



ZAMBIA – TANZANIA INTERCONNECTOR PROJECT

Package 3

CLARIFICATIONS TO BIDDING DOCUMENTS

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
1.			Y	Due to the technical complexity of the project, together with the time required for coordination with manufacturers and collection of detailed technical documentation and supporting materials, we request for another one-month extension from the current 17th July, 2026 to 17th August, 2026 to allow us to adequately prepare a comprehensive and fully responsive bid submission.	Time extension of two (02) weeks is granted. Refer to Addendum 2, S.No 1 issued to amend the bid submission deadline from 7 August 2026 to 21 August 2026.
2.	Qualification 4.2 (a)	Section III – Evalu- ation and Qualifica- tion Criteria	N	Clause 4.2(a) – Specific Experience states the requirements as follows, “(a) Participation as contractor, joint venture member, management contractor, or subcontractor, in at least two (02) contracts within the last ten (10) years preceeding the bid submission deadline, each with a value of at least United States Dollars Sixty-Eight million_(USD 68 million), that have been successfully and substantially 6 completed and that are similar to the proposed Plant and Installation Services.	Note that the similarity of the contracts shall be as provided for in Section III – Evaluation and Qualification Criteria, Clause 4.2(a) – Specific Experience. This shall not be subject to any change.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				The similarity of the contracts shall be based on the following: (i) Scope Similarity The contracts must be similar in nature and complexity to the Section VII - Employer's Requirement. Similarity shall be based on the following: • Technical Scope: Design, supply, installation, and commissioning of double circuit (DC) overhead transmission lines (OHL) with a minimum 330kV. • Project Characteristics: Comparable physical size, complexity, methods/ technology, and execution approach. (ii) International Experience At least one (1) of the two contracts must have been implemented outside the Bidder's country of registration." We have successfully executed a 220 kV double-circuit transmission line project in Mauritania with a total route length exceeding 600 km and a contract value of more than USD 100 million. In view of the substantial project scale, complexity, and contract value, we kindly request clarification on whether the minimum voltage level requirement could be considered as 220 kV and above and whether our Mauritania project could be considered as meeting the requirements of Special Experience Requirement A.	

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3.	2.1.4 4.1.3	Section VII – Em- ployer’s Require- ments	N	ZTIP_RfB_Kasama-Nakonde_OHL_Package_3 2.1 Description of the Package 3 Transmission Lines 4.1 Overhead Line Design Data 2.1.4 Line Design Parameters Summary To ensure consistency, the following table summarizes key design parameters for all lines, aligned with EN 50341 (Level 3 reliability, 500-year return period) and IEC standards. Climate basis: wind 3s gust 36 m/s at 10m height (q₀=800 Pa), max temp +45°C, min -5°C, seismic MMI VI-VII per EN 1998. Altitude corrections per IEC 60071-2 (Ka=1.08 at 1,600 masl for 330/132kV; 1.16 at 2,200 masl for 400kV, segment-wise). Pollution: Heavy (Class d) for 330/132kV; Very Heavy (Class e) for 400kV to align with TANESCO. 4.1.3 Climatic Data While the detailed overhead transmission line design parameters are given in the Technical Schedules under General Requirements, the representative climatic conditions to be used for the transmission lines design shall be as follows: <table><tr><th>Description</th><th>Units</th><th>Value</th></tr><tr><td>Minimum ambient temperature</td><td>°C</td><td>-1</td></tr><tr><td>Average daily temperature</td><td>°C</td><td>25</td></tr><tr><td>Maximum ambient temperature</td><td>°C</td><td>45</td></tr><tr><td>Wind speed*</td><td>m/s</td><td>36</td></tr><tr><td>Keraunic levels (average ground flashes/km² / year)</td><td>No/km²/year</td><td>38</td></tr></table> * Wind speed is given as 3-second gust under terrain category B of IEC 60826:2017. This can be equated to a VRB wind speed value of 25.9m/s (10-minute mean) under the IEC 60826 wind load methodology. According to the definition of basic wind speed in IEC 60826, the basic wind speed at 10 minutes should be selected. The following are the basic wind pressures	Description	Units	Value	Minimum ambient temperature	°C	-1	Average daily temperature	°C	25	Maximum ambient temperature	°C	45	Wind speed*	m/s	36	Keraunic levels (average ground flashes/km ² / year)	No/km ² /year	38	Note that the wind data provided are at 3 seconds gust under terrain category B and 10m reference height. The wind data is deemed sufficient for bidding purpose and can be converted to IEC 60826 reference wind speed using the gust factor relationship as the main transmission line standard.
Description	Units	Value																					
Minimum ambient temperature	°C	-1																					
Average daily temperature	°C	25																					
Maximum ambient temperature	°C	45																					
Wind speed*	m/s	36																					
Keraunic levels (average ground flashes/km ² / year)	No/km ² /year	38																					

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				q0 under different wind speeds. Please kindly clarify basic wind pressure of 10 minutes should be taken. the 800 Pa is a write mistake $q_{0,3} = 0.5 \cdot \mu \cdot V_{RB,32} = 0.5 \cdot 1.225 \cdot 362 = 794 \text{ Pa}$ $q_{0,10} = 0.5 \cdot \mu \cdot V_{RB,102} = 0.5 \cdot 1.225 \cdot 25.92 = 572 \text{ Pa}$ IEC 60826 as following 6.2.4 Reference wind speed V_R The reference wind speed V_R (m/s) corresponding to the selected return period T is defined as mean value of the wind during a 10 min period at a level of 10 m above ground. Usually V_R is measured in weather stations typical of terrain type B. In such cases, V_R is identified as V_{RB}. where q_0 is the dynamic reference wind pressure (in Pa or N/m²) and is given in terms of the reference wind speed V_{RB} modified by roughness factor K_R (see Table 5) corresponding to the terrain category at the location of the line: $q_0 = \frac{1}{2} \rho (K_R V_{RB})^2 \quad (V_{RB} \text{ in m/s, and } q_0 \text{ in N/m}^2) \quad (13)$	
4.	4.10.3	Section VII – Employer's Requirements	N	4.10.3.11 Material All rolled steel sections, flats, plates and bolt and nut bars used shall consist of steel manufactured by an approved process and shall be to the requirements of BS EN 10025 for grades S235JR and S355JO steel or equivalent from other approved standards, the provisions of which in respect of tests and analyses shall be extended to include steel less than 6 mm thick. The steel shall be free from blisters, scales, laminations or other defects. Steel sections shall preferably be ISO Standard sections chosen with a view to avoiding delays in obtaining material. Please kindly confirm whether the Chinese steel Q235B and Q355B can be used. The following is the	Only the standards specified in the bidding documents shall be applied. Any proposed equivalent standard shall be supported by a technical equivalence demonstration and remain subject to ZESCO's approval under the bidding document.

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				comparison of Chinese GB structural steel with the EN 10025 steels. Standard Grade Yield strength (Mpa) ts-16mm16mm< 540mm Tensile strength (Mpa) Main chemical composition C (%) (max)Si (%) (max)Mn (%) (max)P(%) (max)S (%) (max) Min. elongation (%) <table><tr><td>EN10025</td><td>S235JO</td><td>235</td><td>225</td><td>360-510</td><td>0.19</td><td>0.35</td><td>1.40</td><td>0.040</td><td>0.040</td><td>26</td></tr><tr><td>GB/T 700</td><td>Q235B</td><td>235</td><td>225</td><td>370-500</td><td>0.20</td><td>0.35</td><td>1.40</td><td>0.045</td><td>0.045</td><td>26</td></tr></table> Standard Grade Yield strength (Mpa) ts-16mm16mm< 540mm Tensile strength (Mpa) Main chemical composition C (%) (max)Si (%) (max)Mn (%) (max)P(%) (max)S (%) (max) Min. elongation (%) <table><tr><td>EN10025</td><td>S355JO</td><td>355</td><td>345</td><td>470-630</td><td>0.20</td><td>0.55</td><td>1.6</td><td>0.040</td><td>0.040</td><td>22</td></tr><tr><td>GB/T 1591</td><td>Q355B</td><td>355</td><td>345</td><td>470-630</td><td>0.24</td><td>0.55</td><td>1.6</td><td>0.035</td><td>0.035</td><td>22</td></tr></table>	EN10025	S235JO	235	225	360-510	0.19	0.35	1.40	0.040	0.040	26	GB/T 700	Q235B	235	225	370-500	0.20	0.35	1.40	0.045	0.045	26	EN10025	S355JO	355	345	470-630	0.20	0.55	1.6	0.040	0.040	22	GB/T 1591	Q355B	355	345	470-630	0.24	0.55	1.6	0.035	0.035	22	
EN10025	S235JO	235	225	360-510	0.19	0.35	1.40	0.040	0.040	26																																							
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5.		Technical Sched- ules	N	<table><tr><td>0.7.24</td><td>Foundation Load Factors:</td><td></td></tr><tr><td>0.7.25</td><td>Concrete</td><td>1.5</td></tr><tr><td>0.7.26</td><td>Reinforcing steel</td><td>1.2</td></tr><tr><td>0.7.27</td><td>Conductors and earthwires under maintenance load conditions</td><td>1.6</td></tr><tr><td>0.7.28</td><td>Soil property at suspension towers</td><td>2</td></tr><tr><td>0.7.29</td><td>Soil property at angle towers</td><td>2.2</td></tr></table> Please kindly clarify how to use the factors of the foundation in the technical schedule. please confirm our design method Foundation load is calculated by standard loads(without load factor), the foundation factor is applied as below Concrete strength: $30/1.5 = 20 \text{ N/mm}^2$ Steel reinforcement yield strength: $410/1.2 = 341 \text{ N/mm}^2$ Take Foundation Class 2 for example: Design bearing capacity: $400/2 = 200 \text{ kN/m}^2$ (suspension tower) ; $400/2.2 = 181 \text{ kN/m}^2$ (angle tower) Design uplift frustum angle: $25/2 = 12.5^\circ$ (suspension tower) ; $25/2.2 = 11.3^\circ$ (angle tower) Soil density: $1600/2 = 800 \text{ kg/m}^3$ (suspension tower) ; $1600/2.2 = 727 \text{ kg/m}^3$ (angle tower) "	0.7.24	Foundation Load Factors:		0.7.25	Concrete	1.5	0.7.26	Reinforcing steel	1.2	0.7.27	Conductors and earthwires under maintenance load conditions	1.6	0.7.28	Soil property at suspension towers	2	0.7.29	Soil property at angle towers	2.2	Factors of the foundation provided for in the technical schedule is deemed sufficient for bidding purposes. Further, note that calculations for foundation loads shall be done in accordance with the standards specified in the RfB.
0.7.24	Foundation Load Factors:																						
0.7.25	Concrete	1.5																					
0.7.26	Reinforcing steel	1.2																					
0.7.27	Conductors and earthwires under maintenance load conditions	1.6																					
0.7.28	Soil property at suspension towers	2																					
0.7.29	Soil property at angle towers	2.2																					
6.	4.20	Technical Sched- ules Section VII – Employer's Requirements	N	<table><tr><td>0.7.31</td><td>Lattice Steel Towers:</td><td></td></tr><tr><td>0.7.32</td><td>Worst normal condition</td><td></td></tr><tr><td>0.7.33</td><td>Vertical</td><td>1.5</td></tr><tr><td>0.7.34</td><td>Transverse</td><td>1.5</td></tr><tr><td>0.7.35</td><td>Longitudinal</td><td>1.5</td></tr></table> 4.20 Towers for sensitive areas like the Euphorbia critical habitat	0.7.31	Lattice Steel Towers:		0.7.32	Worst normal condition		0.7.33	Vertical	1.5	0.7.34	Transverse	1.5	0.7.35	Longitudinal	1.5	Note that the safety provided for in Clause 4:20 applies for the Euphorbia area only. Kindly refer to App1.2.1 - 330kV Kasama – Nakonde Line Profile for towers in the sensitive Euphorbia area.			
0.7.31	Lattice Steel Towers:																						
0.7.32	Worst normal condition																						
0.7.33	Vertical	1.5																					
0.7.34	Transverse	1.5																					
0.7.35	Longitudinal	1.5																					

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				The Contractor shall design, survey, install, and erect all transmission line components per international standards and the Employer's Requirements. All engineering activities shall comply with ESHS obligations, particularly for sensitive areas like the Euphorbia critical habitat. 4.20.1 Tower Design Towers shall be designed to withstand specified loads with a safety factor of 1.5. Please kindly clarify whether the worst normal condition factor in the Technical Specification is only applicable to the sensitive areas in Clause 4.20. Such towers are not included in the BOQ. Please provide an estimated quantity.	All towers shall be calculated to the loads affected to each tower according to applicable standards.
7.	14.1	Section VIII – General Conditions of Contract	N	14.1 Except as otherwise specifically provided in the Contract, the Contractor shall bear and pay all taxes, duties, levies and charges assessed on the Contractor, its Subcontractors or their employees by all municipal, state or national government authorities in connection with the Facilities in and outside of the country where the Site is located. 14.2 Notwithstanding GCC Sub-Clause 14.1 above, the Employer shall bear and promptly pay (a) all customs and import duties for the Plant specified in Price Schedule No. 1; and	For pricing purposes, please refer to ITB 17.5 Schedule 1: Prices shall be based on Site (CIP– Kasama/Nankonde) – refer to ITB 17.5 (a). Schedule 2: Prices shall be based on Ex-W (Zambia). Refer to ITB 17.5 (b) (i) and (ii). Schedule 3: Prices shall be in line with ITB 17.5 (c) and broken down as per Schedule 3 Schedule 4: Prices shall be in line with ITB 17.5 (d) (including all taxes, duties, levies and charges payable in the Employer's Country) and broken down as per Schedule 4

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				(b) other domestic taxes such as, sales tax and value added tax (VAT) on the Plant specified in Price Schedules No. 1 and No. 2 and that is to be incorporated into the Facilities, and on the finished goods, imposed by the law of the country where the Site is located. The taxes for Schedules 3 and 4 are not mentioned. Please kindly clarify.	Schedule 5: (Grand Summary) – refer to Schedule 5 Schedule 6: Prices shall be based on CIP (imported Plant or Ex-W (Locally sourced Plant). Schedule 7: (Daywork rates) Bidders are mandated to provide prices as per the ITB 17.5						
8.	11.2	Section VIII – General Conditions of Contract	N	General Conditions of Contract, C Payment, 11. Contract Price, 11.2 Unless an adjustment clause is provided for in the FIDIC, the Contract Price shall be a firm lump sum not subject to any alteration, except in the event of a Change in the Facilities or as otherwise provided in the Contract. Please specify whether the settlement method for this project is a fixed lump sum or a fixed comprehensive unit price.	Note that the Contract Price shall be Lump Sum with price adjustment as provided for PCC11.2.						
9.	4.1.5	Section VII – Employer's Requirements	Y	Section VII - Employer's Requirements; Clause No. 4.1.5 Strength and Safety Factors Request you please clarify / correct the table since first two rows have the same description/ content. <table><tr><td>Strength factor steel members suspension towers yM</td><td>1.25</td></tr><tr><td>Strength factor steel members suspension towers yM</td><td>1.25</td></tr><tr><td>Strength factor steel bolts of tower connections yM</td><td>1.25</td></tr></table>	Strength factor steel members suspension towers yM	1.25	Strength factor steel members suspension towers yM	1.25	Strength factor steel bolts of tower connections yM	1.25	Refer to issued addendum 2 S.No 3 for amending of second row to “angle/tension towers” instead of suspension towers in Section VII - Employer's Requirements; Clause No. 4.1.5 Strength and Safety Factors; and addendum 2 S.No 5 for the same amendment in the Technical Schedules item 0.7.17.
Strength factor steel members suspension towers yM	1.25										
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10.	4.10.3.6	Section VII – Employer's Requirements	N	Section VII - Employer's Requirements; Clause No. 4.10.3.6 Loads on towers It is mentioned that "100% Wind at 15°C in 15° increments around the tower (Suspension and Tension) shall be considered". Further, in point a. Transverse loads of the same clause, It is mentioned that wind is to be applied in Normal direction (90deg), 45 deg and Longitudinal direction (0 deg) along with Reverse wind. We are considering Wind in 90 deg , 45 deg & 0 deg direction along with Reverse wind as per point a. of the clause. Request you to please confirm.	The requirements in Section VII - Employer's Requirements; Clause No. 4.10.3.6 Loads on towers shall stand.
11.	4.10.3.3 2.1.4	Section VII – Employer's Requirements	N	Section VII - Employer's Requirements; Clause No. 4.10.3.3 Environmental Parameters and 2.1.4 Line Design Parameters Summary As per clause no. 4.10.3.3 Environmental Parameters, the typical elevation of the line is given as 1600m above mean sea level, but in clause no. 2.1.4 Line Design Parameters Summary, the design altitude for 400kV line is 2200 m. Also, the elevation of 400kV line obtained from the google earth shows the maximum elevation of 1603 m only. We understand that the design altitude for 400kV line is 1600 m only as per clause no. 4.10.3.3. Request you to please confirm.	The design altitude parameters shall be as provided for in Section VII – Employer's Requirements sub-section 2.1.4 Line Design Parameters Summary. Further, note that altitude design level is 2200m for the 400kV line to conform with the design altitude level on Tanzania side.

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12.	4.10.2	Section VII – Employer's Requirements	N	Section VII - Employer's Requirements; Technical schedules Schedule No. 3 and Clause No. 4.10.2 Types and Use of Towers As per the Technical specifications, it is mentioned that the 330kV line passes through the Euphoria region which will be requiring 300SPEC towers, however it is not included in the price schedule. Moreover, there is no technical data related to design is given in the technical specifications. Please furnish the details if this tower is to be used in the line.	Kindly note that the types of towers on the 330kV stretch (inclusive of the Euphorbia region) shall be provided for in the Price Schedules and Section VII – Employer's Requirements subsection 4.10.2 (<i>Table 1 - Tower Types 330kV double circuit</i>). 330SPEC towers have been excluded in the Euphorbia area for the project. No 330SPEC towers in this project. Refer to App1.2.2 - 330kV Kasama-Nakonde Staking Table Rev D for comprehensive list of tower types on the 330kV line.
13.	Schedule 1	Price Schedules	Y	Price Schedules SCHEDULE-1 The quantity of +3m Body extension for the tower type 330DA is given as 67 in price schedule. However, as per staking table, the quantity is 66. Request you please clarify the correct quantity.	Note that the quantities of 330kV DA - Susp +3 towers shall be as provided for in App1.2.2 - 330kV Kasama-Nakonde Staking Table Rev D. Refer to Addendum 2 S.N 2 issued to amend the quantities in Price schedule 1, item 1.02 and schedule 4, item 8.02 from 67 to 66.
14.	4.10.3.9 3.2.21	Section VII – Employer's Requirements Technical Schedules	Y	Section VII - Employer's Requirements; Technical Schedules 3.2 and Clause No. 4.10.3.9 Design of Members and Connections As per the technical schedule, item no 3.2.21, the minimum thickness of redundant members is given as 5 mm. However, as per clause no. 4.10.3.9, it is 4mm. We understand that minimum redundant member thickness to be considered is 4 mm. Please confirm.	The minimum steel thickness of redundant members shall be 5mm as provided for in Technical Schedules item 3.2.21 Refer to Addendum 2 S.No 3 issued to amend the thickness of redundant members in Section VII - Employer's Requirements; Subsection No. 4.10.3.9 Design of Members and Connections from 4mm to 5mm.

