

Our Ref: KETRACO/PT/045/2023

27th March 2024

Notice to all Bidders.

TENDER ADDENDUM AND CLARIFICATION No. 3 (TAC 3)

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. 3, consisting of twenty-nine (29) 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.

PETER NJEHIA
SENIOR MANAGER, SUPPLY CHAIN

Tender Addendum and Clarification No. 3 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. 3

The following amendments have been made to the bid documents.

I. SECTION VI-2A

1.12 CONSTRUCTION AND MAINTENANCE OF ROADS

1.12.1 Access Road (*NOT APPLICABLE*)

1.12.2 Structures for approach road (*NOT APPLICABLE*)

1.12.3 Temporary approach road and structures

The requirement of sub-clause 1.1.1.2.20 in Section VI-2B 27 – Specifications “Civil & Structural Works” shall apply and Drawing No. MSEZ-2022-SS/ C-018 shall be used for reference drawing.

1.12.4 Permanent roads within the substation site

The requirement of sub-clause 1.1.1.2.20 in Section VI-2B 27 – Specifications “Civil & Structural Works” shall apply.

II. Drawings

The following drawings have been modified:

- i. MSEZ-2022-SS-E-002-220-33kV Single Line Diagram.
- ii. MSEZ-2022-SS-E-012-220kV Protection and Control Diagram for Diameter 1 & 2.
- iii. MSEZ-2022-DL-E-005-33kV Distribution Line Route

B. Clarification No. 3.

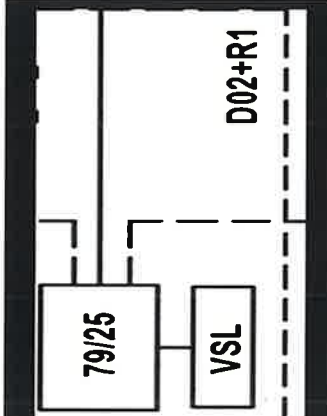
No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
1	6.3 5/46	Section VI-2B: Specifications - Substations 06 - Power Transformer	If required by the Employer, the transformers shall be subject to vibration tests.	Vibration tests for transformer is not mentioned in IEC-60076. Hence this test shall not be performed. Please confirm.	This is confirmed.
2	6.4 6/46	Section VI-2B: Specifications - Substations 06 - Power Transformer	The bolts, nuts, and end plates of the assembly and clamp structure shall be of a nonmagnetic type.	The clamp structure and its part shall be of MS type to withstand the SC forces and clamping pressure of the winding. Nonmagnetic type materials do not have enough strength to withstand the SC forces and clamping pressure. We will take care on temperature control for MS clamp structure.	Relevant design reports shall be submitted for review and approval during detailed design phase prior to adoption.
3	6.5 7/46	Section VI-2B: Specifications - Substations 06 - Power Transformer	Permanent current-carrying joints or splices shall be welded or brazed, properly formed, finished and insulated to avoid concentration of dielectric stresses.	Permanent current - carrying joints within winding shall be brazed. Other joint locations i.e., lead connections shall be done as per manufacture standard design practice.	Specifications in Section VI-2B-06- Sub clause 6.5 shall prevail.
4	6.11 11/46	Section VI-2B: Specifications - Substations	On the existing the Employer system, Shell DIALA "B" and Nynas Nitro GBN 10 oils have been	We propose mineral oil as per IEC-60296 un-inhibited oil from Indian origin oil supplier.	Specifications in Section VI-2B-06-Sub clause 6.11 shall prevail

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
5	6.12 12/46	06 - Power Transformer Section VI-2B: Specifications - Substations 06 - Power Transformer	used. To avoid possible difficulties and eliminate the risk of incompatibility, mixing of different oils (brand or type) in the same equipment is not permitted. Visual oil flow indicators in the pipework adjacent to the coolers. In the event that this will offer impedance to oil flow under ONAN conditions a differential pressure gauge of approved design and manufacture may be connected across the pumps, as an alternative.	This requirement seems to be applicable for forced oil condition (with pump). In this transformer cooling system shall be ONAN/ONAF. So, oil flow indicators are not provided. Kindly accept.	Confirmed
6	6.14 16/46 & 1.34 data sheet	Section VI-2B: Specifications - Substations 06 - Power Transformer & Section VI-2B: Specifications - Substations 06 - Power Transformer	The numbers shall range from 1 upwards. Position 1 shall refer to the maximum LV no-load voltage and the highest number position shall refer to the minimum LV no-load voltage, for the nominal HV voltage. & Tapped winding: HV.	Referring to two clauses, tapped winding on HV side and maximum voltage and minimum voltage on LV side. These are leads transformer with VFVV design. Please check once again.	Tapped Winding will be at the HV Side Position Low = Max LV No-Load Voltage Position High = Min LV No-Load Voltage. This is 2 winding Transformer, thus VFVV design is applied

