications-Disconnectors & Earthing Switches-20230704	3.Disconnectorsand Earthing Switches Clause 3.8	3.8. Portable Maintenance-Earthing Devices	Where portable-earthing devices are required, provision shall be made for applying fully rated portable maintenance-earthing devices to the primary conductors of the equipment.	Kindly confirm the requirement of Portable Maintenance-Earthing Devices	Refer to Addendum No. 15 Item No. (i).



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		Portable Maintenance- Earthing Devices Pdf Pg. 11/20							
13.	08-Section VI-2B-04-Specifications-Instrument Transformers-20230704	4.Instrument Transformers 4.1.7 Electrical Ratings and Requirements Clause 4.1.7.6 Ferro resonance Pdf Pg. 10/41		Under oil in the EMU, metal-oxide surge arresters are allowed for Ferro-resonance damping, on the condition that their characteristics will not change when impregnated with oil. This should be proven with test reports. Conventional (spark gap type) surge arresters are not accepted. External spark gaps are only accepted if it has been proven that the spark-over voltages do not change due to weather influences. If electronic devices are used, they shall be easily accessible and exchangeable, i.e. by mounting them in the terminal box or in a separate box, at the outside of the tank of the EMU.	Instead of surge arrestors a proven solution with protective spark gap shall be provided for this purpose. Kindly Confirm.	Acceptable provided that proven data for Ferro-resonance damping meet specifications and proof that spark-over voltages due to weather influence do not change are submitted.			
14.	07-Section VI-2B-03-Specifications-Disconnectors & Earthing Switches-20230704	3.Disconnectors and Earthing Switches 3.11 Technical Datasheets for Disconnectors/Isolators Clause 3.11.2. 220 kV Disconnectors & Earth Switches Pdf Pg. 18/20		<table border="1"> <tr> <td>10</td> <td>Charging current breaking capacity, A</td> <td>>125</td> </tr> </table>	10	Charging current breaking capacity, A	>125	It seems that charging current breaking capacity is very high. We understand that it is >1.25. Kindly confirm the parameter.	The value of >125 is not correct. Refer to IEC 62271-102 for correct value to use. For this project, class B shall be applicable.
10	Charging current breaking capacity, A	>125							



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15.	07-Section VI-2B-03-Specifications-Disconnectors & Earthing Switches-20230704	3.Disconnectorsand Earthing Switches 3.11 Technical Datasheets for Disconnectors/Isolators Clause 3.11.2. 220 kV Disconnectors & Earth Switches Pdf Pg. 18/20		<table border="1" data-bbox="680 335 1378 422"> <tr> <td data-bbox="680 335 743 422">17</td> <td data-bbox="743 335 1229 422">Total time from initiation of opening operation to isolator in fully open position</td> <td data-bbox="1229 335 1378 422">≤10</td> </tr> </table>	17	Total time from initiation of opening operation to isolator in fully open position	≤10	Proposed Disconnectors are suitable for Less than or equal to 12. Kindly confirm.	Acceptable.
17	Total time from initiation of opening operation to isolator in fully open position	≤10							
16.	07-Section VI-2B-03-Specifications-Disconnectors & Earthing Switches-20230704	3.Disconnectorsand Earthing Switches 3.11 Technical Datasheets for Disconnectors/Isolators Clause 3.11.2. 220 kV Disconnectors & Earth Switches Pdf Pg. 19/20		<table border="1" data-bbox="669 774 1378 845"> <tr> <td data-bbox="669 774 732 845">27</td> <td data-bbox="732 774 1190 845">Electrical Endurance Class</td> <td data-bbox="1190 774 1378 845">E2</td> </tr> </table>	27	Electrical Endurance Class	E2	As per IEC 62271-103 (IEC for switches for rated voltages above 1kV up to and including 52kV class E1/E2/E3 earth switches are specified to be required for voltage up to 52kV. The E1 and E2 rated earth switches are generally high speed earth switches which is possible for medium and low voltage applications and hence generally possible for GIS type solution. Hence we proposed E0. Kindly confirm.	Confirmed.
27	Electrical Endurance Class	E2							
17.	07-Section VI-2B-03-Specifications-Disconnectors & Earthing	3.Disconnectorsand Earthing Switches Clause 3.4		Earth switches on line circuits shall be capable of interrupting the current induced in the line by a parallel fully loaded line.	The earth switches are suitable for interrupting capacitive and inductive currents as per definition of negligible currents in IEC vocabulary. In case of any requirements of higher	Not acceptable. Follow IEC62271-102.			



No.	Volume	Part / Page	Section/ Clause No.	Reference	Clarification	Reply from KETRACO
	Switches- 20230704	Electrical Ratings and Requirements Pdf Pg. 4/20			currents interruption for such currents in ES operation the same need to be defined more accurately. Kindly confirm.	
18.	Addendum (TAC 14)	N/A			Kindly explain about the reason of the extension. Our bid security has been active since the former dealdline of thebid submission, and the bank is asking about the actual reason of the extension.	This was as per bidders' request for additional extension.
19.	Addendum no.2 (NEMA License)	NEMA License			1) Kindly provide scan copy of the Environmental Impact Assessment Licence No/ NEMA/EIA/PSI/8001 issued on 13/6/2019. Additionally, Please provide the terms and conditions attached to the licence. (The one attached as Addendum no.2 was the certificate of "Variation". We would like to confirm the scan copy of the original one.)	Refer to Addendum No. 15 Item No. (ii).
20.	Addendum no.5 + Volume I of VII	Addendum no.5 1.1.3 Subcontractor for major item of the Works	Addendum no.5 (no.1) 1.1.3 no.17: Electromechanical Works Subcontractors +	<Reply from KETRACO> The Bidder shall not be required to submit documents proving their eligibility for registration with NCA (National Construction Authority) class 1 in Kenya. However, the winning bidder must apply for NCA class 1 registration and submit their	There is some case that the Bidder will adopt a foreign sub-contractor for this tender. Please kindly confirm whether the same condition written in the left "Reference", is made to the foreign sub- contractor or not.	All contractors working in Kenya are required to be registered with NCA. Any Foreign Contractor whether sub-contractor or main contractor is required to be registered with NCA



No.	Volume	Part / Page	Section/ Clause No.	Reference	Clarification	Reply from KETRACO
			no.17: Civil Works Subcontractors	certification before commencement date.		class 1. Also refer to TAC 11 item no. 38.
21.	Volume I of VII	Section IV: Bidding Forms	BF272 Form MAN :Manufacture's Authorization	Date: [insert date (as day, month, year) of Bid Submission]	Please kindly accept once this authorization is made by manufactures during this tender preparation duration, this authorization is valid. Due to several extension of this bid submission date, it is very difficult to keep updated the authorization letter on the date of the exact date of the bid submission.	Acceptable provided it is in the format prescribed in the bid documents.