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15.	4.7.9	Section VII – Employer's Requirements	N	Section VII - Employer's Requirements; Clause No. 4.7.9 Aircraft Warning Spheres (Shield Wire Marking Spheres) As per the clause no. 4.7.9, it is mentioned that "warning spheres shall not be fitted on the OPGW." Kindly furnish the drawing showing the arrangement of Warning spheres. Since, 132kV towers are to be fitted with one OPGW only and no other shielding wire, we understand that there is no requirement of warning sphere for 132kV line. Please confirm.	Information provided is deemed sufficient for bidding purposes. There shall be no warnings spheres for 132kV lines.
16.	Schedule 1	Price Schedules Section VII – Employer's Requirements	N	Quantity of Counterweight is provided in Price schedule. However, no detail is given for its requirement in the specification. Kindly clarify regarding the requirement of Counterweights.	The quantities of Counterweight shall be as provided for in Price schedule. Counterweights shall be provided as required by the Contractor's detailed transmission line design in accordance with IEC 60826 and approved applicable transmission line design standards.
17.	4.10.3.10	Section VII – Employer's Requirements	Y	Section VII - Employer's Requirements; Clause No. 4.10.3.10 Bolt Design Details Clause no. 4.10.3.10 specifies the size of bolt to be used for all towers. However, grade of bolts is not specified. We are considering Bolts of Grade 5.6.	The grade of bolts shall be Type 1 in accordance with ASTM A394. Refer to Addendum 2 S.No 3 issued to include Grade of bolts in Section VII - Employer's Requirements; Clause No. 4.10.3.10 Bolt Design Details
18.			N	We propose to use minimum unequal angle of size 45 X 30 X 4. Please confirm.	No unequal angle will be allowed. Refer to RFC 14

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19.	4.10.10.1	Section VII – Employer's Requirements	N	Section VII - Employer's Requirements; Clause No. 4.10.10.1 Tower Testing As per clause no. 4.10.10.1 Tower Testing "A galvanized tower of each type, with extensions shall be fabricated and transported to the test site for Tower loading Tests as per IEC 60652" We understand that Tower shall be tested with Maximum body and max. Leg extension. Please confirm.	Yes, confirmed.
20.		Technical Schedules	N	Section VII - Employer's Requirements; Technical Schedules, 0.1 Climatic conditions, Item No. 0.1.21 Safety Factor As per Point no. 0.1.21, Safety factor $K_s = 1.05$ is provided. Kindly clarify where this factor is applicable/ to be considered	Technical Schedules, 0.1 Climatic conditions, Item No. 0.1.21 Safety Factor shall be 1.05 as provided for.
21.	4.10.3.6	Section VII – Employer's Requirements	N	Section VII - Employer's Requirements; Clause No. 4.10.3.6 1) For security requirements in Tower Loadings (Broken wire condition), it is mentioned that the tension towers shall be checked for Two broken phases/earth-wires broken. We understand that either two phases broken or one phase and one earth-wire broken on the same side and on the same span shall be considered for broken wire condition. Please confirm.	1) Security requirements in Tower Loadings shall be in accordance with IEC 60826. 2) Yes, for all voltage levels 400kV, 330kV and 132kV

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				2) As per the above-mentioned clause, please confirm whether same broken wire condition shall be considered for 400kV, 330kV and 132kV.	
22.	4.10.3.6	Section VII – Employer's Requirements	N	Section VII - Employer's Requirements; Clause No. 4.10.3.6 Spans to be considered for Broken wire condition is not provided in specification. We are considering broken wire spans as 75% of Normal spans. Kindly confirm.	The requirements shall be in accordance with IEC 60826
23.			N	Section VII - Employer's Requirements; Clause No. 4.20 Towers for sensitive areas like the Euphorbia critical habitat. 1) As per clause no. 4.20, the towers in the sensitive region of Euphorbia, shall be designed to withstand specified loads with a safety factor of 1.5. We understand that this factor of 1.5 is applied on working loads. Please confirm. 2) Please confirm whether structure partial factors (γ_M) for material strength and partial factors (γ_F) for action also has to be considered over and above safety factor of 1.5 as mentioned above in point i.	Refer to RFC 6
24.	4.10.3.9 3.2	Section VII – Employer's Requirements	Y	Section VII - Employer's Requirements; Clause No. 4.10.3.9 & Technical schedules 3.2 As per clause no. 4.10.3.9, maximum length of members is 12m. However, as per Technical schedules, it is	The maximum length of members shall be 12 meters as provided for Section VII - Employer's Requirements; Clause No. 4.10.3.9.

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		Technical Sched- ules		mentioned as 9m. Kindly clarify the maximum length of member to be considered.	Refer to Addendum 2 S.No 5 issued to amend Technical schedules item 3.2.23 from “9m” to “12m”. Further, there shall be no cutting of members on site. All mem- bers shall be ready for assembly on site.																									
25.	4.10.3.6	Section VII – Em- ployer’s Require- ments	N	Section VII - Employer’s Requirements; Clause No. 4.1.2.1 Maximum values of swing angle are provided in clause no. 4.1.2.1. We understand that these values of maxi- mum swing only should be considered for checking of tower clearances and tower geometry should be final- ized based on this. Kindly clarify similar requirement of swing/clearance under reduced wind condition. <table border="1"><thead><tr><th>Description</th><th>Units</th><th>400kV</th><th>330kV</th><th>132kV</th></tr></thead><tbody><tr><td>Between conductor and tower steel</td><td></td><td></td><td></td><td></td></tr><tr><td>- Still air</td><td>m</td><td>3,70</td><td>2,80</td><td>1,30</td></tr><tr><td>- Maximum swing</td><td>m</td><td>2,90</td><td>2,50</td><td>1.10</td></tr><tr><td>- Maximum Swing Angle</td><td>°</td><td>35</td><td>35</td><td>35</td></tr></tbody></table>	Description	Units	400kV	330kV	132kV	Between conductor and tower steel					- Still air	m	3,70	2,80	1,30	- Maximum swing	m	2,90	2,50	1.10	- Maximum Swing Angle	°	35	35	35	Yes. The bidder shall optimize tower design in accordance with BS EN 50341.
Description	Units	400kV	330kV	132kV																										
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- Still air	m	3,70	2,80	1,30																										
- Maximum swing	m	2,90	2,50	1.10																										
- Maximum Swing Angle	°	35	35	35																										
26.	4.1.5	Section VII – Em- ployer’s Require- ments	N	Section VII - Employer’s Requirements; Clause No. 4.1.5 Strength & Safety factors As per clause no. 4.1.5, it is mentioned that structure partial factors for material strength (γM) and partial fac- tors for actions (γF) are to be considered for tower de- sign. Moreover, it is also mentioned that the contractor shall ensure that the strength coordination provided within the design follows the basic principles as stipulated within IEC 60826.	Information provided is deemed sufficient for bidding purposes. Further, the contractor shall ensure that the strength coordina- tion provided within the design follows the basic principles as stipulated within IEC 60826.																									

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				We shall consider γ_M & γ_F factors as per clause no. 4.1.5 for tower design. However, kindly clarify significance of indicating strength coordination factors as per IEC 60826.	

New RFCs

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
27.	4.10.3 3.2	Section VII – Employer's Requirements Technical Schedules	Y	4.10.3 Tower Design TECHNICAL SCHEDULES – 3. Lattice Steel Towers 4.10.3.9 Design of Members and Connections Unless otherwise stated in these specifications, the design of overhead transmission line towers shall conform to the latest edition of IEC 60826. Redundant members supporting a principal or secondary member shall be designed to sustain a compression load equal to 2.5% of the maximum load in the principal or secondary member. The limiting slenderness ratio (L/r) for the family of towers shall be 150 for principal members (legs and main crossarm members) and 200 for secondary members: The minimum thickness of the members for towers shall be:	Refer to Addendum 2 S.No 3 issued to amend the thickness of redundant members in Section VII - Employer's Requirements; Subsection No. 4.10.3.9 Design of Members and Connections from 4mm to 5mm

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE																																	
				- Principal 6 mm - Secondary 4 mm - Redundant 4 mm - Plates 6 mm or thickness of connecting member plus 2 mm <table><tr><td>3.2.13</td><td>Maximum slenderness ratio - L/r:</td><td></td></tr><tr><td>3.2.14</td><td>• Main leg, stub and main compression members in crossarm</td><td>120</td></tr><tr><td>3.2.15</td><td>• All other members having computed stresses</td><td>200</td></tr><tr><td>3.2.16</td><td>• Redundant members without computed stressed</td><td>250</td></tr><tr><td>3.2.17</td><td>• Tension members only</td><td>300</td></tr><tr><td>3.2.18</td><td>Minimum thickness (t) and size of steel members of towers shall be as follows:</td><td></td></tr><tr><td>3.2.19</td><td>• Main leg, stub and main compression members in crossarms</td><td>6</td></tr><tr><td>3.2.20</td><td>• All other members having computed stresses</td><td>5</td></tr><tr><td>3.2.21</td><td>• Redundant members without computed stressed</td><td>5</td></tr><tr><td>3.2.22</td><td>• Gusset plates</td><td>6</td></tr><tr><td>3.2.23</td><td>Maximum length of structural member</td><td>9</td></tr></table> Kindly confirm limitings lenderness ratio (L/r) of main leg and crossarm members should be 150 as the America standard ASCE 10-15.	3.2.13	Maximum slenderness ratio - L/r:		3.2.14	• Main leg, stub and main compression members in crossarm	120	3.2.15	• All other members having computed stresses	200	3.2.16	• Redundant members without computed stressed	250	3.2.17	• Tension members only	300	3.2.18	Minimum thickness (t) and size of steel members of towers shall be as follows:		3.2.19	• Main leg, stub and main compression members in crossarms	6	3.2.20	• All other members having computed stresses	5	3.2.21	• Redundant members without computed stressed	5	3.2.22	• Gusset plates	6	3.2.23	Maximum length of structural member	9	
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S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				that establish the properties and suitability of the material. 3.3 MINIMUM SIZES Minimum thicknesses shall be 1/8 in. (3 mm) for members and 3/16 in. (5 mm) for connection plates. See Section 7.3 for steel exposed to corrosion at the ground line. 3.4 SLENDERNESS RATIOS Limiting slenderness ratios for members carrying calculated compressive stress shall be the following: for leg members: $L/r \leq 150$; for other members: $KL/r \leq 200$. The slenderness ratio KL/r for redundant members shall not exceed 250. The slenderness ratio L/r for tension-only members detailed with draw shall be greater than 300 but less than or equal to 500. Kindly confirm the minimum thickness of the redundant and secondary member can be 4 mm.	
28.	4.1.2.1 4.1.3 4.10.3.7	Section VII – Employer's Requirements	N	4.1.2 Clearances 4.1.2.1 Live Metal-Structure Clearances (Tower Clearances) 4.1.3 Climatic Data 4.10.3.7 Tower geometry 4.1.2.1 Live Metal-Structure Clearances (Tower Clearances) The clearances between conductors and tower steel shall be calculated by the Contractor in accordance with standard and design (maximum swing angle 35°). The following shall be used for reference purposes only.	Information provided is deemed sufficient for bidding purposes. Refer to Annex E of BS EN 50341 standard.

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE																																											
				<table><tr><th>Description</th><th>Units</th><th>400kV</th><th>330kV</th><th>132kV</th></tr><tr><td>Between conductor and tower steel</td><td></td><td></td><td></td><td></td></tr><tr><td>- Still air</td><td>m</td><td>3,70</td><td>2,80</td><td>1,30</td></tr><tr><td>- Maximum swing</td><td>m</td><td>2,90</td><td>2,50</td><td>1.10</td></tr><tr><td>- Maximum Swing Angle</td><td>°</td><td>35</td><td>35</td><td>35</td></tr></table> 4.1.3 Climatic Data While the detailed overhead transmission line design parameters are given in the Technical Schedules under General Requirements, the representative climatic conditions to be used for the transmission lines design shall be as follows: <table><tr><th>Description</th><th>Units</th><th>Value</th></tr><tr><td>Minimum ambient temperature</td><td>°C</td><td>-1</td></tr><tr><td>Average daily temperature</td><td>°C</td><td>25</td></tr><tr><td>Maximum ambient temperature</td><td>°C</td><td>45</td></tr><tr><td>Wind speed*</td><td>m/s</td><td>36</td></tr><tr><td>Keraunic levels (average ground flashes/km² / year)</td><td>No/km²/year</td><td>38</td></tr></table> * Wind speed is given as 3-second gust under terrain category B of IEC 60826:2017. This can be equated to a VRB wind speed value of 25.9m/s (10-minute mean) under the IEC 60826 wind load methodology. 4.10.3.7 Tower geometry Tower top geometry to be determined from the above clearance requirements in still air. Still air clearances are also to be applied to phase conductors supported by suspension sets, pilot sets and jumpers inclined up to 10° towards the tower to account for low wind speeds. Power frequency clearances shall be used for phase to earth clearances at maximum conductor and insulator swing under a 1:50 year return wind. The standard height tower to be based on the sag of the phase conductors at a maximum operating temperature of	Description	Units	400kV	330kV	132kV	Between conductor and tower steel					- Still air	m	3,70	2,80	1,30	- Maximum swing	m	2,90	2,50	1.10	- Maximum Swing Angle	°	35	35	35	Description	Units	Value	Minimum ambient temperature	°C	-1	Average daily temperature	°C	25	Maximum ambient temperature	°C	45	Wind speed*	m/s	36	Keraunic levels (average ground flashes/km² / year)	No/km²/year	38	
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S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE																								
				85°C, 80°C, and 75°C for 400kV, 330kV and 132kV re- spectively, for the minimum ground clearance in accord- ance with each voltage level. The wind speed is 25.9m/s (10-minite mean, 500-year re- turn period) according to chapter 2.1.4 Line Design Pa- rameters Summary and 4.1.3 Climatic Data in the tech- nical requirements. Maximum conductor and insulator swing for Power fre- quency should be under 50 years defined in chapter 4.10.3.7. Table 2 – Default γ_T factors for adjustment of climatic loads in relation to return period T versus 50 years <table><tr><th rowspan="2">Return period T years</th><th>Wind speed</th><th colspan="3">Ice variable</th></tr><tr><th>γ_{TW}</th><th>γ_{Tt} (ice thickness)</th><th>or</th><th>γ_{TW} (ice weight)</th></tr><tr><td>50</td><td>1</td><td>1</td><td></td><td>1</td></tr><tr><td>150</td><td>1,10</td><td>1,15</td><td></td><td>1,20</td></tr><tr><td>500</td><td>1,20</td><td>1,30</td><td></td><td>1,45</td></tr></table> The factor should be 1.2 between 50 years and 500 years defined in IEC 60826, 25.9/1.2=21.58m/s should be used for swing angle calculation. The weight/wind span ratio(suspension tower) is 55% de- fined chapter 4.10.3.5. For example 330kV, the swing angle on suspension tower should be around 47 degree based on technical require- ments and IEC 60826. The clearance requirements on Maximum swing angle is 2.5m, it is much more than the value in standard BS EN 50341.	Return period T years	Wind speed	Ice variable			γ_{TW}	γ_{Tt} (ice thickness)	or	γ_{TW} (ice weight)	50	1	1		1	150	1,10	1,15		1,20	500	1,20	1,30		1,45	
Return period T years	Wind speed	Ice variable																											
	γ_{TW}	γ_{Tt} (ice thickness)	or	γ_{TW} (ice weight)																									
50	1	1		1																									
150	1,10	1,15		1,20																									
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S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE																																				
				Table 5.5 — Minimum air clearances necessary to withstand the power frequency voltage (to be used in extreme wind conditions) <table><tr><th>Highest system voltage U_n (kV)</th><th>D_{50Hz,p,s} (m) $K_p = 1,45$ conductor-structure</th><th>D_{50Hz,p,p} (m) $K_p = 1,60$ conductor to conductor</th></tr><tr><td>52</td><td>0,11</td><td>0,17</td></tr><tr><td>72,5</td><td>0,15</td><td>0,23</td></tr><tr><td>100</td><td>0,19</td><td>0,30</td></tr><tr><td>123</td><td>0,23</td><td>0,37</td></tr><tr><td>145</td><td>0,27</td><td>0,42</td></tr><tr><td>170</td><td>0,31</td><td>0,49</td></tr><tr><td>245</td><td>0,43</td><td>0,69</td></tr><tr><td>300</td><td>0,51</td><td>0,83</td></tr><tr><td>420</td><td>0,70</td><td>1,17</td></tr><tr><td>525</td><td>0,86</td><td>1,47</td></tr><tr><td>765</td><td>1,28</td><td>2,30</td></tr></table> Please kindly confirm which case would be followed: Case 1: 35 degree+2.5m clearance Case 2: 47 degree+0.7m clearance	Highest system voltage U_n (kV)	D _{50Hz,p,s} (m) $K_p = 1,45$ conductor-structure	D _{50Hz,p,p} (m) $K_p = 1,60$ conductor to conductor	52	0,11	0,17	72,5	0,15	0,23	100	0,19	0,30	123	0,23	0,37	145	0,27	0,42	170	0,31	0,49	245	0,43	0,69	300	0,51	0,83	420	0,70	1,17	525	0,86	1,47	765	1,28	2,30	
Highest system voltage U_n (kV)	D _{50Hz,p,s} (m) $K_p = 1,45$ conductor-structure	D _{50Hz,p,p} (m) $K_p = 1,60$ conductor to conductor																																							
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765	1,28	2,30																																							
29.	4.10.3.4 07.30 – 07.42	Section VII - Em- ployers Require- ment Technical Sched- ules	N	Section VII - Employers Requirement, Technical Sched- ules, Point No. 7.30 We understand that the factors below are to be considered only for Towers in Euphorbia region over and above partial factors considered for loads & material strength as per 4.10.3.4. Kindly confirm.	Refer to RFC 6																																				

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE																																																																	
				<table><tr><td>0.7.30</td><td>Safety Factors:</td><td></td><td></td><td></td></tr><tr><td>0.7.31</td><td>Lattice Steel Towers:</td><td></td><td></td><td></td></tr><tr><td>0.7.32</td><td>Worst normal condition</td><td></td><td></td><td></td></tr><tr><td>0.7.33</td><td>Vertical</td><td>1.5</td><td></td><td>Factor</td></tr><tr><td>0.7.34</td><td>Transverse</td><td>1.5</td><td></td><td>Factor</td></tr><tr><td>0.7.35</td><td>Longitudinal</td><td>1.5</td><td></td><td>Factor</td></tr><tr><td>0.7.36</td><td>Construction and maintenance:</td><td></td><td></td><td></td></tr><tr><td>0.7.37</td><td>Vertical</td><td>1.5</td><td></td><td>Factor</td></tr><tr><td>0.7.38</td><td>Transverse</td><td>1.5</td><td></td><td>Factor</td></tr><tr><td>0.7.39</td><td>Longitudinal</td><td>1.5</td><td></td><td>Factor</td></tr><tr><td>0.7.40</td><td>Insulators and Fittings:</td><td></td><td></td><td></td></tr><tr><td>0.7.41</td><td>Worst normal condition</td><td>1.25</td><td></td><td>Factor</td></tr><tr><td>0.7.42</td><td>Construction and maintenance</td><td>1.25</td><td></td><td>Factor</td></tr></table>	0.7.30	Safety Factors:				0.7.31	Lattice Steel Towers:				0.7.32	Worst normal condition				0.7.33	Vertical	1.5		Factor	0.7.34	Transverse	1.5		Factor	0.7.35	Longitudinal	1.5		Factor	0.7.36	Construction and maintenance:				0.7.37	Vertical	1.5		Factor	0.7.38	Transverse	1.5		Factor	0.7.39	Longitudinal	1.5		Factor	0.7.40	Insulators and Fittings:				0.7.41	Worst normal condition	1.25		Factor	0.7.42	Construction and maintenance	1.25		Factor	
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30.	4.10.3.5	Section VII - Em- ployers Require- ment	N	Section VII - Employers Requirement, Clause No. 4.10.3.5 – Table 6 Wind span value is not provided in Table 6. It is mentioned that Maximum sum of adjacent spans shall be 880m. Ac- cordingly, we are considering Wind span as half of sum of adjacent spans i.e 880/2 = 440m for both Suspension & Tension tower. Kindly confirm.	The wind span shall be half the sum of adjacent spans.																																																																	
31.	4.10.3.6	Section VII - Em- ployers Require- ment	N	Section VII - Employers Requirement, Clause No. 4.10.3.6 Temperature condition to be considered for Construction & Maintenance loading is not mentioned. We are considering Minimum Temperature Nil Wind condition as per IEC 60826 clause no. 6.5.3 & 6.5.4. Kindly confirm our assumption is correct.	The requirements shall in accordance with IEC 60826																																																																	