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
7	6.19 20/46	Section VI-2B: Specifications - Substations 06 - Power Transformer	A three-phase socket outlet rated 150 A shall be provided for oil filtration equipment.	A three-phase socket outlet rated 150 A shall be provided for oil filtration equipment is excluded in our scopes	The Contractor shall provide a three-phase socket outlet rated 150A for oil filtration.
8	6.22.3 27/46	Section VI-2B: Specifications - Substations 06 - Power Transformer	Short-circuit: In-lieu evidence from demonstrably similar units and/or mechanical and thermal calculations shall be provided to demonstrate clear margins of short-circuit current withstand at system fault levels for all transformers	Short circuit withstand shall be demonstrate by mechanical and thermal calculations. Short circuit test will not be conducted on offered transformer.	Confirmed
9	1.28 data sheet 43/26	Section VI-2B: Specifications - Substations 06 - Power Transformer	Maximum current density at rated power: 250A/cm ²	We will propose the current density based on the design by confirming guaranteed losses and winding temperature rises. We can use optimum level of copper without current density limitation	Confirmed, but to complete the Technical Datasheet 1.28 for evaluation.
10	1.25, 1.26, 1.27 data sheet 43/46	Section VI-2B: Specifications - Substations 06 - Power Transformer	No-load losses at rated voltage and rated:36kW. Load losses at 75 deg C, and rated frequency:270 kW Total auxiliary losses at full load :10kW	Please confirm that the given losses are maximum or not. Further, please check and confirm any loss capitalization applicable for these losses.	Refer to Tender Clarification and Addendum No. 2

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
11	209 IV-C-2	Volume I of VII Schedule No. 2: Design	CT, VT sizing, relay setting calculation.	Necessary technical specification of the CTs and VTs has been specified in the RFQ. Does the employer need for contractor to re-calculate the size of the CT and VT? If a recalculation after the bidding process requires a change in the size of the CT and VT, will an adjustment in the amount be implemented?	This is a EPC contract. The contractor shall prove the stability of CT, VT for protection relay applied. The price shall not be varied.
12	1.6.4 VI-2A-11	02-Section VI-2A- Scope of Work- Substations- 20230704	1. DONGO KUNDU 220/33kV SUBSTATION 1.6.4 Energy Meter Export/import energy meter class 0.2 shall be provided for 220kV Mariakani Lines and Main Transformer LV side	Main and check Energy meters shall be considered only for 2 Nos 220kV Lines and 2 Nos Main transformer LV sides. We understand 4 nos energy meters for 220kV lines (Main and Check) and only 2 nos for Transformer LV side (Main).. Further energy meters for 33kV switchgear are not required. Kindly confirm our understanding.	1. Main & Check Energy Meters for 220kV Mariakani Lines shall be provided. As shown in the PSLD 2. For 33 kV side, one meter for each line feeder and transformer feeders shall be provided. As shown in the PSLD drawings 3. For the 415 V, 3 meters shall be provided as shown in the LVAC drawings

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
13		11-MSEZ-2022-SS-E-009-CONTROL-PROTECTION INDOOR SWITCHGEAR ROOM ARRANGEMENT	Dongo Kundu substation Transformer-1 & 2 control panel.	It was observed in the control room layout dedicated panel location for Transformer control panels are shown, however please note as per specification combined control panel per diameter is mentioned to be considered. Hence, we will consider combined control panel per diameter as per specification. Please clarify.	Combined control panel per diameter is acceptable.
14	18.1.5 VI-2B-18 - 7	Section-VI-2B-18- Specifications- Protection and Indication System- 20230710	18.1.5 Equipment Accommodation CB panels may be provided for diameter Circuit Breaker Failure (CBF) relays. This cubicle shall also locate the Auto-reclose relay and the Bay control relay. CB panel to be adjacent to the relevant circuit main protection.	Breaker failure relay and Auto recloser are part of protection panels. Bay control units will be offered as mounted in Combined control panel. Please clarify that this set up will be acceptable.	Specifications shall prevail.
15	18.4.4.3.1 VI-2B-18 - 17	Section-VI-2B-18- Specifications- Protection and Indication System- 20230710	18.4.4.3.1 Protection arrangements Busbar protection bay module (including breaker-fail protection)	As per the technical specification Main-1 and Main-2 Busbar protection is mentioned, however as per the protection metering SLD only one busbar protection is shown, please confirm whether	One single busbar protection shall be required for busbar 1 and one single busbar protection for busbar 2.