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
32.	4.10.3.9	Section VII - Employers Requirement	N	As per clause "Redundant members shall also comply with an everyday stress EDS +2.5 % of EDS and 1.5 kN for the load of a linesman (All members with an angle less than 15° with the horizontal)." Above statement is not clear. Kindly clarify.	The specification requires that all horizontal or near-horizontal redundant members be designed to support both the normal everyday structural loads (with a 2.5% increase in conductor tension) and a 1.5 kN maintenance worker load.
33.	4.10	Section VII - Employers Requirement	N	Section VII - Employers Requirement, Table 6 [Clause No. 4.10 & "132kV Nakonde-Isoka Staking Table Rev B" According to the "Tower Design span criteria" in Table 6 [Clause 4.10, Page 334], the maximum single span for 132kV towers is limited to 350 meters. However, a review of the "132kV Nakonde-Isoka Staking Table Rev B" reveals multiple locations where this span limit is exceeded. The specific span violations identified are as follows : a) Structure 3: Ahead Span = 360 m [App1.3.2 - 132kV Nakonde-Isoka Staking Table Rev B] b) Structure 6: Ahead Span = 354.963 m [App1.3.2 - 132kV Nakonde-Isoka Staking Table Rev B] c) Structure 12: Ahead Span = 370 m [App1.3.2 - 132kV Nakonde-Isoka Staking Table Rev B] d) Structure 15: Ahead Span = 390 m [App1.3.2 - 132kV Nakonde-Isoka Staking Table Rev B] e) Structure 17: Ahead Span = 397 m [App1.3.2 - 132kV Nakonde-Isoka Staking Table Rev B]	The information provided is deemed sufficient for bidding purposes. The bidder shall optimise the design to meet the requirements as provided for in Section VII - Employers Requirement, Table 6 [Clause No. 4.10.3.5].

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				f) Structure 25: Ahead Span = 420 m (Maximum violation) [App1.3.2 - 132kV Nakonde-Isoka Staking Table Rev B] g) Structure 30: Ahead Span = 360 m [App1.3.2 - 132kV Nakonde-Isoka Staking Table Rev B] h) Structure 31: Ahead Span = 354 m [App1.3.2 - 132kV Nakonde-Isoka Staking Table Rev B] Please clarify for above mismatch. Also, kindly confirm wind span & maximum single span to be considered for 132kV.	
34.	4.1.2.6	Section VII - Employers Requirement	Y	Section VII – Employer's Requirements, Clause No. 4.1.2.6 Phase Spacing & Conductor configuration We are of the opinion that equation given to calculate minimum horizontal & vertical spacing seems incorrect. The minimum horizontal spacing (D_horizontal) between fixing points of phases on the crossarm shall be derived from the following formula: $D_horizontal = \sqrt{(f+t)^2 + b^2}$ where: f = final conductor sag at +80°C in m; t = length of insulator set in m (d=0 for line-post insulators); b = bundle conductor spacing in m. The minimum vertical spacing (D_vertical) between fixing points of conductors on the towers shall be derived from the following formula:	Addendum 2 S.No 3 issued to amend Section VII – Employer's Requirements, Clause No. 4.1.2.6 from "f = final conductor sag at +800C" to "f = final conductor sag at +80°C". Refer to RfC 194 and Addendum 1 S.No 11.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				$V_{\text{vertical}} = \sqrt{(f+t)^2}$ where: f = conductor sag at +800C in m; t = vertical length of insulator set in m. Kindly clarify.	
35.	4.10.8.2	Section VII - Employers Requirement	Y	Section VII – Employer's Requirements, Clause No. 4.10.8.2 As per clause no. 4.10.8.2, "Each tower shall be provided with ladder bolts of an approved type on one leg of tower body and on each side of delta structure and spaced on alternative flanges at 375 mm starting at ACD level and continuing up to 1.0 m below the shield wire attachment point." Generally, as per Transmission line practice, For D/C towers, step bolts are provided on two diagonally opposite legs. Kindly clarify.	Addendum 2 S.No 3 issued to amend Section VII – Employer's Requirements, Clause No. 4.10.8.2 from "Each tower shall be provided with ladder bolts of an approved type on one leg of tower body..." to "Each tower shall be provided with ladder bolts of an approved type on two diagonally opposite legs of tower body... "
36.	4.10.8.2	Section VII - Employers Requirement	N	Section VII – Employer's Requirements, Clause No. 4.10.8.2 Step bolt details are not provided. We are considering 16mm dia. bolts. Kindly confirm.	The step bolts shall conform to standard ASTM A307 as per Section VII – Employer's Requirements, Clause No. 4.9.1 and shall be able to withstand 1500N as per Section VII – Employer's Requirements, Clause No. 4.10.8.2.
37.		Section VII - Employers Requirement	Y	Distance between Concrete level & Ground level is not furnished. We are considering distance of 500mm CL-GL. Kindly confirm.	Refer to item 1A of the 132kV, 330kV and 400kV Price schedule 1. Addendum 2 S.No 3 issued to add " All foundation must have a chimney height above ground of minimum 500mm

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
					(500mm should be taken above site maximum flood level)" to Section VII clause 4.11.4 Addendum 2 S.No 2 issued to amend 132kV, 330kV and 400kV Price Schedule 2 & 4 - item 1A from "All foundation must have a chimney height above ground of minimum 400mm " to "All foundation must have a chimney height above ground of minimum 500mm "
38.		Section VII - Em- ployers Require- ment	N	Kindly confirm the maximum depth of foundation which can be considered for this project.	This will be according to contractor's soil investigation and detailed design in line with Section VII sub-section 4.13 of the RfB
39.		Section VII - Em- ployers Require- ment	N	Location of Euphorbia zone is not clear. Kindly provide co-ordinates of starting & ending point of Euphorbia zone.	Refer to App1.2.1 - 330kV Kasama – Nakonde Line Pro- file (page 7/86) for co-ordinates of starting & ending point of Euphorbia zone.
40.		General	N	We request employer to furnish Typical Foundation Draw- ings & typical hardware drawings for 400 kV D/C, 330 kV D/C and 132 kV D/C OHTL.	Kindly refer to the following drawings; App1.1.4 - 400kV Nakonde-Tanzania Foundation App1.2.4 - 330kV Kasama-Nakonde Foundation App1.3.4 - 132kV Nakonde-Isoka Foundation. For hardware drawings information given in the RfB is deemed sufficient for bidding purposes.
41.		Section III - Evalu- ation and Qualifica- tion Criteria	N	Section III - Evaluation and Qualification Criteria As described in Section III - Evaluation and Qualification Criteria, for turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year. However, in India, we follow a financial year from 1st April to 31st March. We are using the	The requirements in Section III - Evaluation and Qualifica- tion Criteria shall stand: "For turnover or financial data re- quired for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amount for that year is to be converted) was originally established."

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				exchange rate on the last day of the financial year, i.e., 31st March, instead of the calendar year-end, for the financial data submission. Kindly confirm.	
42.	1.4	Section III - Evaluation and Qualification Criteria	N	Section III - Evaluation and Qualification Criteria, Clause No. 1.4 - Subcontractor's/ Manufacturers We understand that there are no restrictions in proposing number of Manufacturers / Subcontractors for major items of Supply and Services in the Schedule "Proposed Sub-contractors for Major Items of Plant and Installation Services" Please confirm.	Confirmed
43.	1.4	Section III - Evaluation and Qualification Criteria	N	Section III - Evaluation and Qualification Criteria, Clause No. 1.4 - Subcontractor's/ Manufacturers For Phase Conductor & OPGW, Supplier needs to manufacture and supply minimum 10,000 km in last 10 years. Please confirm our understanding is correct.	Confirmed
44.		Price Schedules	N	Kindly provide General Notes/ Preamble to Price Schedule.	Information provided is deemed sufficient for bidding purposes.
45.		Section VII - Employers Requirement	N	General - Technical Specification Please advise whether OPGW Repeater station is required for this project.	No OPGW repeater station scope for this project

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
46.	4.15.3.1	Section VII - Employers Requirement	Y	Section VII - Employers Requirement, Clause No. 4.15.3.1 - Fall Arrest System As per Clause No. 4.15.3.1, requirement of Fall Arrest System is mentioned. However, we did not find any Price schedule item for this. Please provide revised price schedule mentioning requirement of Fall Arrest System.	Addendum 2 S.No. 2 issued to add "Fall Arrest system " in schedule 1 and schedule 4 of 132kV, 330kV and 400kV price schedules.
47.	4.8	Section VII - Employers Requirement	N	Section VII - Employer's Requirements, Clause No. 4.8 Grounding Materials Kindly confirm the required length of the Copper Clad Steel Ground Rod. Additionally, for the Exothermic Weld, please specify the required welding shapes / styles.	Kindly refer to Technical Schedules item 7.4.7. The length of the CCS rod shall be based on the tower earthing or footing design by the bidder. The bidder shall provide the welding shapes/styles based on the design
48.	4.7.9	Section VII - Employers Requirement	N	Section VII - Employer's Requirements; Clause No. 4.7.9 Aircraft Warning Spheres Clause No. 4.7.9 states only about Aircraft Warning Sphere. Therefore, we presume that no requirement is envisaged for Tower Marking Lights and Conductor Marking Lights.	The requirement shall be as provided for in Section VII - Employer's Requirements; Clause No. 4.7.9 Aircraft Warning Spheres, 4.10.7.10 Painting of Towers and 4.10.7.11 High Tower Warning Light..
49.	4.10.8	Section VII - Employers Requirement	N	Section VII - Employer's Requirements; Clause No. 4.10.8 Tower Accessories With reference to Clause 4.10.8 - Tower accessories, please confirm following Technical details of accessories: 1) Typical drawings of Tower Accessories.	The requirements of the tower accessories shall be as provided for in Section VII - Employer's Requirements; Clause No. 4.10.8 and is deemed sufficient for bidding purposes

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				2) Tower Plates shall be of MS Grade with vitreous enam- elled coating and printing. 3) Standard / Specification of Barbed Wire is as per regu- lar IS standard i.e. IS 278 Grade A1 for barbed wire.	
50.	4.3.5.1 4.4.5.2	Section VII - Em- ployers Require- ment	N	Section VII - Employers requirement Clause No. 4.3.5.1 & Clause No. 4.4.5.2 Type Test As per stated Clause, we understand that if Bidder submits the type test reports and Certificates for identical type of Conductor and Earthwire which were conducted in the last Eight (8) years from accredited laboratory, the Bidder does not need to repeat the Type Tests for Conductor and Earthwire. Kindly Confirm our understanding is correct.	Section VII - Employers requirement Clause No. Clause No. 4.3.5.2 and clause 4.4.5.1 Type Test: <i>"Type test rec- ords and certificates for identical type of conductor may be accepted provided that those records and certificates are not older than eight years and tests were carried-out in accredited laboratory."</i> Section III - Evaluation and Qualification Criteria, Clause No. 1.4 - Subcontractor's/ Manufacturers <i>"Where type test reports are not available, bidders should submit the written commitment format to perform tests at accredited Labs, with stated timelines and contingency plans."</i>
51.	15.05	Price Schedules Nakonde-Isoka LI- LO	Y	ZTIP_132kV Nakonde-Isoka LI-LO_Price Schedules; Price Schedule No. 1, Item No. 15.05 According to Price Schedule, Schedule No. 01 - item no. 15.05 Wooden Pole of 12 mts for complete ADSS-line is to be considered. We request you to kindly provide detailed Technical Specification, Pole Configuration and drawings.	Refer to Addendum 2 S.No. 12 issued to update the tech- nical specifications item 3.29 (previously 3.28) -12m Wooden Poles. Refer to Addendum 2 S.No. 8 issued to include 12m Eu- calyptus Pole Technical Specifications

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
52.		Price Schedules Nakonde-Isoka LI- LO	Y	ZTIP_132kV Nakonde-Isoka LI-LO_Price Schedules; Price Schedule No. 1/4 No earthing mentioned for 12 Mtr Wooden Pole has been mentioned. Bidder requested to confirm the same is re- quired or not.	Earthing for 12m wooden poles is required. Addendum 2 S.No. 4 issued to add “ Wooden Pole earth- ing in 132kV Price Schedules
53.	7 Daywork Rates	Price Schedules	N	ZTIP_400kV Nakonde-Tanzania border_Price Schedules; ZTIP_330kV Kasama-Nakonde_Price Schedules and ZTIP_132kV Nakonde-Isoka LI-LO_Price Schedules; Schedule No. 7 - Daywork Rates Please confirm the Day work rates will not be considered for evaluation and Bidder has to quote only unit rates for the same. Please confirm.	Schedule No. 7 - Daywork Rates is not considered for evaluation.
54.	4.5.3	Section VII - Em- ployers Require- ment	Y	Section VII - Employers requirement Clause No. 4.5.3 OPGW Characteristics Upon reviewing technical documents, we found that ‘Short circuit current’ for OHTL 400 kV, 330 kV and 132 kV is same as 31.5 kA. We once again request you to please confirm ‘ Short cir- cuit current’ rating kV wise.	The short-circuit current rating for the OPGW shall be 31.5kA as provided for in Section VII - Employers require- ment Clause No. 4.5.3 OPGW Characteristics Refer to RfC 108 and Addendum 2 S.No. 5 issued to specify <u>short-circuit</u> current duration of 0.2s to the descrip- tion of items 1.4.31 and 1.5.32 of the Technical Sched- ules.
55.	5.10 5.11 5.12	Technical Sched- ules	Y	ZTIP Technical Schedules; Point No. 5.10., 5.11 and 5.12	

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				In reference to the Technical Schedules, particularly Item No. 5.10.6, the specified Creepage value for 132kV Composite Insulator String is 3625 mm. Conversely, Item Nos. 5.11.11 and 5.12.11 indicate that the Minimal nominal creepage distance values for Suspension and Tension Insulator Strings are 3650 mm. We understanding that the appropriate Creepage value for 132kV Composite Insulator String should be 3625 mm. We kindly request your confirmation regarding the accuracy of our interpretation.	The minimal nominal creepage distance values for Suspension and Tension Insulator Strings shall be 3625mm as provided for in Technical Schedules; item No. 5.10.6. Addendum 2 S.No. 5 issued to amend Technical Schedule items 5.11.11 and 5.12.11 from 3650mm to 3625mm.
56.	4.6.4 5.1.16 5.2.16 5.3.16	Section VII - Employers Requirement Technical Schedules	Y	Section VII - Employer's Requirements, Clause No. 4.6.4 - Insulator Strings and Insulator Units Characteristic; And ZTIP Technical Schedules; Point No. 5.1.16. Glass Insulator 120 kN, 5.2.16. Glass Insulator 160 kN and 5.3.16. Glass Insulator 210 kN In accordance with the Technical Schedules, specifically Item Nos. 5.1.16, 5.2.16, and 5.3.16, the specified "Dry impulse withstand voltage" values are as follows: 140 kV for the 120 kN glass insulator, and 110 kV for both the 160 kN and 210 kN Glass insulators. It is our understanding that the dry impulse withstand voltage values assigned to the 160 kN and 210 kN glass insulators should not be less than that of the 120 kN glass insulator. Please clarify.	Addendum 2 S.No 5 issued to amend Technical Schedule item 5.2.16 and 5.3.16 from "110kV" to "145kV"

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE										
57.	4.6.4.3 2.1.4	Section VII - Em- ployers Require- ment	Y	Section VII - Employer's Requirements; Clause No. 4.6.4.3 - 132kV Insulator String	The insulation level for 132kV insulators shall be specified using: - Lightning Impulse Withstand Voltage (LIWV/BIL) - Power-frequency withstand voltage										
	5.10	Technical Sched- ules		Section VII - Employer's Requirements; Clause No. 2.1.4. - Line Design Parameters Summary And ZTIP Technical Schedules; Point No. 5.10. 132kV Compo- site Insulator String We have reviewed provided technical specification for 132kV 120KN silicone composite insulator and found that following parameter has been mentioned in clause no. 4.6.4.3 : <table><tr><th>Suspension and Tension String</th><th>Units</th><th>Data 132kV</th></tr><tr><td>Lightning impulse withstand Voltage pos./neg.</td><td>kV</td><td>650</td></tr><tr><td>Switching Impulse withstand (wet) Voltage</td><td>kV</td><td>550</td></tr><tr><td>Wet power frequency withstand Voltage</td><td>kV</td><td>275</td></tr></table> These are standard di-electric values for a system up to 1000mtrs altitude. As per IEC 61109 Switching Impulse withstand (wet) Volt- age is applicable for insulator system voltage ≥300kV. Pursuant to clause 2.1.4. altitude is specified as 1600mtrs. Accordingly, we have applied the correction factor and ar- rived at these electrical values. As per IEC 61109 Switching Impulse withstand (wet) Volt- age is applicable for insulator system voltage ≥300kV.		Suspension and Tension String	Units	Data 132kV	Lightning impulse withstand Voltage pos./neg.	kV	650	Switching Impulse withstand (wet) Voltage	kV	550	Wet power frequency withstand Voltage
Suspension and Tension String	Units	Data 132kV													
Lightning impulse withstand Voltage pos./neg.	kV	650													
Switching Impulse withstand (wet) Voltage	kV	550													
Wet power frequency withstand Voltage	kV	275													