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
16	18.4.4.3.2 VI-2B-18 - 18	Section-VI-2B-18- Specifications- Protection and Indication System- 20230710	18.4.4.3.2 Bay control and monitoring The BCU shall also provide fault recording functions however the separate Fault Recorder shall be the principal system.	only Single busbar protection relay accordingly SLD will be acceptable. As protection relays are responsible for fault clearance therefore, we propose disturbance recorder function should be part of protection relays and not part of Bay Control Units. Please clarify and confirm.	The BCU shall be provided with fault recording function. Fault recorder (Digital Disturbance Recorder) is an independent system.
17	18.4.4.3.8 VI-2B-18 - 23	Section-VI-2B-18- Specifications- Protection and Indication System- 20230710	18.4.4.3.8 Auto Reclose Separate check synch relay functionality shall be provided for manual closing in order to ensure operational flexibility in the form of Check synch, Dead busbar charging and deadline charging.	Check synch function will be part of Auto Reclose relay and the same is as per protection metering SLD Drg No: 15-MSEZ-2022-SS-E-012-220kV Protection and Control Diagram for Diameter 1 & 2 of 2. Please confirm. 	Confirmed.

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
18	18.4.4.6 VI-2B-18 - 29	Section-VI-2B-18- Specifications- Protection and Indication System- 20230710	<p>18.4.4.6 220kV Busbar Protection</p> <p>The bay modules shall acquire the appropriate current signals and shall monitor the position of the busbar disconnecter switch auxiliary contacts for each diameter. The bay module shall also provide the breaker fail protection functionality for each busbar CB.</p> <p>Provision shall be made for future substation extension by ensuring the busbar protection scheme shall be installed with bay modules for two (2) future "spare" diameters to ensure there will be no future problems with software versions.</p>	<p>Busbar protection will be considered centralized type which has bay modules/units integrated into the IED.</p> <p>It will also have provision for 2 bays extension in future without any problem regarding software versions. Please confirm our understanding is correct.</p>	Confirmed

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
19	18.4.4.3.3 VI-2B-18 - 20	Section-VI-2B-18- Specifications- Protection and Indication System- 20230710	18.4.4.3 220kV Overhead Line Feeders 18.4.4.3.3 Main protection Main 1 and Main 2 protections shall be provided by different manufacturers.	We are considering Main-1 Distance protection relay (REL670) and Main-2 Line Differential protection relay (RED670) which are two different types of IEDs and has different protection algorithms and calculation principles. Moreover, these relays as Main-1 & Main-2 is a proven solution and are in use in different utilities worldwide. Please confirm that this will be acceptable	Not acceptable. Main 2 shall be provided with function of Distance Relay + Differential Relay
20	IV-C2-20 and 1 of 2, 2 of 2	Volume I - PART 1_20231227 and 15-MSEZ-2022- SS-E-012-220kV Protection and Control Diagram for Diameter 1 & 2 2 of 2	Section IV. Price Schedules: C2-Substations Schedule No.3 Power Quality Analyzer And 15-MSEZ-2022-SS-E-012-220kV Protection and Control Diagram for Diameter 1 & 2 2 of 2	As per the price schedule and P&C diagram power quality analyzer is not indicated. Please advise if separate Power Quality Analyzer is required.	Power Quality Analyser quantity updated in Tender Addendum and Clarification No. 2.
21	1.8.1	02-Section VI-2A- Scope of Work- Substations- 20230704 section 1.8.1 Page 12	Divergence in Telecom Scope of supply and System layout	The Scope of work for Dongo Kundu and the System layout are not in line. Regarding to the telephony system we will follow the System layout as it is in line with the current telephony system	Specifications in Section VI-2A- Section 1.8.1 & Drawing No. 26-MSEZ-2022-SS-E-024-FIBRE OPTICAL LINK shall prevail.

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
		and 26-MSEZ-2022- SS-E-024-FIBRE OPTICAL LINK 10F2 Page 1		<p>in Kenya, which is centralized, and all IP based. All analogue telephony related requirements in this scope of work are not in line, compliance and/or applicable with/to the existent Kenya telephony network.</p> <p>Regarding to the number of Teleprotection and Differential protection channels in the layout we have more than the channels required for the link to Mariakani. Please confirm whether those extra channels in the layout are related as a provision for the future lines and required to be added in this project. In case the provisions for future lines are confirmed the SFP's cannot be included in this stage as the line length are not known. Then only the provision for teleprotection and differential protection can be included.</p>	

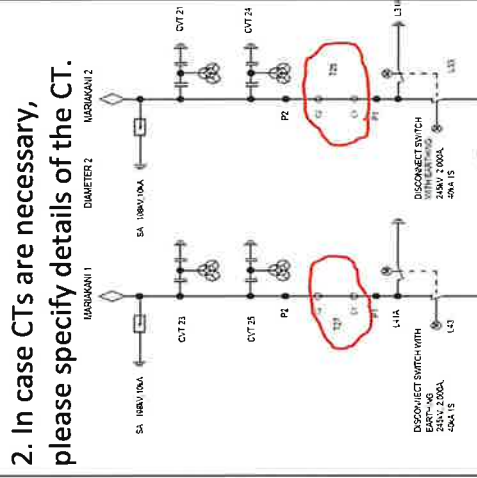
No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
22	1.1 220 kV Outdoor Switchgear 1.1.1 220 kV one and one third circuit breaker main busbar system comprising VI-2A-4	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor 'substations	single phase: Capacitor Voltage Transformer, ratio 220,000/ $\sqrt{3}$: 110/ $\sqrt{3}$, class 3P for protection, and class 3P for protection, 100VA, complete with circuit connections, vide, Specification- "Instrument Transformers"	100 VA burden is very high requirement for metering core. We will offer min 15 VA for metering in line with the specification.	Not acceptable. Comply with specifications given.
23	1.1 220 kV Outdoor Switchgear 1.1.2 220kV first Diameter (Dia-1) VI-2A-4	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor 'substations	2,000A, 40 kA, 245 kV BIL 1,050 kV, single phase type, three-phase set for bus bar Disconnector/Earthing Switch with hand and motor operation mechanism, based on Specification- "Disconnectors & Earthing Switches"	It is mentioned single phase type, three phase set. Please clarify the requirement is of single-phase Disconnector with/without ES or three phase disconnector with/without ES Please also confirm if Bus transfer Capability is required?	All Disconnectors with/without ES shall be Three (3) phase Gang Operation type. The busbar scheme is one-and-a-third breaker system with two buses hence no requirement for a bus transfer capability.
24	1.1 220 kV Outdoor Switchgear 1.1.2 220kV first Diameter (Dia-1) VI-2A-4	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor 'substations	Twenty (20) - 245kV 40kA Single phase Current Transformers with 5 cores as follows. - Class 5P20, ratio 2,000-1,000/1A for Busbar protection, Transformer protection	It is mentioned 5 core CT. Please share the core requirements for 5 cores. What shall be the burden, protection class for these 5 cores?	See tender drawing No. MSEZ-2022-SS/E-012 and Section VI-2B-04 Specification Instrument Transformers

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
25	1.1 220 kV Outdoor Switchgear 1.1.2 220kV first Diameter (Dia-1) VI-2A-5	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor 'substations	- Class 5P20, ratio 2,000-1,000/1A for Line Protection One (1) - Transformer feeder - Three (3) : Single Phase Disconnector/Earthing Switches 2,000A, 40 kA, 245kV based on Specification- "Disconnectors & Earthing Switches"	The requirement is for single phase DS. Please confirm single phase DS is required with Earth Switch or without Earth Switch. Is the understanding correct?	Refer to response on TAC 3, No. 23.
26	1.1 220 kV Outdoor Switchgear 1.1.2 220kV first Diameter (Dia-1) VI-2A-5	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor 'substations	One (1) - Transformer feeder Single Phase Capacitor Voltage Transformer, ratio 220,000/√3 : 110/√3V, class 3P, 100VA, based on Specification- "Instrument Transformers"	Single phase 1 winding CVT of 220,000/√3 : 110/√3V, class 3P, 100VA. Is the understanding correct?	See tender drawing No. MSEZ-2022-SS/E-012 and Section VI-2B-04 Specification Instrument Transformers
27	1.1 220 kV Outdoor Switchgear 1.1.2 220kV first Diameter (Dia-1) VI-2A-5	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor 'substations	One (1) - Transformer feeder Current Transformer with 2 cores, BIL 1050kV, class 5P20, ratio 2000-1000/1A for REF Protection based on Specification- "Instrument Transformers"	It is mentioned 2 core CT. Please share the core requirements for 2 cores. What shall be the burden, protection class for these 2 cores?	Neutral LV Side CT Ratio shall be 2000-1000/1A, Class 5P10. Neutral HV Side CT Ratio shall be 2000-1000/1A, Class 5P20. Burden to be calculated and submitted for approval at detail design stage.