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE																								
				<table><tr><td>Suspension and Tension String</td><td>Unit</td><td>Data 32kV</td></tr><tr><td>Lightning impulse withstand Voltage pos./neg.</td><td>kV</td><td>700</td></tr><tr><td>Switching Impulse withstand (wet) Voltage</td><td>kV</td><td>581</td></tr><tr><td>Wet power frequency withstand Voltage</td><td>kV</td><td>296</td></tr></table> As per point no. 5.10 of ZTIP Technical Schedules, follow- ing values has been mentioned: <table><tr><td>Suspension and Tension String</td><td>Unit</td><td>Data 32kV</td></tr><tr><td>Lightning impulse withstand Voltage pos./neg.</td><td>kV</td><td>750</td></tr><tr><td>Switching Impulse withstand (wet) Voltage</td><td>kV</td><td>590</td></tr><tr><td>Wet power frequency withstand Voltage</td><td>kV</td><td>275</td></tr></table> In the provided excel sheet i.e. ZTIP Technical Schedules - The lightning impulse is specified as 750kV which is higher as compared to the required value of 700kV (this is achieved after applying the altitude correction factor) and wet power frequency is specified as 275kV which is lower than the required 296kV (this is achieved after applying the altitude correction factor) As per IEC 61109 Switching Impulse withstand (wet) Volt- age is applicable for insulator system voltage ≥300kV. We request you to kindly confirm correct values for above mentioned parameters for 132kV 120KN silicone compo- site insulator to be considered.	Suspension and Tension String	Unit	Data 32kV	Lightning impulse withstand Voltage pos./neg.	kV	700	Switching Impulse withstand (wet) Voltage	kV	581	Wet power frequency withstand Voltage	kV	296	Suspension and Tension String	Unit	Data 32kV	Lightning impulse withstand Voltage pos./neg.	kV	750	Switching Impulse withstand (wet) Voltage	kV	590	Wet power frequency withstand Voltage	kV	275	
Suspension and Tension String	Unit	Data 32kV																											
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Wet power frequency withstand Voltage	kV	275																											

58.	2.12	Section VII - Employers Requirement	N	Sec. VII – Employer's Requirements, Clause No. 2.12 - Factory Acceptance Testing (FAT) In reference to Clause No. 2.12 of Section VII - Employer's Requirements, bidder understands that expense incurred during Factory Acceptance Testing (FAT) including Air Travel, Per Diem allowances, Accommodation shall be the responsibility of the Employer (ZESCO). Kindly confirm our understanding is correct.	The Employer shall be responsible for the following costs during FAT; air travel, per diems, accommodation as provided for in Sec. VII – Employer's Requirements, Clause No. 2.12 - Factory Acceptance Testing (FAT)
59.	2.13	Section VII - Employers Requirement	N	Section VII - Employer's Requirements; Clause No. 2.13 - Training We understand that all the training listed in Clause No. 2.13 of Section VII - Employer's Requirements will be class room training and held in Bidder's Home Country and not at Manufacturer's Factory. Please confirm our understanding is correct.	The Contractor shall include the costs of training facilities and logistics in the Price Schedule for all training to be provided by the Contractor. All training is considered to be provided outside the Employer's country (foreign based) except as otherwise indicated as provided for in Section VII - Employer's Requirements; Clause No. 2.13 – Training.
60.	ITB 23.1	Section II – Bid Data Sheet	Y	We are very keen to participate subject tender and we have raised few technical queries vide our letter reference no. KPTL/ZAMBIA/2026-27/Tx-2608/PBQ/01 dated 16th June,2026. We wish to inform that we have not yet received responses for technical queries raised by us till date. Further, citing the amount of work required for proper Designing, getting competitive offers from Vendors, local Sub-Contractors and preparing a comprehensive and competitive Techno-Commercial offer for the Scope of Work required for 400 kV, 330 kV and 132 kV OHTL after receiving answers to our queries. We feel that time available shall be insufficient to prepare and compile our most compliant and competitive Techno-Commercial offer for subject tender. In view of above, we solemnly request your good office to grant a further extension in the bid submission date of at least Three (3) to Four (4) weeks from the present due	Refer to RfC 1 and Addendum 2 S.No. 1 issued to extended bid submission from 7 August 2026 to 21 August 2026 .

				date of 17th July, 2026 which will enable us to prepare our most competitive and comprehensive bid.	
61.	46.2 47.1 13.2 13.3	Section I – Instructions to Bidders Section VIII – General Conditions of Contract	N	Section I – Instructions to Bidders (ITB); Clause No. 46.2 & 47.1, Section VIII – General Conditions of Contract; Clause No. 13.2 & 13.3 Contract Number As per ITB Clause No. 46.2 - The successful Bidder shall sign, date and return to the Employer, the Contract Agreement within twenty-eight (28) days of its receipt As per ITB Clause No. 47.1& GCC Clause No. 13.3 - Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Employer, the successful Bidder shall furnish the Performance Security. As per GCC Clause No. 13.2.1 - The Advance Security shall be submitted within 28 days from the date of receipt of Notification of Award. The Bidder understands that the Contract reference number shall be expressly provided by the Employer to enable the Bidder to submit the PBG and ABG within the given timeline.	The reference number of the Request for Bids (RFB) is: ZM-ZESCO-495219-CW-RFB as provided for in Section II- Bid Data sheet.
62.			N	Timelines for Payment of Advance Kindly inform by how many days will the Advance payment will be released to the Contractor after submission of the Advance Security and Invoice.	Advance payment shall be made no later than 45 days after receipt of documents as per all other terms of payments.
63.		Section X - Contract Forms Contract Agreement – Appendix 1	N	Section X - Contract Forms; Contract Price As per Contract Agreement, Appendix 1 - The payments will be made based on the measured value of work performed by the Contractor, as identified in the said Program of Performance. As per Section VII - Employer's Requirements Chapter 7, Remeasured work.	Refer to ITB 17 for pricing and Section X - Contract Forms; Contract Agreement, Appendix 1 for payments.

				Pursuant to the above said Clauses, the Bidder understands that the quantities mentioned in the price schedules are indicative. The payment to the Contractor shall be made as per the final approved supplied/executed quantity by multiplying the same with the Unit Rate. Kindly confirm.	
64.		Section X - Contract Forms Contract Agreement – Appendix 2	N	Section X – Contract Forms, Contract Forms, Appendix 2- Price Adjustment The Appendix-2 stipulate about Price Adjustment on the Contract Price. This Price Adjustment is applicable for Schedule 1- Abroad Supply, Schedule 2-Local Supply, Schedule 3- Design Service and Schedule-4- Installation Services Therefore, the Price Adjustment is applicable for all the Schedules. To accommodate so, the single formula may be split into Abroad Supply, Local Supply and Installation separately maintaining the sum of all the coefficients in each formulae to be 100%. Kindly confirm.	No such changes are acceptable. The price adjustment calculations shall be based on the applicable indices in the price schedules as per the contractor's invoice.
65.		Section X - Contract Forms Contract Agreement – Appendix 2	N	Section X – Contract Forms, Contract Forms, Appendix 2- Price Adjustment The conditions applicable to the Price Adjustment mentions: <i>"The Bidder shall indicate the source of labor and materials indices, and source of exchange rate and the base date indices in its Bid."</i> However, Price Adjustment formula stipulated under Appendix -2, does not have labour indices component. Accordingly, the bidder requests to revise the Price Adjustment Formula to include the Labour indices for local as well as foreign portions.	The price adjustment formula shall be as provided for in Section X – Contract Forms, Contract Forms, Appendix 2- Price Adjustment. Labor indices are not part of the price adjustment formula.

66.	3.1 3.2	Section X - Contract Forms Contract Agreement	N	Section X – Contract Forms, Contract Agreement Article 3.1 & 3.2 As per Contract Agreement Article 3.2, <i>“If the conditions listed under 3.1 are not fulfilled within two (2) months from the date of this Contract notification because of reasons not attributable to the Contractor, the Parties shall discuss and agree on an equitable adjustment to the Contract Price (if Fixed Price contract) and the Time for Completion and/or other relevant conditions of the Contract”.</i> As per PCC Clause No. 11.2, <i>“The Contract Price shall be adjusted in accordance with the provisions of the Appendix 2 to the Contract Agreement titled Price Adjustment”.</i> Since this Contract is not Fixed Price Contract, the Bidder understands that equitable adjustment shall be applicable on items (such as additional administrative and overhead costs, etc) not covered by the Price Adjustment under Appendix-2 of the Contract Agreement.	Any Price Adjustment to the Contract Price shall only be made in accordance with the provisions of Appendix 2 – Price Adjustment – to the Contract Agreement form. Where this clause applies, the Parties shall discuss and agree on an equitable adjustment to the Contract Price (if Fixed Price contract) and the Time for Completion and/or other relevant conditions of the Contract based on the identified causes of the delay.
67.	13.3.3	Section IX – Particular Conditions of Contract	N	Section IX – Particular Conditions of Contract (PCC); Clause No. 13.3.3 The Bidder understands that the Original Performance Bank Guarantee (PBG) shall expire on completion of the Defect Liability Period and original PBG shall be returned immediately to the Contractor.	The Performance Security shall be returned to the Contractor after its expiration, in accordance with the provisions in the GCC and PCC.
68.	14.2 (a)	Section VIII – General Conditions of Contract	N	Section VIII – General Conditions of Contract; Clause No. 14.2 (a) As per the said clause, Employer will bear Custom Duty and Import Duties. Thus, we understand Import License for Material imported into the Employer's Country shall be taken by the Employer. Further, we also understand that Employer shall be named as Consignee for clearing of import of goods. Please Confirm.	Refer to RFC 7 Note that schedule 1 items are CIP priced as stated in Section I ITB 17.5 (a) which implies that the contractor is responsible for delivering the items and paying for cargo insurance until the goods reach a specific destination chosen by the buyer. The consignee shall however be the employer. Refer to GCC Clause 31.5.

69.	14.2 (a)	Section VIII – General Conditions of Contract	N	Section VIII – General Conditions of Contract; Clause No. 14.2 (a) Please confirm whether custom duty, import VAT other fees such as inspection fees, customs fees and charges, related levies etc (if any) at the time of import shall also be borne by the Employer or exemption will be arranged by employer.	Refer to RFC 7
70.	14.2 (a)	Section VIII – General Conditions of Contract	N	Section VIII – General Conditions of Contract; Clause No. 14.2 (a) Please confirm whether Employer shall bear above mentioned duties/ levies for temporary imports too.	Refer to RFC 7
71.	14.2 (b)	Section VIII – General Conditions of Contract	N	Section VIII – General Conditions of Contract; Clause No. 14.2 (b) As per the said clause, Employer will bear domestic taxes like sales tax & VAT. Please confirm if VAT & other local Taxes is exempted for this project, whether the same exemption can be extended to Subcontractor and local supplier also who will be working in association with Contractor.	Refer to RFC 7
72.	14.2 (b)	Section VIII – General Conditions of Contract	N	1) Please confirm whether any withholding tax is applicable on payments made by the Employer to contractor towards: a. Offshore portion i.e. imported supply of goods / materials b. Imported Services c. On local supply of goods / material d. Onshore services portion i.e. installation/ construction works. 2) Whether WHT will be exempt for on shore and offshore portion or it will be on employers/Clients account.	Refer to RFC 7

73.	14.2 (c)	Section VIII – General Conditions of Contract	N	As per the said clause, Employer will arrange for exemptions. Kindly clarify the applicable exemptions for this tender.	Refer to RFC 7
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S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
74.	4.11.2	Section VII - Employers Requirement	Y	Section VII – Employer's Requirements, Clause No. 4.11.2 - Design Data As per the Clause, concrete foundations shall be designed in accordance with BS 8110. However, Clause 4.11.4 states that concrete foundations shall be designed in accordance with BS EN 1992. We are assuming BS EN 1992 code for foundation design. Kindly confirm our understanding is correct.	Foundation shall be designed in accordance with BS EN 1992 requirements as provided for in Section VII – Employer's Requirements, Clause No. 4.11.4. Refer to Addendum 2 S.No. 9 issued to replace BS 8110 - Structural use of concrete. Code of practice for design and construction with BS EN 1992 - Design of Concrete Structures in Section VII – Employer's Requirements, Clauses No. 4.11.2 - Design Data; 4.11.9.2 – Steel Reinforcement and 4.13.4.5 - Formwork
75.	4.11.9.2	Section VII - Employers Requirement	Y	Section VII – Employer's Requirements, Clause No. 4.11.9.2 - Steel Reinforcement This clause specifies reinforcement conforming to BS 4449 or ASTM A615 with a minimum yield strength of 410 N/mm². However, Technical Schedule 4.1 (Foundation Materials) specifies ribbed bars with $f_y \geq 420$ (500) N/mm² in accordance with BS 420 (K500CT) / EN 10080. Kindly confirm the reinforcement grade and standard to be used for foundation design.	The reinforcement grade and applicable standard shall be as provided for in the Technical Schedules item 4.1.6 Refer to Addendum 2 S.No 7 issued to amend Steel reinforcement from "...requirements of BS 4449 or ASTM A615 with minimum yield strength of 410 N/mm²" to "...requirements of EN 10080 with minimum yield strength of 420 N/mm²." In Section VII – Employer's Requirements, Clause No. 4.11.9.2 - Steel Reinforcement

76.	4.11.9.2	Section VII - Employers Requirement	Y	Section VII – Employer’s Requirements, Clause No. 4.11.9.2 - Steel Reinforcement As per the Clause, concrete shall have a minimum 28-day strength of 30 N/mm². However as per technical schedule point 4.1, in accordance with BS EN 206-1, this value corresponds to the characteristic cylinder compressive strength at 28 days, which would be equivalent to concrete class C30/37. Kindly confirm whether C30/37 concrete is to be adopted for foundation design.	C30/37 concrete class as specified in Technical Schedule item 4.1.5 shall be adopted for foundation design Refer to Addendum 2 S.No 5 issued to amend Technical Schedules item 4.1.5 from “nominal cube strength $\geq$ 30 N/mm²” to “nominal cube strength $\geq$ 37 N/mm²” Refer to Addendum 2 S.No. 2 issued to amend Price Schedule 7 item 7.2.1.1 from “<i>Reinforced concrete (grade C20)</i>” to “Lean concrete (grade C12/15)”; and item 7.2.1.2 amended from “<i>(grade C30)</i>”, to “(grade C30/37)” for 132kV, 330kV and 400kV Price Schedules 7
77.	4.13.4.1	Section VII - Employers Requirement	Y	Section VII – Employer’s Requirements, Clause No. 4.13.4.1 - General As per the Clause, lean concrete of minimum 75 mm thickness shall be provided beneath the footing. However, the grade and density of the lean concrete have not been specified. Kindly confirm the grade/class and density of lean concrete to be adopted for foundation construction. We are considering C10 grade for lean concrete. Please confirm our understanding is correct.	Addendum 2 S.No 3 issued to add the following under Section VII 4.13.4.1: “Furthermore, in accordance with BS EN 1992-1-1:2004 (Table 3.1) the grade of lean concrete shall not be lower than C12/15”
78.	4.11.3	Section VII - Employers Requirement	N	Section VII – Employer’s Requirements, Clause No. 4.11.3 - Foundation Soil Classification As per Note No. 5, it is stated that the mobilisation of the full uplift frustum angle is dependent upon the provision of an undercut to the concrete pad. However, the soil classification table specifies design uplift frustum angles for various soil types.	For the purpose of uplift resistance, conservatively consider zero frustum angle

				Kindly clarify whether the uplift frustum angles provided in the soil classification table may be adopted directly for foundation design, or whether any reduction factor is required where an undercut is not provided to the concrete pad.																			
79.	0.7.27	Technical Schedules	N	Section VII – Employer’s Requirements; ZTIP Technical Schedules; Point No. 0.7.27 As per Technical Schedule Clause 0.7.27, foundation load factors are specified for conductors and earthwires under maintenance load conditions. However, the methodology for applying these load factors is not clear. Kindly clarify how these factors are to be applied in the foundation design. <table><tr><td>0.7.24</td><td>Foundation Load Factors</td><td></td></tr><tr><td>0.7.25</td><td>Concrete</td><td>1.5</td></tr><tr><td>0.7.26</td><td>Reinforcing steel</td><td>1.2</td></tr><tr><td>0.7.27</td><td>Conductors and earthwires under maintenance load conditions</td><td>1.6</td></tr><tr><td>0.7.28</td><td>Soil property at suspension towers</td><td>2</td></tr><tr><td>0.7.29</td><td>Soil property at angle towers</td><td>2.2</td></tr></table>	0.7.24	Foundation Load Factors		0.7.25	Concrete	1.5	0.7.26	Reinforcing steel	1.2	0.7.27	Conductors and earthwires under maintenance load conditions	1.6	0.7.28	Soil property at suspension towers	2	0.7.29	Soil property at angle towers	2.2	This value shall only be applicable for stay wires and guys where applicable
0.7.24	Foundation Load Factors																						
0.7.25	Concrete	1.5																					
0.7.26	Reinforcing steel	1.2																					
0.7.27	Conductors and earthwires under maintenance load conditions	1.6																					
0.7.28	Soil property at suspension towers	2																					
0.7.29	Soil property at angle towers	2.2																					
80.	0.7.27 0.7.28	Technical Schedules	N	Section VII – Employer’s Requirements; ZTIP Technical Schedules; Point No. 0.7.27 & 0.7.28 As per the Technical Schedule, the factor for soil properties is specified as 2.0 for suspension towers and 2.2 for tension towers. We understand that these factors are to be applied to the soil properties specified in table in Clause 4.11.3, such as allowable bearing capacity, uplift frustum angle, soil density, and other relevant parameters. For example, for Soil Class 1, the net allowable bearing capacity for a suspension tower would be considered as: 750 / 2.0 = 375 kPa Kindly confirm whether our interpretation is correct.	Confirmed																		

S. No.	Specification Clause	Document Reference	Ad-dendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
81.	31	Section VIII – General Conditions of Contract	N	Clause 31 of General Conditions of Contract (GCC) As per clause 31 of GCC,' Ownership of the Plant (including spare parts) to be imported into the country where the Site is located shall be transferred to the Employer upon loading on to the mode of transport to be used to convey the Plant from the country of origin to that country.' Thus, we understand that the employer is the importer of plants supplied from abroad specified in Schedule 1 in Zambia. Please confirm whether our understanding is correct.	Refer to RFC 68
82.	14	Section VIII – General Conditions of Contract	N	Clause 14 of General Conditions of Contract (GCC) As per clause 14 of GCC,' Notwithstanding GCC S tax sub-Clause 14.1 above, the Employer shall bear and promptly pay (a)all customs and import duties for the Plant specified in Price Schedule No. 1; and (b)other domestic taxes such as, sales and value added tax (VAT) on the Plant specified in Price Schedules No. 1 and No. 2 and that is to be incorporated into the Facilities, and on the finished goods, imposed by the law of the country where the Site is located.' Thus we understand that for Plants supplied from abroad specified in Price Schedules No. 1 have to be quoted exclusive of cutom duties, taxes on importation and VAT on importation. Please confirm whether our understanding is correct.	Refer to RFC 7

83.	14	Section VIII – General Conditions of Contract	N	Clause 14 of General Conditions of Contract (GCC) As per clause 14 of GCC,' Notwithstanding GCC Sub-Clause 14.1 above, the Employer shall bear and promptly pay (a)all customs and import duties for the Plant specified in Price Schedule No. 1; and (b)other domestic taxes such as, sales tax and value added tax (VAT) on the Plant specified in Price Schedules No. 1 and No. 2 and that is to be incorporated into the Facilities, and on the finished goods, imposed by the law of the country where the Site is located.' Thus, we understand that for Plants supplied within the country as specified in Price Schedules No. 2 have to be quoted exclusive of VAT. Please confirm whether our understanding is correct.	Refer to RFC 7
84.	14	Section VIII – General Conditions of Contract	N	Clause 14 of General Conditions of Contract (GCC) As per clause 14 of GCC,' Except as otherwise specifically provided in the Contract, the Contractor shall bear and pay all taxes, duties, levies and charges assessed on the Contractor, its Subcontractors or their employees by all municipal, state or national government authorities in connection with the Facilities in and outside of the country where the Site is located.' Thus prices for installation services as specified in Schedule 4 have to be quoted inclusive of VAT. Please confirm whether our understanding is correct.	Refer to RFC 7
85.		Price Schedules	N	Please confirm whether any taxes will be withheld for Plants supplied from abroad as specified in Schedule 1 and designing services as specified in Schedule 3 provided by companies nonresident in Zambia. If taxes will be withheld, please confirm the rates at which taxes will be withheld.	Refer to RFC 7