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
28	1.1 220 kV Outdoor Switchgear 1.1.2 220kV first Diameter (Dia-1) VI-2A-5	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	One (1) - Transformer feeder Neutral Current Transformer with 2 cores, class 5P20, ratio 400-200/1A for REF Protection, based on Specification- "Instrument Transformers"	It is mentioned 2 core CT. Please share the core requirements for 2 cores. What shall be the burden, protection class for these 2 cores?	Neutral LV Side CT Ratio shall be 2000-1000/1A, Class 5P10. Neutral HV Side CT Ratio shall be 2000-1000/1A, Class 5P20. Burden to be calculated and submitted for approval at detail design stage.
29	1.1 220 kV Outdoor Switchgear 1.1.3 220kV second Diameter (Dia-2) VI-2A-5	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	Eight (8) - 2,000A, 40 kA, 245 kV BIL 1,050 kV, single phase type, three-phase set for bus bar Disconnector/Earthing Switch with hand and motor operation mechanism, based on Specification- "Disconnectors & Earthing Switches"	It is mentioned single phase type, three phase set. Please clarify the requirement is of single-phase Disconnector with/without ES or three phase disconnector with/without ES Please also confirm if Bus transfer Capability is required?	Refer to response on TAC 3, No. 23.
30	1.1 220 kV Outdoor Switchgear 1.1.3 220kV second Diameter (Dia-2)1.1 220 kV Outdoor Switchgear 1.1.3 220kV	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	Twelve (12) - 245kV 40kA Single Core, Current Transformers with 5 cores as follows. - Class 5P20, ratio 2,000-1,000/1A for Busbar protection, Transformer protection - Class 5P20, ratio 2,000-1,000/1A for Line Protection Note: relay applied for main 1 and main 2 shall be different manufacturer	It is mentioned 5 core CT. Please share the core requirements for 5 cores. What shall be the burden, protection class for these 5 cores?	See tender drawing No. MSEZ-2022-SS/E-002 and Section VI-2B-04 Specification Instrument Transformers

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
31	second Diameter (Dia-2) VI-2A-5 1.1 220 kV Outdoor Switchgear 1.1.3 220kV second Diameter (Dia-2) VI-2A-5	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	- Class 0.2s, ratio 2,000-1,000/1A for metering Vide. Specification- "Instrument Transformers" Two (2) -220 kV Line Feeder MARIAKANI-1 and MARIAKANI-2 - One (1) : 2,000A, 40 kA, 245 kV BIL 1,050 kV, single phase type, three-phase set for line feeder disconnecter/Earthing Switch with hand and motor operation mechanism, based on Specification- "Disconnectors & Earthing Switches"	It is mentioned single phase type, three phase set. Please clarify the requirement is of single-phase Disconnecter or three phase disconnectors. Please also confirm if Bus transfer Capability is required?	Refer to response on TAC 3, No. 23.
32	1.1 220 kV Outdoor Switchgear 1.1.3 220kV second Diameter (Dia-2) VI-2A-6	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	1.1.3 220 kV Second Diameter (Dia-2) Two (2) -220 kV Line Feeder MARIAKANI-1 and MARIAKANI-2 - Six (6) : single phase Capacitor Voltage Transformer, ratio 220,000/V $\sqrt{3}$: 110/V $\sqrt{3}$, class 3P, 100VA based on Specification- "Instrument Transformers"	Single phase 1 winding CVT of 220,000/V $\sqrt{3}$: 110/V $\sqrt{3}$ V, class 3P, 100VA. Is the understanding correct?	See tender drawing No. MSEZ- 2022-SS/E-002 and Section VI- 2B-04 Specification Instrument Transformers

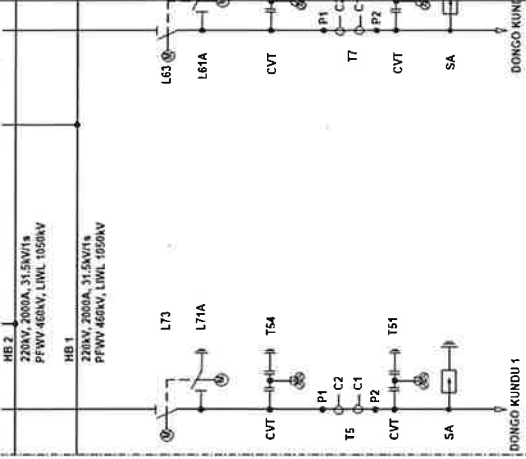
No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
33	1.1 220 kV Outdoor Switchgear	1.1.3 220kV second Diameter (Dia-2) VI-2A-6	1.1.3 220 kV Second Diameter (Dia-2) Two (2) -220 kV Line Feeder MARIAKANI-1 and MARIAKANI-2 - Four (4) : 245kV 40kA Single phase Current Transformers with 2 cores as follows. - Class 0.2s, 30VA, ratio 2,000-1,000/1A for metering	1. The specification of the CT has not been described in the RFQ document. But the CT (2 cores) were indicated in the SLD. Kindly confirm if the CTs are necessary. 2. In case CTs are necessary, please specify details of the CT.	This CT is used for tariff meter, therefore two (2) core only to be provided. Refer to tender drawing No. MSEZ-2022-SS-E-012
34	1.1 220 kV Outdoor Switchgear	1.1.3 220kV second Diameter (Dia-2) VI-2A-6	One (1) - Transformer feeder - Three (3) : Single Phase Disconnector/Earthing Switches 2,000A, 40 kA, 245kVbased on Specification- "Disconnectors & Earthing Switches"	The requirement is for single phase DS. Please confirm single phase DS is required with Earth Switch or without Earth Switch. Is the understanding correct?	Refer to response on TAC 3, No. 23.



No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
35	1.1 220 kV Outdoor Switchgear 1.1.3 220kV second Diameter (Dia-2) VI-2A-6	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	One (1) - Transformer feeder - Three (3) : Single Phase Capacitor Voltage Transformer, ratio 220,000/V3 : 110/V3V, class 3P, 100VA, based on Specification- "Instrument Transformers"	Single phase 1 winding CVT of 220,000/V3 : 110/V3V, class 3P, 100VA Is the understanding correct?	See tender drawing No. MSEZ-2022-SS/E-012 and Section VI-2B-04 Specification Instrument Transformers
36	1.1 220 kV Outdoor Switchgear 1.1.3 220kV second Diameter (Dia-2) VI-2A-6	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	One (1) - Transformer feeder - Three (3) : Current Transformer with 2 cores, class 5P20, ratio 2000-1000/1A for REF Protection based on Specification- "Instrument Transformers"	It is mentioned 2 core CT. Please share the core requirements for 2 cores. What shall be the burden, protection class for these 2 cores	See tender drawing No. MSEZ-2022-SS/E-012
37	1.1 220 kV Outdoor Switchgear 1.1.3 220kV second Diameter (Dia-2) VI-2A-6	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	One (1) - Transformer feeder - One (1) : Neutral Current Transformer with 2 cores, class 5P20, ratio 400-200/1A for REF Protection based on Specification- "Instrument Transformers"	It is mentioned 2 core CT. Please share the core requirements for 2 cores. What shall be the burden, protection class for these 2 cores?	Refer to response on TAC 3, No. 28.

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
38	2.1 220kV Outdoor Switchgear 2.1.1 220kV fourth Diameter VI-2A-18	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	Eight (8) : 2,000A, 40 kA, 245 kV BIL 1,050 kV, single phase type, three-phase set for Disconnector/Earthing Switch with hand and motor operation mechanism, based on Specification- "Disconnectors & Earthing Switches"	It is mentioned single phase type, three phase set. Please clarify the requirement is of single-phase Disconnector with/without ES or three phase disconnector with/without ES Please also confirm if Bus transfer Capability is required ?	Refer to response on TAC 3, No. 23.
39	2.1 220kV Outdoor Switchgear 2.1.1 220kV fourth Diameter VI-2A-18	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	Twelve (12): 245kV 40kA Single Phase Current Transformers with 5 cores as follows. - Class 5P20, ratio 2,000-1,000/1A for Busbar protection, Transformer protection - Class 5P20, ratio 2,000-1,000/1A for Line Protection Note: relay applied for main 1 and main 2 shall be different manufacturer - Class 0.2s, ratio 2,000-1,000/1A for metering Vide. Specification- "Instrument Transformers"	It is mentioned 5 core CT. Please share the core requirements for 5 cores. What shall be the burden, protection class for these 5 cores?	See tender drawing No. MSEZ-2022-SS/E-012

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
40	2.1 220kV Outdoor Switchgear 2.1.2 220kV Dongo Kundu Line VI-2A-19	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor '-substations	Two (2) - 220 kV Line feeder, i.e., Dongo Kundu Line 1 and Dongo Kundu Line One (1): 2,000A, 40 kA, 245 kV BIL 1,050 kV, single phase type, three-phase set for line feeder disconnector/Earthing Switch with hand and motor operation mechanism, based on Specification- "Disconnectors & Earthing Switches"	2,000A, 40 kA, 245 kV BIL 1,050 kV, single phase type, three-phase set for line feeder disconnector/Earthing Switch with hand and motor operation mechanism, based on Specification- "Disconnectors & Earthing Switches."	Clarification sought is not clear.

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
41	2.1 220kV Outdoor Switchgear 2.1.2 220kV Dongo Kundu Line VI-2A-19	Section VI-2A. Scope of Supply of Plant and Installation Services by the Contractor ' -substations	Two (2) - 220 kV Line feeder, i.e., Dongo Kundu Line 1 and Dongo Kundu Line One (1): 245kV 40kA Single phase Current Transformers with 2 cores as follows. - Class 0.2s, 20VA, ratio 2,500-1,500/1A for metering	<p>1. The specification of the CT has not been described in the RFQ document. But the CT (2 cores) were indicated in the SLD. Kindly confirm if the CTs are necessary.</p> <p>2. In case CTs are necessary, please specify details of the CT.</p> 	See drawing No. MSEZ-2022-SS/E-019 These cores are used for tariff meter.
42	15.4. Substation Works VI-2B-15 - 6	Section VI-2B: Specifications – Substation 15 - Substation		Kindly provide details of system configuration and architecture of Mariakani existing Substation Automation & Control Systems (SACS)	See section VI-2A, 2 Scope of work, Mariakani 400/220kV Substation (Extension) Sub-Clause 2.2.1 Detail drawing/specification to