86.		Price Schedules	N	Please confirm whether any taxes will be withheld for Plants supplied from within Zambia as specified in Schedule 2 and installation services as specified in Schedule 4 provided by companies resident in Zambia. If taxes will be withheld, please confirm the rates also.	Refer to RFC 7
87.			N	Progress Payment – GCC 13. Securities We note that the Contractor is required to submit the Advance Payment Security within twenty-eight (28) days of the notification of Contract Award. However, the bidding documents do not specify the timeline for release of the Advance Payment by the Employer. Kindly clarify the period within which the Advance Payment shall be released upon submission of the Advance Payment Invoice and the corresponding Advance Payment Security/Bank Guarantee.	Refer to RFC 62
88.	9.3	Section VIII – General Conditions of Contract	N	Clause 9.3, Contractor's Responsibilities As per clause 9.3, "The Contractor shall acquire and pay for all permits, approvals and/or licenses from all local, state or national government authorities or public service undertakings in the country where the Site is located which such authorities or undertakings require the Contractor to obtain in its name and which are necessary for the performance of the Contract, including, without limitation, visas for the Contractor's Personnel and entry permits for all imported Contractor's Equipment. The Contractor shall acquire all other permits, approvals and/or licenses that are not the responsibility of the Employer under GCC Sub-Clause 10.3 hereof and that are necessary for the performance of the Contract." We suggest the following addition for your review and inclusion in revised tender clause: The Employer shall upon the request of the Contractor, make every reasonable effort to assist the Contractor in securing, in a timely and efficient manner, all necessary	The requirements shall remain unchanged and is deemed sufficient for bidding purposes

				permits, approvals, and licenses (excluding those that the Employer is responsible for obtaining) from relevant local, state, or national authorities, as well as public service entities that require the Contractor, its Subcontractors, or their personnel to obtain such authorizations for contract execution.	
89.	27.2	Section VIII – General Conditions of Contract	N	Clause 27.2, Defect Liability As per clause 27.2 “The Defect Liability Period shall be five hundred and forty (540) days from the date of Completion of the Facilities (or any part thereof) or one year from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs, unless specified otherwise in the PCC pursuant to GCC Sub-Clause 27.10. If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Plant supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with the Employer regarding appropriate remedying of the defects, and at its cost, repair, replace or otherwise make good as the Contractor shall determine at its discretion, such defect as well as any damage to the Facilities caused by such defect. The Contractor shall not be responsible for the repair, replacement or making good of any defector of any damage to the Facilities arising out of or resulting from any of the following causes: (a) improper operation or maintenance of the Facilities by the Employer; (b) operation of the Facilities outside specifications provided in the Contract; or (c) normal wear and tear. We suggest the following addition for your review and inclusion in revised tender clause: (c) normal wear and tear, or	The requirements shall remain unchanged and is deemed sufficient for bidding purposes

				(d) accident, disaster or event of force majeure, misuse, fault, or negligence of or by the Employer, or (e) use of the facilities in a manner for which they were not designed, (f) causes external to the facilities, such as, but not limited to, power failure or electrical power surges, improper storage, and handling of the facilities, (g) use of the facilities in combination with equipment or software not supplied by the Contractor. The obligations created by this warranty to repair or replace a non-conforming facility shall be the sole remedy of the Employer in the event of a non-conforming facility. Except as expressly provided in this Contract, the Contractor disclaims all other guarantees, whether express or implied, oral, or written, with respect to the products, including without limitation all implied guarantees of merchantability or fitness for any particular purpose or environments are hereby excluded to the fullest extent permitted by law.	
90.	29	Section VIII – General Conditions of Contract	N	Clause. 29 Patent Indemnity As per Clause 29, The Contractor shall, subject to the Employer's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Employer may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Contract by reason of: (a) the installation of the Facilities by the Contractor or the use of the Facilities in the country where the Site is located; and (b) the sale of the products produced by the Facilities in any country.	The requirements shall remain unchanged and is deemed sufficient for bidding purposes

				We suggest the following modification for your review and inclusion in revised tender clause: The Contractor shall, subject to the Employer's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, direct losses, damages, reasonable costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Employer may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright or other intellectual property right registered or otherwise existing at the date of the Contract by reason of: (a) the installation of the Facilities by the Contractor or the use of the Facilities in the country where the Site is located; and (b) the sale of the products produced by the Facilities in any country.	
91.	30.1	Section VIII – General Conditions of Contract	N	Clause 30.1(b), Limit of Responsibility As per clause 30.1(b), The aggregate liability of the Contractor to the Employer, whether under the Contract, in tort or otherwise, shall not exceed the amount resulting from the application of the multiplier specified in the PCC, to the Contract Price or, if a multiplier is not so specified, the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the Contractor to indemnify the Employer with respect to patent infringement. We suggest the following deletion for your review and exclusion in revised tender clause: the aggregate liability of the Contractor to the Employer, whether under the Contract, in tort or otherwise, shall not exceed the amount resulting from the application of the multiplier specified in the PCC, to the Contract Price or, if a multiplier is not so specified, the total Contract Price, provided that this limitation shall not apply to the cost of	The requirements shall remain unchanged and is deemed sufficient for bidding purposes

				repairing or replacing defective equipment, or to any obligation of the Contractor to indemnify the Employer with respect to patent infringement.	
92.	33.1	Section VIII – General Conditions of Contract	N	Clause 33.1, Loss of or Damage to Property; Accident or Injury to Workers; Indemnification Subject to GCC Sub-Clause 33.3, the Contractor shall indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property other than the Facilities whether accepted or not, arising in connection with the supply and installation of the Facilities and by reason of the negligence of the Contractor or its Subcontractors, or their employees, officers or agents, except any injury, death or property damage caused by the negligence of the Employer, its contractors, employees, officers or agents. We suggest the following modification for your review and inclusion in revised tender clause: Subject to GCC Sub-Clause 33.3, the Contractor shall indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, direct losses, damages, reasonable costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property other than the Facilities whether accepted or not, arising in connection with the supply and installation of the Facilities and by reason of the negligence of the Contractor or its Subcontractors, or their employees, officers or agents, except any injury, death or property damage caused by the negligence of the Employer, its contractors, employees, officers or agents.	The requirements shall remain unchanged and is deemed sufficient for bidding purposes

93.	ITB 36.2	Section II – Bid Data Sheet	N	Section II: ITB: Bid Data Sheet – ITB 36.2 The clause states that "The currency that shall be used for Bid evaluation and comparison purposes to convert (at the selling exchange rate) all Bid prices expressed in various currencies into a single currency is: United States Dollars (USD). " Please clarify if it is mandatory to quote prices in local currency for the installation part or we can quote all the price schedules in USD.	Kindly note that the provisions in Section II ITB 18.1 shall apply
94.	CA 2.2	Section X – Contract Forms	N	Sec X: Contract Forms – Article 2 Contract Price and Terms of Payment 2.2 We note that, as per the Contract Agreement, the Employer may instruct its bank to issue an irrevocable confirmed documentary credit (Letter of Credit) in favor of the Contractor through a bank in the Contractor's country for Schedule 1 (Foreign Supplies). Based on the above clause, we understand that the payment for Schedule 1 (Foreign Supplies) shall be made through a Letter of Credit (LC). Kindly confirm whether our understanding is correct. Further, we understand that all charges related to the Letter of Credit (LC) shall be borne by the Employer. Kindly confirm.	Payments shall be made by T/T to the Contractor's account
95.	4.1.2	Section VII - Employers Requirement	N	Technical specifications Cl. No. 4.1.2 Clearances As per cl 4.1.2. clearances, maximum swing angle for conductor mentioned is 35 degrees, however it is also mentioned that the swing angle given is for reference only. From this we presume that bidders have to calculate actual swing angle as per international standards, based on wind speed/pressure mentioned in Technical Schedules considering 50 years return period. Please confirm.	Note that the requirement states: "The clearances between conductors and tower steel shall be calculated by the Contractor in accordance with standard and design (maximum swing angle 35°). The following shall be used for reference purposes only " The table below stated clearances that shall be used for reference purposes only. Refer to relevant EN 50341 clauses on this.

96.	4.9	Section VII - Employers Requirement	N	Technical specification Cl. No. 4.9 Lattice Steel Towers We propose to use towers with rectangular base plan with independent foundation for each of the four legs, please confirm.	The requirement in Section VII 4.9.1 shall stand: "All transmission line towers dealt with in this specification are galvanized lattice steel self-supporting structures with bolted connections. The towers shall be square in plan and all towers shall generally have an independent foundation for each of the four legs."
97.	4.10.3.9 3.2.18	Section VII - Employers Requirement Technical Schedules	Y	Technical specification cl. 4.10.3.9 Design of Members and Connections ZTIP-Technical schedules-3. Lattice steel towers point 3.2.18 As per technical specification cl. 4.10.3.9 the minimum thickness of members are mentioned are as below, • Principal 6 mm • Secondary 4 mm • Redundant 4 mm • Plates 6 mm or thickness of connecting member plus 2 mm. However as per ZTIP technical schedules minimum member thicknesses are mentioned are as below, • Main leg, stub and main compression members in crossarms 6 mm • All other members having computed stresses 5 mm • Redundant members without computed stressed 5 mm • Gusset Plates 6 mm. There is mismatch for minimum member thicknesses for secondary members, redundant members and plates. Kindly clarify which one of the above is applicable for 400/330/132 kV tower design.	Refer to RFC 14 and Addendum 2 S.No 3 issued to amend the thickness of redundant members in Section VII - Employer's Requirements; Subsection No. 4.10.3.9 Design of Members and Connections from 4mm to 5mm.

98.	4.10.3.9 3.2.23	Section VII - Employers Requirement Technical Schedules	Y	Technical specification cl. 4.10.3.9 Design of Members and Connections ZTIP-Technical schedules-3. Lattice steel towers point 3.2.23 As per technical specification cl. 4.10.3.9 the maximum length structural member is 12m, whereas as per ZTIP technical schedules maximum length mentioned is 9m. Kindly confirm which one of the above is to be adopted.	The maximum length of members shall be 12 meters as provided for Section VII - Employer's Requirements; Clause No. 4.10.3.9. Refer to RFC 24. and Addendum 2 S.No 5 issued to amend Technical schedules item 3.2.23 from "9m" to "12m".
99.	4.10.3.9 3.2.13	Section VII - Employers Requirement Technical Schedules	Y	Technical specification cl. 4.10.3.9 Design of Members and Connections ZTIP-Technical schedules-3. Lattice steel towers point 3.2.13 Technical specification cl. 4.10.3.9 specifies L/R 150 for principal members (legs and main crossarm members), while ZTIP Technical schedules point 3.2 specifies 120 for "Main leg, stub and main compression members in crossarm". Similarly, cl. 4.10.3.9 specifies L/R 200 for secondary members while Schedule 3.2 specifies L/R 200 for "All other members having computed stresses" and L/R 250 for redundant members (without computed stresses)" As there is mismatch in values of limiting slenderness ratio (L/R), we will follow the L/R values as per ASCE 10-97 standard. Please confirm.	The limiting slenderness ratio (L/r) for the family of towers shall be 120 for principal members (legs and main crossarm members) and 200 for all other members having computed stresses, 250 for Redundant members without computed stresses and 300 for Tension members only as provided for in Technical schedules-3. Lattice steel towers item 3.2.13 Addendum 2 S.No 7 issued to amend Section VII clause 4.10.3.9 the limiting slenderness ratio (L/r)
100.	4.1.4 0.7.19	Section VII - Employers Requirement Technical Schedules	Y	Technical specification cl. 4.1.4 Limiting tension of cable ZTIP-Technical schedules-0. General point 7.19 As per technical spec. cl. 4.1.4 the conductors shall not exceed the following tension limits: Final tension with no wind on bare conductor at 25°C, over normal terrain shall not exceed 20% of the rated tensile strength.	The loading factor conditions shall be as provided for in Technical specification cl. 4.1.4 Limiting tension of cable Refer to Addendum 2 S.No 5 issued to amend Technical schedules-0. General item 0.7.20 and 0.7.22 from "Max tension at min temperature" to "Initial tension at min temperature"

				• Initial tension with no wind on bare conductor at minimum temperature (-1°C) shall not exceed 40% of the rated tensile strength. • Final tension with maximum wind on bare conductor at 15°C shall not exceed 40% of the rated tensile strength. As per ZTIP Technical schedules point 7.19 following tension limiting conditions are mentioned, • Max tension at everyday temperature (25oC) & no wind pressure ACSR/OPGW/OHGW 20% of UTS. • Max tension at min temperature (-1oC) & no wind pressure ACSR/OPGW/OHGW 40% of UTS. • Max tension at min temperature (-1oC) & full wind pressure ASC/OPGW/OHGW 40% of UTS. • Max tension at everyday temperature (15oC) & full wind pressure ASC/OPGW/OHGW 40% of UTS. All the limiting conditions mentioned in technical spec. & GTP are matching except minimum temperature nil wind case as per technical specification it is mentioned as Initial tension whereas as per GTPs it mentioned as maximum tension. Kindly clarify which one of the above is to be considered for Design.	
101.	4.1.4	Section VII - Employers Requirement	N	Technical specification cl. 4.10 Type and Use of Lattice steel towers It is mentioned " All towers, including foundations and leg extensions, shall be designed to carry, without failure, the worst combinations of loadings and the worst combinations of body and leg extensions (unequal and equal). It is expected that differential/hillside leg extensions will be required". In order to design towers with unequal extension we presume maximum difference in unequal extension as 3m. Please confirm.	Refer to Section VII 4.12.6.3 Tower Staking The Contractor shall assume full responsibility for the selection of all individual leg extensions and foundation extensions.

102.	2.14 4.1.3 0.0.7	Section VII - Employers Requirement Technical Schedules	N	Technical specification cl. 2.14 Line design parameters, Cl. 4.1.3. Climatic Data ZTIP-Technical schedules-0. General point 0.7 As per technical specification & technical schedules (GTP's) wind speed mentioned is 36m/sec as 3S Gust at 10m height & wind pressure is to be calculated as per IEC 60826:2017 by converting the same in VRB basic wind speed (10-minute mean). Various drag factors for conductor, insulator & tower are also listed in GTP's. Please note that the various drag factors(Conductor/Insulator/Tower) depends on actual attachment height & may change from the values mentioned in technical GTP.s. In this regard please confirm, for wind pressure calculation we can change these factors as per actual height requirement as per IEC 60826:2017 or we have to use the same factors mentioned in GTP.s (Technical schedules).	Refer to RfC S. No. 3
103.	4.10.8.5	Section VII - Employers Requirement	N	Sec VII- Employers Req. 4.10.8.5 Bird Guard Kindly confirm both bird guard and Bird diverters both are required in this project.	Confirmed The requirement shall be as provided for in Sec VII- Employers Req. Subsections 4.7.1 General (Overhead Line Accessories) and 4.10.8.5 Bird Guard
104.		Drawings	Y	We request you to Kindly share detail drawings for Earthing.	Refer to Addendum 2 S.No 8 issued for Earthing drawing
105.	4.1.2	Section VII - Employers Requirement	N	Technical Spec Cl. No. 4.1.2 Clearances As per Cl No. 4.1.2. clearances, maximum swing angle for conductor mentioned is 35 degree, however it is also mentioned that the swing angle given is for reference only. From this we presume that bidders have to calculate actual swing angle as per international standards, based on wind speed/pressure mentioned in Technical Schedules considering 50 years return period. Please confirm	Refer to RfC S.No. 95

106.	2.1.4 4.10.3.1	Section VII - Employers Requirement	Y	Technical specification Cl. 2.1.4 Line Design Parameters Summary for 132KV DC, 330KV DC & 400KV DC As per Clause No. 4.10.3.1, all towers shall be designed in accordance with IEC 60826 considering Terrain Category B. Kindly confirm the reliability and corresponding return period (years) considered in the design as per IEC 60826.	The return period shall be 50 years. Refer Addendum 2 S.No 9 issued to amend reliability level from Level 3, 500 year-return to Level 1, 50 year-return in Section VII - Employers Requirement subsection 2.1.4 Line Design Parameters Summary.
107.	0.7	Technical Schedules	N	Technical specification & Technical Schedule No. 0.7 Mechanical Design of OHL As per Technical Schedule No. 0.7 – Mechanical Design of OHL, the following load factors and strength/safety factors are specified for tower design. It appears that the required load and strength factors have already been incorporated in the factors table. However, an additional safety factor for the latticed tower design has also been specified.	The requirements shall stand. All factors shall be used and specified

			<table><tr><th colspan="3">Technical Schedule No. 0.7 Mechanical Design of OHL</th></tr><tr><th>Item</th><th>Description</th><th>ZTIP</th></tr><tr><td>0.7.1</td><td colspan="2">Factors:</td></tr><tr><td>0.7.9</td><td>Deadweight yG Normal load (N1...Nn)</td><td>Compression 1,2 Uplift 0,9</td></tr><tr><td>0.7.10</td><td>Deadweight yG Exceptional load (E1....En)</td><td>Compression 1,2 Uplift 0,9</td></tr><tr><td>0.7.11</td><td>Wind yW Normal load (N1.....Nn)</td><td>1.3</td></tr><tr><td>0.7.12</td><td>Wind yW Exceptional load (E1....En)</td><td>1</td></tr><tr><td>0.7.13</td><td>Conductor tension yC Normal load (N1.....Nn)</td><td>1.3</td></tr><tr><td>0.7.14</td><td>Conductor tension yC Exeptional load (E1....En)</td><td>1</td></tr><tr><td>0.7.15</td><td>Construction/Maintenance yP Exceptional load (E1.....En)</td><td>1.5</td></tr><tr><td>0.7.16</td><td>Strength factor steel members suspension towers yM</td><td>1.25</td></tr><tr><td>0.7.17</td><td>Strength factor steel members suspension towers yM</td><td>1.25</td></tr><tr><td>0.7.18</td><td>Strength factor steel bolts of tower connections yM</td><td>1.25</td></tr><tr><td>0.7.30</td><td colspan="2">Safety Factors:</td></tr><tr><td>0.7.31</td><td colspan="2">Lattice Steel Towers:</td></tr><tr><td>0.7.32</td><td colspan="2">Worst normal condition</td></tr><tr><td>0.7.33</td><td>Vertical</td><td>1.5</td></tr><tr><td>0.7.34</td><td>Transverse</td><td>1.5</td></tr><tr><td>0.7.35</td><td>Longitudinal</td><td>1.5</td></tr><tr><td>0.7.36</td><td colspan="2">Construction and maintenance:</td></tr><tr><td>0.7.37</td><td>Vertical</td><td>1.5</td></tr><tr><td>0.7.38</td><td>Transverse</td><td>1.5</td></tr><tr><td>0.7.39</td><td>Longitudinal</td><td>1.5</td></tr></table> Applying both the load/strength factors and the additional safety factor may result in a highly conservative design. Therefore, kindly confirm the applicable load factors, strength factors, and safety factors to be considered for the tower design, and clarify whether the additional safety factor for latticed towers is to be applied in addition to the specified factors or is already accounted for within them.	Technical Schedule No. 0.7 Mechanical Design of OHL			Item	Description	ZTIP	0.7.1	Factors:		0.7.9	Deadweight yG Normal load (N1...Nn)	Compression 1,2 Uplift 0,9	0.7.10	Deadweight yG Exceptional load (E1....En)	Compression 1,2 Uplift 0,9	0.7.11	Wind yW Normal load (N1.....Nn)	1.3	0.7.12	Wind yW Exceptional load (E1....En)	1	0.7.13	Conductor tension yC Normal load (N1.....Nn)	1.3	0.7.14	Conductor tension yC Exeptional load (E1....En)	1	0.7.15	Construction/Maintenance yP Exceptional load (E1.....En)	1.5	0.7.16	Strength factor steel members suspension towers yM	1.25	0.7.17	Strength factor steel members suspension towers yM	1.25	0.7.18	Strength factor steel bolts of tower connections yM	1.25	0.7.30	Safety Factors:		0.7.31	Lattice Steel Towers:		0.7.32	Worst normal condition		0.7.33	Vertical	1.5	0.7.34	Transverse	1.5	0.7.35	Longitudinal	1.5	0.7.36	Construction and maintenance:		0.7.37	Vertical	1.5	0.7.38	Transverse	1.5	0.7.39	Longitudinal	1.5	
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0.7.36	Construction and maintenance:																																																																								
0.7.37	Vertical	1.5																																																																							
0.7.38	Transverse	1.5																																																																							
0.7.39	Longitudinal	1.5																																																																							
108.	Section VII - Employers Requirement	Y	Technical specification We have noted that for the 330/132 kV line, a short-circuit current of approximately 31 kA along with a high UTS of 105 kN for an OPGW having an overall diameter of 13 mm. Based on our technical assessment, it is not feasible to achieve a 31 kA short-circuit current rating with a 13 mm overall diameter while simultaneously meeting the specified UTS requirement.	Bidder shall optimise the OPGW diameter according to their design to meet the required electrical and mechanical performance characteristics provided for in the Technical Schedules 1.4 and 1.5 Refer to Addendum 2 S.No 5 issued to amend Technical Schedule items 1.5.26 OPGW diameter from “approx. 13” and item 1.4.25 from “approx. 18” to “bidder to state” The short circuit duration shall be 0.2 seconds. Refer to Addendum 2 S.No. 5 issued to specify short circuit current																																																																					