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
		Automation & Control System		<ul style="list-style-type: none"> - Point to point connection diagram - Detailed architecture and system configuration of the existing system such as built drawings 	be handed over to successful bidder only.
43	PC 23 & PC 24	ITB 14.9 Section II. Bid Data Sheet BDS 3 of Volume I part 1 And Volume VII Part 3 Section VIII. Particular Conditions (Part B: Specific Provisions) Sub-Clause 14.1 The Contract Price	"Notwithstanding the provisions of subparagraph (b), Contractor's Equipment, including essential spare parts therefor, imported by the Contractor for the sole purpose of executing the Contract shall be exempt from the payment of import duties and taxes upon importation."	Our subcontractors are exempted from Tax and duties. However, we want confirmation about the first level of their subcontractors. Are they exempted from Tax & duty payment. Please clarify. As this will impact the pricing.	Exemption is only applicable to the contractor and their subcontractor.
44	page VI-2B-i-9	Section VI-2B : Specifications - Substations Scope and Preliminary General	Power System Study includes Power System Stability for Auto-Reclosing-We can send the finalized parameters for the calculation to the client (KETRACO)	Please confirm that KETRACO will take care of this study.	The clarification sought herein is not very explicit. However, the Contractor shall conduct all the studies indicated in Section VI-2B-I sub clause 3.2 inclusive of the one quoted herein this clarification item.

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
45	Item 330 C2- Substations Schedule No.3	Requirements for Substations Volume 1 Part 1Section IV. Price Schedules:	Laptop for 220 kV protection relay programming including all complete software and licenses.	Is there any PC Model requirement? Cannot find in specification- Please clarify	The specification for these laptops shall be in line with those given in Section VI. Employer's Requirements 1B- Specification-01-General_sub- clause 1.38.2 Project Communication Service. The following Additional features shall also be applicable to these laptops:- i). The laptops shall have semi- rugged or business-rugged durability without compromising on style and affordability. ii). The laptops should feature carbon fiber- reinforced frames, magnesium or aluminum alloy casing, break-resistant screens, spill- proof keyboards, hard drives be gel-mounted or protected by shock-absorbing dampers, and other such enhancement. iii). The laptops, should have

18

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
46	Item 371 C2- Substations Schedule No.3	Volume 1 Part 1 Section IV. Price Schedules:	Laptop for 220 kV protection relay programming including all complete software and licenses.	Are there any PC Model requirement? Cannot find in specification- Please clarify.	been tested against the 11 MIL-STD durability tests. iv). The battery should last at least eight hours on full high performance. Refer to response on TAC 3, No. 45
47	Item 381 C2- Substations Schedule No.3 Page IV-C2-9 & 498 page IV- C2-18	Volume 1 Part 1 Section IV. Price Schedules:	SCADA Interface and Configuration including Protection settings and retesting. For execution, Existing Software should be sent by KETRACO (downloaded from existing SCADA server). Software Modification (Update) only included.	KETRACO to confirm the download at the time of execution, so only modification will be included.	SCADA interface & Configuration is responsibility of Contractor. This to be done in coordination with KETRACO.
48	C2- Substations Schedule No.6 Page IV-C2-22 Item 621	Volume 1 Part 1 Section IV. Price Schedules:	Operator workstation	Please give more details of what is expected	Bidder shall propose most optimal workstation factoring in the size of operator room and this shall be subject to approval of Employer.

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
49		General	<p>Mariakani S/S FOX and SACS tendering- We need the existing drawings (GE SACS system configuration/ Substation Automation system architecture)</p> <p>The following technical items should be included in the existing drawings;</p> <ul style="list-style-type: none"> - Point to Point optical connection between devices. - SCADA software Type (Model name) - Spare Port and configuration file of existing ethernet switches (connection point for new 220kV line) - DGA data input list to Station Bus network - Type name of Energy meter 	<p>We request KETRACO to provide these drawings for the system design. Please confirm and share them.</p>	<p>Drawings/Specifications to be handed over to successful bidder only.</p>
50		General		<p>Please Clarify whether Third Party Inspection / Pre-shipment Materials as per Kenyan regulation Mandatorily Required or Exempted for this project.</p>	<p>Yes, Pre-Export Verification of Conformity is required for every imported materials as per Kenya Bureau of Standards. For more information check official website:</p>

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
51		General		We presume that the Right of Way Compensation, possession of site, access to way leave & obtaining all statutory approvals from various authorities in Kenya will be the responsibility of the Employer (Client). Please confirm?	https://www.kebs.org/pre-export-verification-of-conformity/ Refer to Fidic General Conditions & Part B: Specific Provisions Sub Clause 2.1 & 2.2.
52		General		Taxes for the Subcontractor, clearing & Forwarding Agency is exempted as per main contractor. Please Clarify?	Refer to Section VIII, PC-1 Part A-Contract Data (CD) Sub Clause 1.16 (A)
53		General		Kindly provide KMZ file for the following i) 220KV Transmission Line ii) 33kV UG Cable	i) 220kV Transmission Line- Refer to Tender Clarification & Addendum No. 1 ii) 33kV UG Cable – The applicable route is part of the larger 'Dongo-Kundu Special Economic Zone' planning and the same is currently unavailable and it shall be shared later. Presently only indicative layout is as shown in the route map availed with this Tender Addendum and