				Therefore, we request you to kindly confirm the required short-circuit duration corresponding to the 13 mm diameter OPGW. Additionally, please provide the short-circuit duration requirement for the 18 mm diameter OPGW as well, so that we can evaluate and propose the most suitable design	duration of 0.2s to the description of items 1.4.31 and 1.5.32 of the Technical Schedules.
109.		Section III – Evaluation and Qualification Criteria	N	Sec III-Qualification for Key Personnel We note that the CV of a Quantity Surveyor is required as part of the tender submission. Since the CV of a Site Engineer is also required, kindly clarify the specific roles and responsibilities expected from the Quantity Surveyor under this contract and how this role differs from that of the Site Engineer.	The QS shall manage the commercial side of the contract, while the Site Engineer shall manage the technical delivery of the works on site.
110.	4.12.1	Section VII - Employers Requirement	N	Clause 7 – <i>Remeasured Works</i> of Section VII – Employer's Requirements Sub-Clause 4.12.1 – General Works / Surveying and Tower Locations With reference to the above-mentioned clause, it is stated that the tower types, tower extensions, and their respective quantities provided in the Schedule of Prices are intended solely as the basis for bidding and evaluation of all bidders. We understand that the Bidder is required to quote unit rates against the quantities specified in the Schedule of Prices, and that these quantities shall be used exclusively for bid evaluation purposes. Further, we understand that during project execution, the Contractor shall be responsible for carrying out the detailed survey, route profiling, geotechnical investigations, tower spotting, tower design, preparation of material schedules, and all other associated activities required for the successful execution of the works. Accordingly, should the actual executed quantities vary from the quantities indicated in the Schedule of Prices as	Refer to RFC 63

				a result of the Contractor's detailed survey, design, profiling, soil investigation, or other site conditions, the Contract Price shall be determined based on the quoted unit rates applied to the actual measured quantities executed. Based on the above, we understand that the Contract shall operate as a Unit Rate (Re-measurement) Contract, whereby payment shall be made on the basis of the actual quantities executed and measured at the quoted unit rates. Kindly confirm whether our above understanding is correct.	
111.	ITB 23.1	Section II – Bid Data Sheet	Y	Considering the work required for the preparation of the tender, we kindly request a three-week extension to the bid submission deadline to allow sufficient time for the preparation of complete and compliant bid documents.	Refer to RfC 1 and addendum 2 S.No 1 issued to extended bid submission from 7 August 2026 to 21 August 2026.
112.		Section VII - Employers Requirement Technical Schedules	N	Please confirm whether the Employer will provide the reference weights for all required tower types.	The weight of each tower types shall be according to Contractor's detailed design.
113.			N	Would you please confirm whether the tower heights (Struct. Height (m)) mentioned in the staking table are measured from ground level? Please refer to the below taken from the mentioned document:	Confirmed.

				<table><tr><th colspan="12">Staking Table - rev C</th></tr><tr><th>Structure Number</th><th>Station (m)</th><th>Height Adjust. (m)</th><th>Offset Adjust. (m)</th><th>X Easting (m)</th><th>Y Northing (m)</th><th>Ahead Span (m)</th><th>Line Angle (deg)</th><th>Structure Description</th><th>Struct. Height (m)</th><th>Embedded Length (m)</th><th>Comments</th></tr><tr><td>33</td><td>225576,9</td><td></td><td></td><td>456753,1</td><td>8974697</td><td>281,982</td><td></td><td>400 DA - Susp</td><td>45,2</td><td></td><td>33</td></tr><tr><td>34</td><td>225858,9</td><td></td><td></td><td>456894</td><td>8974941</td><td>369,088</td><td>8,7103</td><td>400 DB - ASO-10</td><td>43,85</td><td></td><td>34</td></tr><tr><td>35</td><td>226228</td><td>1</td><td></td><td>457124,8</td><td>8975229</td><td>456,985</td><td></td><td>400 DA - Susp +6</td><td>51,2</td><td></td><td>35</td></tr><tr><td>36</td><td>226684,9</td><td>2</td><td></td><td>457410,6</td><td>8975586</td><td>307,518</td><td></td><td>400 DA - Susp +3</td><td>48,2</td><td></td><td>36</td></tr><tr><td>37</td><td>226992,5</td><td></td><td></td><td>457602,9</td><td>8975826</td><td>354,415</td><td>-14,4799</td><td>400 DC - AS10-30</td><td>43,95</td><td></td><td>37</td></tr><tr><td>38</td><td>227346,9</td><td></td><td></td><td>457748,3</td><td>8976149</td><td>402,61</td><td></td><td>400 DA - Susp +9</td><td>54,2</td><td></td><td>38</td></tr><tr><td>39</td><td>227749,5</td><td></td><td></td><td>457913,6</td><td>8976516</td><td></td><td></td><td>400 DET - ASO-45</td><td>44,25</td><td></td><td>39</td></tr></table>												Staking Table - rev C												Structure Number	Station (m)	Height Adjust. (m)	Offset Adjust. (m)	X Easting (m)	Y Northing (m)	Ahead Span (m)	Line Angle (deg)	Structure Description	Struct. Height (m)	Embedded Length (m)	Comments	33	225576,9			456753,1	8974697	281,982		400 DA - Susp	45,2		33	34	225858,9			456894	8974941	369,088	8,7103	400 DB - ASO-10	43,85		34	35	226228	1		457124,8	8975229	456,985		400 DA - Susp +6	51,2		35	36	226684,9	2		457410,6	8975586	307,518		400 DA - Susp +3	48,2		36	37	226992,5			457602,9	8975826	354,415	-14,4799	400 DC - AS10-30	43,95		37	38	227346,9			457748,3	8976149	402,61		400 DA - Susp +9	54,2		38	39	227749,5			457913,6	8976516			400 DET - ASO-45	44,25		39
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114.		Section III – Evaluation and Qualification Criteria Section VII - Employers Requirement	N	Please confirm that offered items with no type test report are acceptable, only in case the bidder submit a written commitment format to perform tests at accredited labs, with stated timelines and contingency plans.				Refer to RfC 50																																																																																																																			
115.		Section VII - Employers Requirement	N	For ACSR conductors, please confirm whether compliance with IEC 61089 is acceptable instead of compliance with ASTM B232 / EN 50182.				Refer to Section VII - Employers Requirement subsection 4.3 – Phase Conductors and 4.3.2 Standards; to which the conductors shall comply.																																																																																																																			
116.		Section VII - Employers Requirement	N	For ACSR conductors, please confirm that minor deviations in the total cross-sectional area resulting from differences between applicable conductor standards are acceptable, provided that the offered conductor meets the required electrical and mechanical performance characteristics. For example, for ACSR Bluejay, please confirm that				The bidder shall ensure that the conductors provided meets the required electrical and mechanical performance characteristics as provided for in the Technical Schedules in accordance with relevant standards specified in the RfB.																																																																																																																			

				a total cross-sectional area of 602.96 mm ² is acceptable instead of the specified 604.39 mm ² .	
117.		Section VII - Employers Requirement	N	For the ACSR conductors Bluejay, Bison, and Wolf, please confirm whether the required manufactured and supplied quantity of 3,000 km may be demonstrated for only one of the specified conductor types. Alternatively, please confirm whether a combined reference quantity of 3,000 km covering all three conductor types, namely Bluejay, Bison, and Wolf, is acceptable. Please refer to the below extract from the tender document: <u>Specific Conductors Amount (Bluejay, Bison, or Wolf)</u> a) Within seven (7) yrs b) Quantity: 3,000km c) Manufacturing and supply d) Reference list as the evidence for the required period of time should include (i) supplied conductor quantities (type and length), (ii) project designation, and (iii) year of supply.	Note that the combined quantity of conductors is indicated as 10,000km minimum to which the manufacturer shall comply in addition to the individual requirements for a minimum of 3000km for Bluejay, Bison, and Wolf,
118.		Section VII - Employers Requirement	N	For ACSR conductors, please confirm that minor deviations in the modulus of elasticity is acceptable. For example, please confirm that a modulus of elasticity of 64500 N/mm² is acceptable instead of the specified 66600 N/mm².	Refer to RfC 116
119.		Section VII - Employers Requirement	N	For OPGW, please confirm that minor deviations in the dry mass is acceptable. For example, please confirm that a dry mass of 639 kg/km is acceptable instead of the specified 680 kg/km.	The bidder shall ensure that the OPGW provided meets the required electrical and mechanical performance characteristics as provided for in the Technical Schedules in accordance with relevant standards specified in the RfB.
120.		Price Schedules	N	Within the provided BOQ, the bidder is required to quote stockbridge dampers for twin bundled ACSR conductors. Would You please clarify the need for this item noting that spacer dampers are also required within the same BOQ.	Regarding the need for Stockbridge dampers, refer to Section VII - Employers Requirement Subsection 4.7.6 – Vibration Dampers

121.		Price Schedules	N	We have noted that DE Tension(60-90), DET Tesnion (0-45) and DDT Tesnion(0-10) are required to be quoted within the BOQ for 330kV network. Would You please provide the height of the mentioned towers since we cannot find them within the bid documents.	Refer to App1.2.2 - 330kV Kasama-Nakonde Staking Table Rev D
122.		Price Schedules	N	We have noted that det (0-45), SPEC (90+90) and DB Tension (0-30) are required to be quoted within the BOQ for 132kV network. Would You please provide the height of the mentioned towers since we cannot find them within the bid documents.	Refer to App1.3.2 - 132kV Nakonde-Isoka Staking Table Rev B
123.			N	Would You please clarify whether PLS-CADD thermal rating files are required to be submitted at the bidding phase? Please refer to the below taken from the bid documents:	The bidder shall NOT submit the PLS-CADD thermal rating files together with the bid BUT as part of DESIGN STAGE
				Note: Bidder should submit guaranteed ampacity for Bluejay (twin bundle) / Bison (Twin bundle) /Wolf (single) at [85/80/75] °C with assumptions (ambient temperature, wind speed, reference altitude, emissivity/absorptivity, solar heat flux) and provide PLS-CADD thermal rating files used to derive these values as part of the GTCs.	
124.			Y	The bidding documents refer to an appendix 2. Would You please provide the appendix 2 since only appendix 1 is found in the drawing file.	Refer to Addendum 2 S.No 10 issued to include "Appendix 2"
				For Bidding purpose, a transmission line route is provided as coordinates in WGS 84 36S and route map. PLS-CADD Profiles of the routes, with proposed tower positions, is also provided in pdf format. Outline tower designs are provided in pdf format, see below section 14 SUPPLEMENTARY INFORMATION, Appendix 1 and Appendix 2 .	
125.			N	Please confirm whether the euphorbia area is from 330kV tower # 45 till 52 as communicated during the site visit, or it is from tower #48 till 54 as indicated by the below symbol in the line profile document:	The following are the towers in the euphorbia area; Tower number 46, and 49 to 52. Refer to App1.2.1 - 330kV Kasama – Nakonde Line Profile

					
126.			N	Please confirm the allowable working area within the Euphorbia area is limited to a maximum of 15 m × 15 m.	Refer to Section VII - Employers Requirement Subsection 4.20 and the Project Biodiversity Management Plan (BMP) shared via the Safeguard documents link in RfB on the specific construction methods recommended
127.			N	The tender documents mention that the towers within the euphorbia area should have a minimized footprint. Would You please specify the maximum allowable footprint?	The Contractor shall optimize towers design to minimize footprints as per line route map. Refer to Section VII - Employers Requirement Subsections 4.20 and 13.1.3 and the Project Biodiversity Management Plan (BMP) shared via the Safeguard documents link in RfB on the specific construction methods recommended
128.			N	Please confirm the euphorbia tower should be designed for a max single span of 800m instead of 600m for other towers, noting that the 330kV line profile specifies a maximum span of 435.26m for the euphorbia towers.	Note that the requirements shall be as provided for in Section VII - Employers Requirement Subsections 4.10.3.5 and the tower spotting shared with the bid for the euphorbia area
129.			N	Please confirm the euphorbia towers should have a load safety factor of 1.5 instead of 1.25 for other towers.	Confirmed. Refer to RfC 6 and Section VII - Employers Requirement Subsections 4.20.1
130.			N	Regarding the ACSR conductors manufacturers, kindly confirm whether the required performance certificates submitted by the manufacturer could be for conductors other than Bluejay, Bison or Wolf.	The performance certificates shall be for all conductors supplied including Bluejay, Bison or Wolf as required in the RfB.
131.			N	Regarding the lattice tower manufacturer, kindly confirm whether a manufacturer that fully meets the required experience by combining both lattice tower manufacturing and substation steel structure manufacturing experience is acceptable to the Employer.	Manufacturers that fully meet the required experience as provided for in the RfB is acceptable.

132.			N	Please clarify if VAT and WHT are to be included for bills 3 and 4, also please clarify the applicable TVA and WHT taxes %	Refer to RFC 7. Bidders are encouraged to confirm with the Zambia Revenue Authority on the applicable tax rates via their website or other means
133.			N	Please specify the required per diem for FAT travels for personnels	Refer to RFC 58
134.			Y	Please clarify the scope of erosion protection works, including grassing, stone pitching, rip-rap, gabions, terracing, cribbing and similar measures. Kindly confirm: - The tower locations or chainages where these measures are required. - The quantities, dimensions, and standard drawings/details applicable. - Whether any geotechnical criteria will determine where these measures are required, as we have geotechnical reports	Refer to Addendum 2 S.No. 2 issued to amend Schedule 4 item 0.07 of Price Schedules for erosion protection to <i>“Appropriate slope or tower footing protection against erosion for one-third of the total towers”</i>
135.			N	Please confirm Bill 1 and 2 tax duties and customs exemption	Refer to RFC 7
136.	2.1.4 4.1.3	Section VII - Employers Requirement	N	PART 2 - Employer's Requirements – Transmission Lines Clause 2.1.4 specifies the standard as EN 50341, with a basic wind pressure of 800 Pa, which differs from the description in Clause 4.1.3. If following Clause 4.1.3, the basic wind pressure calculated according to IEC 60826 is 325 Pa. Please clarify which clause should be followed?	Refer to RFC 3
				2.1.4 Line Design Parameters Summary To ensure consistency, the following table summarizes key design parameters for all lines, aligned with EN 50341 (Level 3 reliability, 500-year return period) and IEC standards. Climate basis: wind 3s gust 36 m/s at 10m height ($q_0=800$ Pa), max temp +45°C, min -5°C, seismic MMI VI-VII per EN 1998. Altitude corrections per IEC 60071-2 ($K_a=1.08$ at 1,600 masl for 330/132kV; 1.16 at 2,200 masl for 400kV, segment-wise). Pollution: Heavy (Class d) for 330/132kV; Very Heavy (Class e) for 400kV to align with TANESCO.	