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
					Clarification (drawing no. MSEZ-2022-DL-E-005-33kV Distribution Line Route).
54		General		Please provide the Specification of Access Road and confirm whether it can be temporary for Construction purpose, or it shall be for maintenance purpose also.	Specification are provided in this Tender Addendum and Clarification No. 3. The access roads shall be for both construction and maintenance purpose.
55	BDS-4 Pg.No.45	Section II. Bid Data Sheet	WITHHOLDING TAX: KETRACO has duty of collecting withholding tax from contractors on behalf of Kenya Revenue Authority under the Kenyan Income Tax Act.	Client shall Evaluate the Quoted Value of Bidders Prices which are EXCLUSIVE OF ALL TAXES & DUTIES. In case, Deduction on account of withholding tax is applicable, kindly provide the % of same under Schedule Nos. 1 to 7.	The Income Tax Act - Cap 470 states the rates of Withholding tax. It is currently 3% for resident companies and 20% for non-resident companies.
56		General		Kindly provide the Soft Copy (Excel) file of the GTP for us to fill the Details.	Editable MS Word files are available on KETRACO website.
57		General		Kindly provide the soft copy (Excel) file of the Price Schedule.	Provided in Tender Clarification & Addendum No. 2
58	VI-1B-02-5	Section VI. Employer's Requirements - 1B-Specification-	Bird Diverter System It is also applicable to install any structure to divert the birds along the transmission line	Bird Diverter System It is also applicable to install any structure to divert the birds along the transmission line instead of	The clarification sought herein is not explicit.

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
		Transmission Line -02-Overhead Line Conductors	instead of attaching the bird diverter system to the conductor.	attaching the bird diverter system to the conductor.	However, note that Bird Diverter System shall be permitted to be installed only on Phase Conductors without any power loss and OPGW/Earthwire Conductor and NO structures shall be permitted as implied by the statement quoted herein from clause 2.6 of Section VI. Employer's Requirements - 1B-Specification-Transmission Line -02-Overhead Line Conductors.
59	ITB 14.9	Section II Bid data sheet		As per mentioned the project is exempted from taxes, customs, duties, levies, please to confirm if the project is exempted also from VAT and WHT and any other type of taxes for foreign bidders	Refer to ITB 14.9 of Section II, Bid Data Sheet
60	ITB 14.9	Section II Bid data sheet		As per mentioned the project is exempted from taxes, customs, duties, levies, please to confirm if the local works, installation, & civil works are exempted also from VAT and WHT	Refer to ITB 14.9 of Section II, Bid Data Sheet

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
61		Price schedule	Price schedule	Please to share excel format for the price schedule	Provided in Tender Clarification & Addendum No. 2.
62	ITB 15.1	Section II Bid data sheet		Please to confirm if accepted to provide all the project prices in USD for material supply, civil works, & installation works.	Refer ITB 15.1 of Section II, Bid Data Sheet
63	ITB 11.2 (j)	Section II Bid data sheet		Please to confirm if the bidder can provide declaration during the tendering phase to provide the document for eligibility for registration with NCA (National Construction Authority) class 1 in Kenya later after awarding the project.	Refer As per specified in ITB 11.2 (j) of Section II, Bid Data Sheet.
64	Section VIII	Clause 5, procurement conditions (b) A Joint Venture (JV) composed of a Japanese		Please to confirm if the bidder can provide declaration for the partners except Japanese partners	Proof of incorporation and registration in Kenya for partners other than Japanese

No	Part / Page	Section / Clause No.	Reference	Clarification	Reply from KETRACO
			<p>company (ies)6 and a company(s) in a recipient country. Specifically, the JV must satisfy all of the following conditions:</p> <p>(i) The lead partner shall be a Japanese company.</p> <p>(ii) The total share of work7 of Japanese partners in the JV is more than fifty (50%) of the contract amount8; and</p> <p>(iii) The partners except Japanese partners shall meet all of the following conditions.</p> <p>-The partners shall be juridical persons incorporated and registered in a recipient country or Japan.</p> <p>-The partners shall have their appropriate facilities for producing or providing goods and services in a recipient country or Japan.</p> <p>The partners actually conduct their business in a recipient country or Japan.</p>	<p>to be registered in Kenya later after awarding the project.</p>	<p>must be provided at the time of bid submission.</p> <p>Refer further to response to Item 3 of Tender Addendum and Clarification No. 1</p>