				4.1.3 Climatic Data While the detailed overhead transmission line design parameters are given in the Technical Schedules under General Requirements, the representative climatic conditions to be used for the transmission lines design shall be as follows: <table><tr><th>Description</th><th>Units</th><th>Value</th></tr><tr><td>Minimum ambient temperature</td><td>°C</td><td>-1</td></tr><tr><td>Average daily temperature</td><td>°C</td><td>25</td></tr><tr><td>Maximum ambient temperature</td><td>°C</td><td>45</td></tr><tr><td>Wind speed*</td><td>m/s</td><td>36</td></tr><tr><td>Keraunic levels (average ground flashes/km² / year)</td><td>No/km²/year</td><td>38</td></tr></table> * Wind speed is given as 3-second gust under terrain category B of IEC 60826:2017. This can be equated to a VRB wind speed value of 25.9m/s (10-minute mean) under the IEC 60826 wind load methodology.	Description	Units	Value	Minimum ambient temperature	°C	-1	Average daily temperature	°C	25	Maximum ambient temperature	°C	45	Wind speed*	m/s	36	Keraunic levels (average ground flashes/km ² / year)	No/km ² /year	38																
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137.	4.10.3.10	Section VII - Employers Requirement	N	<table><tr><td> PART 2 - Employer's Requirements – Transmission Lines According to Clause 4.10.3.10, M24 bolts are not adopted. Can M24 bolts be used for this project? And is it acceptable to apply ISO 898 as the bolt standard? </td><td> Bolts shall comply with ASTM A394 and detailing shall be in accordance with ASCE/SEI 10-15 as provided for in Section VII </td></tr><tr><td colspan="2"> 4.10.3.10 Bolt Design Details The minimum bolt spacing, rolled edge distances and sheared edge distances of sections from the centres of the bolt holes to be maintained are given in the table below. Bolt Design Details for towers shall be: Bolt Design Details ASCE/SEI 10-15 <table><tr><th>Member type</th><th>Units</th><th>Ø12</th><th>Ø16</th><th>Ø20</th></tr><tr><td>Diameter of bolts</td><td>mm</td><td>12</td><td>16</td><td>20</td></tr><tr><td>Hole diameter</td><td>mm</td><td>13.5</td><td>17.5</td><td>21.5</td></tr><tr><td>Min. bolt spacing</td><td>mm</td><td>36</td><td>48</td><td>60</td></tr><tr><td>Min. rolled edge distance</td><td>mm</td><td>18</td><td>24</td><td>30</td></tr><tr><td>Min. sheared edge distance</td><td>mm</td><td>21</td><td>28</td><td>35</td></tr></table></td></tr></table>	PART 2 - Employer's Requirements – Transmission Lines According to Clause 4.10.3.10, M24 bolts are not adopted. Can M24 bolts be used for this project? And is it acceptable to apply ISO 898 as the bolt standard?	Bolts shall comply with ASTM A394 and detailing shall be in accordance with ASCE/SEI 10-15 as provided for in Section VII	4.10.3.10 Bolt Design Details The minimum bolt spacing, rolled edge distances and sheared edge distances of sections from the centres of the bolt holes to be maintained are given in the table below. Bolt Design Details for towers shall be: Bolt Design Details ASCE/SEI 10-15 <table><tr><th>Member type</th><th>Units</th><th>Ø12</th><th>Ø16</th><th>Ø20</th></tr><tr><td>Diameter of bolts</td><td>mm</td><td>12</td><td>16</td><td>20</td></tr><tr><td>Hole diameter</td><td>mm</td><td>13.5</td><td>17.5</td><td>21.5</td></tr><tr><td>Min. bolt spacing</td><td>mm</td><td>36</td><td>48</td><td>60</td></tr><tr><td>Min. rolled edge distance</td><td>mm</td><td>18</td><td>24</td><td>30</td></tr><tr><td>Min. sheared edge distance</td><td>mm</td><td>21</td><td>28</td><td>35</td></tr></table>		Member type	Units	Ø12	Ø16	Ø20	Diameter of bolts	mm	12	16	20	Hole diameter	mm	13.5	17.5	21.5	Min. bolt spacing	mm	36	48	60	Min. rolled edge distance	mm	18	24	30	Min. sheared edge distance	mm	21	28	35
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138.		Section VII - Employers Requirement	N	PART 2 - Employer's Requirements – Transmission Lines Can the steel materials for the transmission towers be procured using equivalent Chinese GB standards as a substitute?	Only the standards specified in the bidding documents shall be applied. Any proposed equivalent standard shall be supported by a technical equivalence demonstration and remain subject to ZESCO's approval under the bidding document. Refer to RFC 4
				4.10.3.11 Material All rolled steel sections, flats, plates and bolt and nut bars used shall consist of steel manufactured by an approved process and shall be to the requirements of BS EN 10025 for grades S235JR and S355JO steel or equivalent from other approved standards, the provisions of which in respect of tests and analyses shall be extended to include steel less than 6 mm thick. The steel shall be free from blisters, scales, laminations or other defects. Steel sections shall preferably be ISO Standard sections chosen with a view to avoiding delays in obtaining material.	
139.		Section X – Contract Forms	N	Terms of Payment Please confirm whether the payment is made through T/T or L/C?	Payments shall be made by Direct Payment, except where the Contract provides for payment through letter of credit
140.	ITB 7.1	Section II – Bid Data Sheet	N	ITB 7.1 Clarification Please confirm clarification shall be submitted no later than 14 days before the bid deadline instead of 28 days, since the site visit hasn't conducted.	In line with BDS ITB 7.1 clarification cutoff is 7 August 2026
141.		Section I – Instruction to Bidders	N	Customs duties and taxes This project adopts the CIP delivery term, thus Price schedule 1 excludes customs duties and VAT. Please confirm whether our quotations for Schedule 4: Installation and Other Services shall include VAT or not.	Refer to RFC 7
142.	4 – 22.05	Price Schedules 330 kV Kasama-Nakonde	Y	Price Schedules-Schedule 4-Item 22.05 For Item 22.05 "Training during one full week (5 working days) the Employer's staff to the extent where they are fully familiar with the technical aspects and the operation and maintenance requirements of the transmission line and its auxiliaries and that the duties can be assigned to	The bidder shall consider a maximum of 10 employer's staff. Refer to addendum 2 S.No.2 issued to included "...Ten (10) Employer's Staff..." in 330kV Price Schedules-Schedule 4-Item 22.05

				the trained personnel on completion. Training shall include live line working." Please specify the number of Employer's staff to be trained.	
143.			N	Temporary occupation of land Kindly confirm who is responsible for temporary occupation of land, such as the temporary material storage place and camp?	The contractor shall be responsible for all acquisition of temporary work and camp sites in accordance with all safeguard documents, that is, ESIA, ESMP etc in consultation with the Employer
144.			N	Clearance width for the corridor Please clarify the required corridor clearance width for 132kV, 330kV, and 400kV transmission lines.	Refer to Section VII - Employers Requirement 5 Clearing of Right of Way (RoW)
145.	2.3	Section VII - Employers Requirement Price Schedules	Y	Employer's Requirements -2.3 Overhead Line Scope of Works – Maintenance Road 2.3 Overhead Line Scope of Works requires “ Providing a maintenance road along the line complete with the finger access roads from public roads” which is not listed in BOQ, if the maintenance road is needed, please add it in BOQ.	Refer to Addendum 2 S.No. 2 issued to split item 0.03 in 132kV, 330kV and 400kV Price Schedule 4 as follows; <i>0.03A - Construction of access roads complete with the finger access roads from public roads as per Employer's Requirements</i> <i>0.03B - Bush clearing as per Employer's Requirements</i> Refer to Addendum 2 S.No 2 issued to include item 0.09 - Gravelled Access road of 20km in 330kV Price Schedule 4. Refer to Addendum 2 S.No 5 issued to amend Technical Schedules 2.2.1 and 2.2.3 from "3m" to "5m", and to delete item 2.2.4.
146.	2.3	Section VII - Employers Requirement	Y	Employer's Requirements – 2.3 Overhead Line Scope of Works – Maintenance Road 2.3 Overhead Line Scope of Works requires “Providing a maintenance road along the line complete with the finger access roads from public roads”	Refer to 145

				Please provide the width of the maintenance road.	
147.		Price Schedules	N	Crossing This TL lines involves crossing rivers, which is not listed in BOQ, please add it.	Information provided is deemed sufficient for bidding purposes. No special river crossing towers are envisaged

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
148.	2.2 Terms of Payment	Section X - Contract Forms, Contract Agreement	N	Section X - Contract Forms, Contract Agreement Article 2.2 Terms of Payment As per Article 2.2 Terms of Payment – <i>"The Employer may instruct its bank to issue an irrevocable confirmed documentary credit made available to the Contractor in a bank in the country of the Contractor."</i> We understand that payment will be made through an irrevocable confirmed Letter of Credit, available through a bank in the Contractor's country. Kindly confirm that all charges related to the opening of the Letter of Credit, as well as the Letter of Credit confirmation charges, will be borne by the Employer.	Payments shall be made by Direct Payment, except where the Contract provides for payment through letter of credit
149.			N	Contract Basis The quantities provided in the Schedule of Prices are stated to be provisional and are intended to provide a common basis for the Contract.	Refer to RFC 63

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				Accordingly, we understand that payment will be made based on the actual quantities of work ordered by the Employer and executed by the Contractor. Kindly confirm that our understanding is correct.	
150.			N	Right of Way and Access roads We understand that all permits, rights of way, and land acquisition and/or land compensation required for the construction of the access roads shall be the responsibility of the Employer. The Contractor's scope shall be limited to the construction of the access roads as instructed under the Contract. Kindly confirm that our understanding is correct.	Note that the rights of way, and land acquisition and/or land compensation required for the construction of the access roads along the right of way shall be the responsibility of the Employer. The expenses to obtain all permits, approval, and/or service licenses shall be borne by the Contractor.
151.	2.2 Terms of Payment	Section X - Contract Forms, Contract Agreement	N	Site Mobilization and Insurance We kindly request you to clarify the timeline for payment of the Site Mobilization and Insurance costs under the Contract. Specifically, please confirm when the Contractor will be entitled to receive payment for these items following contract award and fulfillment of the applicable contractual requirements.	Site Mobilization is an item in Price Schedule No. 4 and insurance as well. Please refer to ITB 17.5 (d) Payments shall be as provided for in Section X - Contract Forms, Contract Agreement, Appendix 1
152.	2.13	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 2.13 Training With reference to Clause 2.13, <i>Training</i> , we understand that the training is conducted outside the Employer's country, all costs associated with the Employer's personnel, including international air travel, accommodation, and	Refer to RFC 58

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				per diem (daily allowance), shall be borne by the Employer. Kindly confirm that our understanding is correct.	
153.		Drawings	N	Drawings Kindly provide all reference drawings pertaining to this tender to enable us to prepare a complete and accurate bid.	Drawings have been provided in "Drawings and Supplementary Information" folder under the Web page https://www.zesco.co.zm/tender.php
154.	15.02	Price Schedules No.1 132kV Nakonde-Isoka LI-LO	N	ZTIP_132kV Nakonde-Isoka LI-LO Price Schedules, Schedule 1, Line Item 15.02 - Optical Ground Wire (OPGW) type ACS 7/6 AWG , 48 cores. ITU-T G.652D s/c rating 496 kA ² /sec, including all splicing and connections to joint boxes. In this regard, we understand that the OPGW 48 cores to be used for the 132 kV transmission line shall conform to the specified ACS 7/6 AWG configuration and associated technical parameters as stated in the Employer's Requirements. Kindly confirm that our understanding is correct.	The OPGW for the 132kV shall be as provided for in Section VII – Employer's Requirements subsection 4.5.3.1 OPGW Characteristics, 330kV and 132 kV
155.	4.15.3.1	Section VII – Employer's Requirements	Y	Fall Arrest System As per Clause 4.15.3.1 Fall Arrest System, Section VII – Employer's Requirements - <i>"The contractor shall provide for installation of a fall arrest system at all suspension and tension towers at the time of construction/tower erection to provide protection to personnel in case of a fall from height."</i>	Refer to RFC 46 and Addendum 2 S.No. 2 issued to add "Fall Arrest system" in schedule 1 and schedule 4 of 132kV,330kV and 400kV price schedules

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				However, we note that no separate item mentioned in the Price Schedule for the Fall Arrest System. If it is required, kindly provide revised Price Schedule incorporating the Fall Arrest System with required quantity in Price Schedule. We also request you to kindly provide the number of tower legs (per tower) on which the Fall Arrest System is to be installed.	
156.		Section VII – Employer's Requirements	Y	Tower Obstruction Light Please provide the details and Technical Specification of Tower Obstruction Light if required and accordingly provide revised Price Schedules with required quantity.	There shall be no Tower Obstruction Light Refer to Addendum 2 S.No 7 issued to replace Tower Obstruction Light with Aircraft warning spheres in Section VII – Employer's Requirements subsection 8.3.3.1 - Drawings to be submitted during the contract period.
157.		Section VII – Employer's Requirements Price Schedules	Y	OTDR and OPGW Splicing Tools Please provide the details and Technical Specification of OTDR and OPGW Splicing Tools to quote appropriately in Price Schedule.	Refer to addendum 2 S.No 5 issued to included Technical Specification for OPGW Splicing Tools and OTDR in Technical Schedules as item 8.16 and 8.17.
158.	4.7.9	Section VII – Employer's Requirements	N	Aircraft Warning Spheres As per clause 4.7.9 Aircraft Warning Spheres, Section VII – Employer's Requirements <i>"The Contractor shall provide Aviation Warning Type Markers for installation on the Shield Wire where required along portions of the line and</i>	Refer to RfC S.No. 15 No warnings spheres for 400kV

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				tower paintings for aviation warning where necessary to comply with: - The relevant ICAO specifications. - Zambia Civil Aviation Authority (ZCAA) requirements. Daylight warning spheres shall be fitted to shield wires of overhead lines, whereas tower painting for aviation warning shall be done in the following cases: - Close to airports. - Close to flight paths of low flying aircraft. - Close to helicopter traffic area.” However, we note that no separate item has been provided in the Price Schedule for Aircraft Warning Spheres or Tower Obstruction Lights for the 400 kV and 132 kV transmission lines. Based on the above, we understand the following: - Aircraft Warning Spheres and Tower Obstruction Lights are not required for the 400 kV and 132 kV transmission lines. - Accordingly, the Technical Data Sheet for Aircraft Warning Spheres is not applicable to the 400 kV and 132 kV transmission lines. - Aircraft Warning Spheres are required only for the 330 kV transmission line, and Tower Obstruction Lights are not required for the 330 kV transmission line.	

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE																																																																																																																											
				Kindly confirm whether our understanding is correct.																																																																																																																												
159.	4.14	Section VII – Em- ployer's Require- ments	Y	Section VII – Employer's Requirements, Clause 4.14 Grounding Installation, Page no. 381, <table><tr><th rowspan="2">Bus no</th><th rowspan="2">Substation</th><th rowspan="2">Voltage (kV)</th><th colspan="3">1. Line</th><th colspan="3">2. Line</th></tr><tr><th>Route</th><th>Length</th><th>Capacity</th><th>Route</th><th>Length</th><th>Capacity</th></tr><tr><td>203</td><td>TUNDUMA 400</td><td>400</td><td>2,147</td><td>5,142</td><td>3,845</td><td>1,544</td><td>3,651</td><td>3,650</td></tr><tr><td>1000</td><td>MFRAS220</td><td>220</td><td>1,017</td><td>1,074</td><td>2,513</td><td>3,057</td><td>3,057</td><td>1,057</td></tr><tr><td>1000</td><td>KALUNSHI 400</td><td>400</td><td></td><td></td><td>1,134</td><td>4,142</td><td></td><td>4,444</td></tr><tr><td>5253</td><td>LUPURU</td><td>330</td><td></td><td></td><td>2,296</td><td>2,293</td><td></td><td>2,293</td></tr><tr><td>5200</td><td>KARAWA</td><td>400</td><td>16,054</td><td>16,056</td><td>16,054</td><td>16,683</td><td>16,734</td><td>16,677</td></tr><tr><td>5248</td><td>PENDEL</td><td>330</td><td>3,688</td><td>4,210</td><td>4,490</td><td>4,528</td><td>4,571</td><td>4,595</td></tr><tr><td>5272</td><td>KASANDA</td><td>330</td><td>1,202</td><td>2,006</td><td>3,247</td><td>3,653</td><td>4,072</td><td>4,252</td></tr><tr><td>5274</td><td>NAKENDI</td><td>330</td><td>941</td><td>3,118</td><td>3,428</td><td>3,587</td><td>3,648</td><td>3,647</td></tr><tr><td>5014</td><td>TUNDUMA 400</td><td>400</td><td>2,227</td><td>2,978</td><td>3,292</td><td>3,293</td><td>3,243</td><td>3,243</td></tr><tr><td>5014</td><td>MFRAS</td><td>220</td><td>1,912</td><td>2,756</td><td>3,295</td><td>3,155</td><td>3,273</td><td>3,273</td></tr><tr><td>40210</td><td>MDEYA 400</td><td>400</td><td>2,674</td><td>3,372</td><td>3,551</td><td>3,622</td><td>3,651</td><td>3,650</td></tr><tr><td>42101</td><td>KASANDA 400</td><td>400</td><td>3,164</td><td>4,066</td><td>4,217</td><td>4,243</td><td>4,215</td><td>4,216</td></tr></table> The table/details provided for the Short circuit current is not legible and do not contain sufficient information. Kindly provide a clear and legible table with complete short-circuit current details.	Bus no	Substation	Voltage (kV)	1. Line			2. Line			Route	Length	Capacity	Route	Length	Capacity	203	TUNDUMA 400	400	2,147	5,142	3,845	1,544	3,651	3,650	1000	MFRAS220	220	1,017	1,074	2,513	3,057	3,057	1,057	1000	KALUNSHI 400	400			1,134	4,142		4,444	5253	LUPURU	330			2,296	2,293		2,293	5200	KARAWA	400	16,054	16,056	16,054	16,683	16,734	16,677	5248	PENDEL	330	3,688	4,210	4,490	4,528	4,571	4,595	5272	KASANDA	330	1,202	2,006	3,247	3,653	4,072	4,252	5274	NAKENDI	330	941	3,118	3,428	3,587	3,648	3,647	5014	TUNDUMA 400	400	2,227	2,978	3,292	3,293	3,243	3,243	5014	MFRAS	220	1,912	2,756	3,295	3,155	3,273	3,273	40210	MDEYA 400	400	2,674	3,372	3,551	3,622	3,651	3,650	42101	KASANDA 400	400	3,164	4,066	4,217	4,243	4,215	4,216	Refer to addendum 2 S.No. 7 issued to replace the figure for Short circuit currents for selected buses in Section VII – Employer's Requirements, clause 4.14 with a clear and legible table
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160.	4.8.1	Section VII – Em- ployer's Require- ments	Y	Section VII – Employer's Requirements 4.8 Grounding Materials, 4.8.1 General As per clause 4.8.1 General, Section VII – Employer's Re- quirements <i>“Grounding (or earthing) shall be as shown on the tender drawings. Unless described herein, all materials shall be</i>	Refer to RFC 104 and Addendum 2 S.No 8 issued for Earthing drawing.																																																																																																																											

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				<i>standard commercial quality suitable for the intended use."</i> However, upon review of the tender documents, we have not identified any drawings indicating the grounding arrangement or specifying the required grounding materials. In order to enable proper interpretation of the Employer's Requirements and to facilitate accurate pricing and preparation of our bid, we kindly request you to provide the relevant drawings and detailed specifications related to the grounding system.	
161.	4.8.1 7.4	Section VII – Employer's Requirements Technical Schedules	N	Section VII – Employer's Requirements 4.8 Grounding Materials, 4.8.1 General And 7.4 Earth Rods of Technical Schedules As per clause 4.8.1 General, Section VII – Employer's Requirements <i>"Grounding (or earthing) shall be as shown on the tender drawings. Unless described herein, all materials shall be standard commercial quality suitable for the intended use."</i> Upon review of the referenced clause, it is evident that a counterpoise type grounding system is specified. There is no indication or requirement for the use of earthing rods in these documents. However, we note that Technical Schedule Item 7.4 refers to earthing rods.	Earth rods shall be required as per the following extract in Section VII – Employer's Requirements 11.1 - TESTING AND INSPECTION <i>"If, in the opinion of the Employer / Employer's Representative, it is necessary to reduce the tower earthing resistance by approved means such as the installation of earth rods or counterpoise, the Contractor shall make further tests after the additional measures have been carried out at no extra charge".</i> Refer to Section VII – Employer's Requirements 4.14 - Grounding Installation for further requirements for Earthing improvements.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				Accordingly, we understand that earthing rods are not required, and only the counterpoise grounding system is to be provided as per the technical specifications. We further understand that Technical Schedule Item 7.4 (Earthing Rod) is not applicable. Kindly confirm that our understanding is correct.	
162.	1.4 Subcontractors/Manufacturers	Section III – Evaluation and Qualification Criteria	N	Section III – Evaluation and Qualification Criteria, 1.4 Subcontractors/Manufacturers As per clause 1.4 Subcontractors/Manufacturers, Section III – Evaluation and Qualification Criteria demonstrates that - <i>“Specific Conductors Amount (Bluejay, Bison, or Wolf)</i> <i>a) Within seven (7) yrs</i> <i>b) Quantity: 3,000km</i> <i>c) Manufacturing and supply”</i> We understand that the required quantity of 3,000 km is cumulative and may comprise any combination of ACSR Bluejay, ACSR Bison, and/or ACSR Wolf conductors manufactured and supplied. Kindly confirm that our understanding is correct.	Refer to RFC 117
163.	1.4 Subcontractors/Manufacturers	Section III – Evaluation and Qualification Criteria	N	As per clause 1.4 Subcontractors/Manufacturers, Section III – Evaluation and Qualification Criteria demonstrates that - <i>“Operation Record</i> <i>a) At least five (5) yrs</i>	Confirmed. The required quantities comprise of insulators manufactured and supplied by the manufacturer which are installed and in service outside the country of manufacturer.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				b) [30,000] pieces c) Used at 220kV voltage level or above d) Installed and in service outside the country of manufacturer. e) Five (5) Performance certificates should be provided as the evidence: f) Reference list as the evidence for the required period of time should include (i) supplied insulator quantities in pieces, (ii) voltage level, (iii) project designation, and (iv) year of supply.” We understand that the required quantity of 30,000 pieces is cumulative and may comprise any combination of insulators manufactured and supplied by the manufacturer, provided that the cumulative quantity is supported by the required past supply records. Kindly confirm that our understanding is correct.	
164.	4.6.4.3 2.1.4 5.10	Section VII – Employer's Requirements Technical Schedules	Y	Section VII – Employer's Requirements, 4.6.4.3 - 132kV Insulator String Section VII – Employer's Requirements, 2.1.4 - Line Design Parameters Summary and Technical Schedule, 5.10 -132kV Composite Insulator String As per clause 4.6.4.3 132kV Insulator String, Section VII – Employer's Requirements	Refer to RFC 57 and Addendum 2 S.No 5

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE																																													
				4.6.4.3 132kV Insulator String <table><tr><th>Suspension and Tension String</th><th>Units</th><th>Data 132kV</th></tr><tr><td>Standard</td><td></td><td>IEC 61109</td></tr><tr><td>No. of units per string</td><td></td><td>1</td></tr><tr><td>Total creepage</td><td>mm</td><td>3625</td></tr><tr><td>Arcing distance</td><td>mm</td><td>1200</td></tr><tr><td>Nominal Voltage</td><td>kV</td><td>132</td></tr><tr><td>Highest System Voltage</td><td>kV</td><td>145</td></tr><tr><td>Lightning impulse withstand Voltage pos./neg.</td><td>kV</td><td>650</td></tr><tr><td>Switching Impulse withstand (wet) Voltage</td><td>kV</td><td>550</td></tr><tr><td>Wet power frequency withstand Voltage</td><td>kV</td><td>275</td></tr><tr><td>Corona Inception Voltage</td><td>kV</td><td>>230</td></tr><tr><td>Radio interference Voltage</td><td>kV</td><td>220</td></tr><tr><td>Radio interference</td><td>dB/1μV</td><td>45</td></tr><tr><td>Electro-mechanical failing load</td><td>kN</td><td>120</td></tr><tr><td>Creepage distance (IEC60815) USCD</td><td>mm/kV</td><td>(d) 43,3</td></tr></table> As per Technical Schedules, Item 5.10 132kV Composite Insulator String specifies that - Lightning Impulse withstand Voltage pos/neg – 750 kV - Switching Impulse withstand (wet) Voltage – 590 kV - Wet power frequency withstand Voltage – 275 kV	Suspension and Tension String	Units	Data 132kV	Standard		IEC 61109	No. of units per string		1	Total creepage	mm	3625	Arcing distance	mm	1200	Nominal Voltage	kV	132	Highest System Voltage	kV	145	Lightning impulse withstand Voltage pos./neg.	kV	650	Switching Impulse withstand (wet) Voltage	kV	550	Wet power frequency withstand Voltage	kV	275	Corona Inception Voltage	kV	>230	Radio interference Voltage	kV	220	Radio interference	dB/1μV	45	Electro-mechanical failing load	kN	120	Creepage distance (IEC60815) USCD	mm/kV	(d) 43,3	
Suspension and Tension String	Units	Data 132kV																																																
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				However, there appears to be an ambiguity regarding the specified Lightning Impulse withstand Voltage and Switching Impulse withstand (wet) Voltage of 132 kV Composite Insulator String. Furthermore, Clause 2.1.4 Line Design Parameters Summary specifies that the Design Altitude should be 1600m. Based on the applicable altitude correction factors, the corresponding insulation withstand voltages are understood to be: • Lightning Impulse withstand Voltage pos/neg – 700 kV • Switching Impulse withstand (wet) Voltage – 581 kV • Wet power frequency withstand Voltage – 296kV Kindly clarify the required Lightning Impulse withstand Voltage, Switching Impulse withstand (wet) Voltage & Wet power frequency withstand Voltage.	
165.	1.20 1.30	Price Schedules No.3	N	Soil Penetration Tests (SPT) and Dynamic Cone Penetrometer Tests (DCPT) In the Price Schedule of Schedule No. 3, under Item Nos. 1.20 (Dynamic Cone Penetrometer Test - DCPT) and 1.30 (Soil Penetration Test - SPT), the total number of tower locations is indicated for both tests. However, as per standard transmission line practice, Soil Penetration Tests (SPT) are generally carried out only at angle tower locations, while Dynamic Cone Penetrometer Tests (DCPT) are performed at the remaining tower locations.	The number of towers for each test shall remain unchanged. Bidder shall price as such to ensure a robust selection process for the type of tower foundation to be installed at each tower location.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				Considering the above, the quantities specified under Item Nos. 1.20 and 1.30 requires correction. We kindly request you to review the quantities and provide a revised Price Schedule with the correct values under Item Nos. 1.20 and 1.30 for the following transmission lines: • 132 kV Nakonde–Isoka LI-LO • 330 kV Kasama–Nakonde • 400 kV Nakonde–Tanzania Border	
166.	14	Section VIII – General Conditions of Contract	N	Section VIII – General Conditions of Contract, 14. Taxes and Duties As per Clause 14. Taxes and Duties, we understand that the Project shall be exempt from Value Added Tax (VAT), customs duties, import duties, and all other applicable taxes, duties, and levies. Kindly confirm that our understanding is correct.	Refer to RFC 7
167.	14	Section VIII – General Conditions of Contract	N	Section VIII – General Conditions of Contract, 14. Taxes and Duties We understand that VAT will be exempted for Schedule 4 and same VAT exemption shall also apply to the subcontractor also. Kindly confirm that our understanding is correct.	Refer to RFC 7
168.	14	Section VIII – General Conditions of Contract	N	Kindly clarify the procedure applicable for customs duty exemption under the Contract.	Refer to RFC 7

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				Specifically, please confirm whether: 1. The Contractor shall pay the applicable customs duties at the time of import and subsequently claim reimbursement from the Employer; or 2. The Employer will provide the necessary customs duty exemption certificate or other applicable documentation to enable duty-free importation at the time of customs clearance. Kindly confirm the applicable procedure.	
169.	14	Section VIII – General Conditions of Contract	N	Kindly confirm whether the contractor shall pay the VAT and other local taxes on imported supply and claim reimbursement from Employer or Employer shall provide exemption certificate.	Refer to RFC 7
170.	14	Section VIII – General Conditions of Contract	N	Please confirm whether VAT and other local taxes is applicable on Installation/construction portion. If it is applicable, then please confirm our understanding that contractor shall invoice to Employer the price as per price schedule plus VAT at the time of billing and Employer shall pay the same. If it is exempted, Employer shall provide exemption certificate. 1) Please confirm if VAT & other local Taxes is exempted for this project, whether the same exemption can be extended to Subcontractor and local supplier also who will be working in association with Contractor. 2) Please confirm whether any withholding tax is applicable on payments made by the Employer to contractor towards:	Refer to RFC 7

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				(a) Offshore portion i.e. imported supply, (b) Onshore portion i.e. installation/ construction portion. We understand Import License for Material imported into the Employer's Country shall be taken by the Employer. Further, we also understand that Employer shall be named as Consignee for clearing of import of goods. Please Confirm	
171.	14	Section VIII – General Conditions of Contract	N	Kindly confirm whether any contract registration fees and/or stamp duty are applicable to this contract.	The bidder is expected to establish all costs related to execution of a contract in Zambia.
172.			N	Section I – Instructions to Bidders (ITB), Clause 17.5 and Price Schedule As per Section I – Instructions to Bidders (ITB), Clause 17.5(d) requires bidders to include all taxes, duties, levies and charges payable in the Employer's Country while pricing Price Schedule No. 4 (Installation Services). However, we note that unlike Price Schedule No. 2, Price Schedule No. 4 does not include a separate column for indicating applicable taxes. In this regard, we kindly request clarification on whether: 1. All applicable taxes, duties, and levies are to be included within the quoted rates for Price Schedule No. 4; OR 2. All local taxes, including VAT, shall be borne by the Employer in accordance with GCC Clause 14.2.	Refer to RFC 7

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				Kindly confirm the applicable arrangement.	
173.	14	Section VIII – General Conditions of Contract	N	GCC Sub-Clause 14.1 provides that the Contractor shall bear and pay all taxes, duties, levies and charges assessed in connection with the Facilities. However, GCC Sub-Clause 14.2 provides that, notwithstanding GCC Sub-Clause 14.1, the Employer shall bear customs and import duties applicable to Price Schedule No. 1 and domestic taxes, including VAT, applicable to Price Schedules No. 1 and No. 2. Kindly confirm that, the Employer shall bear and pay all applicable Local taxes, VAT and Custom duties for all Price Schedules under the Contract.	Refer to RFC 7
174.		Section I - Instructions to Bidders Section II – Bid Data Sheet BDS/ITB Price Schedule	N	Contract Price, Section I - Instructions to Bidders, Section II – Bid Data Sheet, BDS/ITB 17.1 and Price Schedule The Price Schedules require bidders to quote unit rates against specified quantities, while Bid Data Sheet - ITB 17.1 requires bidding on a "single responsibility" basis. Kindly clarify whether the Contract is intended to be a Lump Sum EPC Contract or a Unit Price Contract. Further, please clarify whether payment shall be based on the BOQ quantities indicated in the Price Schedules or on the actual measured quantities executed during construction.	Refer to RFC 63.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
175.	2.2	Mode of Payment, Specific Procurement Notice Section X – Contract Forms, Contract Agreement Article 2.2	N	Mode of Payment, Specific Procurement Notice and Section X – Contract Forms, Contract Agreement Article 2.2 The Specific Procurement Notice states that payments shall be processed through the World Bank Direct Payment disbursement method, except for those payments provided to be made through Letter of Credit. However, Article 2.2 of the Contract Agreement provides that the Employer may instruct its bank to issue an irrevocable confirmed documentary credit. In view of the above, we kindly request clarification on the applicable payment mechanism under the Contract, specifically whether payments shall be made through: 1. World Bank Direct Payment disbursement method, OR 2. Letter of Credit arrangement as per the Contract Agreement. Kindly confirm the applicable mode(s) of payment.	Refer to RFC 148
176.	13	Section VIII – General Conditions of Contract Section X – Contract Forms – Performance Security	N	Performance Security, GCC Clause 13 / Contract Forms – Performance Security Kindly confirm whether the Performance Security may alternatively be submitted in the form of a Surety Bond or Insurance Bond issued by a reputable financial institution or insurance company acceptable to the Employer, in lieu of an unconditional Bank Guarantee.	The requirements of GCC 13.3.2 shall stand. The Contractor shall provide Advance Bank Guarantee and Performance Bank Guarantee in accordance with the form in Section X Contract Forms

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
177.	10.2	Section VIII – General Conditions of Contract	N	Access to Site, GCC Clause 10.2 Employer's Responsibilities Kindly confirm that the Employer shall provide the Contractor with uninterrupted and encumbrance free access to the entire Site / Right of Way (ROW) on the Effective Date.	Kindly refer to GCC 10.
178.		Section X – Contract Forms, Appendix-1 Terms of Payment	N	Payment Timeline, Section X – Contract Forms, Appendix-1 Terms of Payment The Appendix-1 to the Contract Agreement provides that payment shall be made within 45 days from receipt of the Contractor's invoice and supporting documents. However, the payment procedure provides a period of 28 days for review and issuance of the Payment Certificate. Kindly clarify whether the stipulated 45 days payment timeline shall commence from the date of receipt of the Contractor's document or from the date of issuance of the Payment Certificate.	Payment shall be made within 45 days as stated and certification of payment by the Project Manager shall be within 28 days of the payment period (45 days)
179.	46 2.2 46	Section I – Instructions to Bidders Section X – Contract Forms – Contract Agreement Particular Conditions of Contract	N	Section I – Instructions to Bidders (ITB), Clause 46 Signing of Contract, Section X – Contract Forms, Contract Agreement, Article 3.2 and Section IX - Particular Conditions of Contract, PCC46. Disputes and Arbitration ITB 46 provides that the Contract Agreement shall be signed within twenty-eight (28) days from receipt of the Letter of Acceptance. Further, Article 3.2 of the Contract Agreement requires constitution of the Dispute Board as one of the Conditions for Effective Date, whereas PCC Clause 46 provides that the Dispute Board shall be constituted within sixty (60)	Contract signing shall be within twenty-eight (28) days of receipt of the Letter of Acceptance. The DB shall be set up within 60 days after contract signing.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				days from Contract Signing. Accordingly, the Effective Date would occur only after constitution of the Dispute Board, which may extend beyond sixty (60) days from the Letter of Acceptance. Kindly clarify the intended sequence and timeline for Contract Signing, constitution of the Dispute Board and establishment of the Effective Date.	
180.		Tower Drawings	N	Tower Drawings Kindly provide the outline drawings with body and leg extension combinations.	The Tower outline drawings provided is deemed sufficient for bidding purposes. It can be used in relation to the lines profile drawing provided.
181.	4.1.2.6 4.9.1	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 4.1.2.6 & Clause 4.9.1 As per Clause 4.1.2.6, the configuration given for the dead-end tower and transposition tower is horizontal. However, as per Clause 4.9.1 specifies a vertical configuration. Kindly confirm which configuration shall be considered for the design.	Note that vertical configuration of the conductors shall be used for all towers, except for transpositions and dead-end towers where Horizontal configuration of the conductors can be used as provided for in Section VII – Employer's Requirements, Clause 4.1.2.6
182.	4.1.5	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 4.1.5 Strength and Safety Factors As per table given in Clause 4.1.5 Strength and Safety Factors, the tower load factor based on partial load factor (γF) under Construction/Maintenance γP Exceptional load ($E1.....E_n$) is 1.5.	The information provided in Section VII – Employer's Requirements, Clause 4.1.5 Strength and Safety Factors is deemed sufficient for bidding purposes.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				We understand that this partial factor 1.5 is applicable for construction/ maintenance load case only and for wind and tension under exceptional load case it is 1.0. Kindly confirm that our understanding is correct.	
183.	4.4.3.1 2.1.3 2.3	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 4.4.3.1 & Clause 2.1.3 ,Clause 2.3 As per table given in Cl. 4.4.3.1, Shield Wires parameter are given. However, in Clause 2.1.3 & Clause 2.3 only OPGW is required for 132kV towers. As per Price Schedule for 132 kV Line, there is only requirement of OPGW type ACS 7/6 AWG, 48 cores. Therefore, we understand that for 132kV line, there is no requirement of OHGW, only 48 cores OPGW is required. Please confirm that our understanding is correct.	The double circuit 132kV line is to comprise one (1) Wolf conductor per phase, and one (1) optical ground wire (OPGW) as provided for in Section VII – Employer's Requirements, Clause 2.1.3 and Clause 2.3
184.	4.10.2	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 4.10.2 As per Clause 4.10.2, we understand that the tower is not required to be designed for a 2° angle and only needs to be designed for a 0° angle. However, in that case, the wind span for 2 deg deviation angle tower shall be reduced to match the loads corresponding to the 0° angle tower. Kindly confirm that our understanding is correct.	All towers shall be designed to their angle of deviation as provided for in Section VII – Employer's Requirements, Clause 4.10.2

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
185.	4.10.3.1	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 4.10.3.1 With reference to Clause 4.10.3.1, we understand that wind pressure calculation on towers & cables shall be as per IEC 60826 (same has been mentioned in Clause 4.10.3.3) and Tower shall be design as per ASCE 10-15. Kindly confirm that our understanding is correct.	All towers shall be designed in accordance with IEC 60826, Overhead Transmission Lines – Design Criteria. In addition, due consideration shall be given to ASCE 10-97, Design of Lattice Transmission Structures (and its successor ASCE/SEI 10-15 for the latest design requirements) and BS EN 10025 which specifies the material standards and properties as provided for in Section VII – Employer's Requirements, Clause 4.10.3.1
186.	4.10.3.4 4.1.5	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 4.10.3.4 & Clause 4.1.5 As per Clause 4.10.3.4 the partial material factors for lattice steel tower design shall be calculated in accordance with clause 7.3 of IEC 60826. But as per Clause 4.1.5 proposed safety factors are 1.3 for wind & tension under normal condition, 1.0 for wind & tension under exceptional condition and 1.5 for Construction/Maintenance under exceptional condition. We understand that all partial factors shall be considered as mentioned in Clause 4.1.5 not as per IEC 60826. Kindly confirm that our understanding is correct.	Refer to RfC 182. Further, where a conflict occurs between values tabulated in the RfB and those computed using applicable standards, the more conservative value shall be adopted.
187.		Section VII – Employer's Requirements	N	Section VII – Employer's Requirements Kindly provide wind span, weight span & min. weight span details for all the towers.	Refer to Section VII – Employer's Requirements, Clause 4.10.3.5 Wind and Weight Spans. Further, refer to RFC 30
188.	4.10.3.7	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 4.10.3.7	The return period shall be 50 years as provided for in Section VII – Employer's Requirements, Clause 4.10.3.7

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				We understand that the power frequency clearance shall be workout for 50 years return period as mentioned in Clause 4.10.3.7. Kindly confirm that our understanding is correct.	
189.	4.10.3.9 3.2	Section VII – Employer's Requirements Technical Schedules	Y	Section VII – Employer's Requirements, Clause 4.10.3.9 and Technical Schedule, 3.2 Bolts, Nuts and Washers As per Clause 4.10.3.9, the limiting slenderness ratio (L/r) for towers is specified as 150 for principal members (legs and main cross-arm members) and 200 for secondary members. However, Clause 3.2 of the Technical Schedule specifies the limiting slenderness ratios as 120 for main legs, stubs, and main compression members in cross-arms; 200 for all other members with computed stresses; 250 for redundant members without computed stresses; and 300 for tension members only. Kindly confirm.	Refer to RFC 99 and addendum 2 S.No. 7 issued to amend Section VII clause 4.10.3.9 the limiting slenderness ratio (L/r).
190.	4.10.3.9 3.2	Section VII – Employer's Requirements Technical Schedules	Y	Section VII – Employer's Requirements, Clause 4.10.3.9 and Technical Schedule, 3.2 Bolts, Nuts and Washers As per Clause 4.10.3.9, the minimum thickness of the members for towers is specified as 6mm for principal & plate members and 4mm for secondary & redundant members. However, Clause 3.2 of the Technical Schedule specifies the minimum thickness of the members as 6mm for main legs, stubs, and main compression members in cross-	Refer to RFC 14 and addendum 2 S.No.3 issued to amend the thickness of redundant members in Section VII - Employer's Requirements; Subsection No. 4.10.3.9 Design of Members and Connections from 4mm to 5mm

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				arms & Gusset plates; 5mm for all other members with computed stresses & redundant members without computed stresses only. We understand that minimum thickness of the members shall be considered as specified in Clause 4.10.3.9 that is 6mm for main legs, stubs, and main compression members in cross-arms & Gusset plates; 4mm for all other members with computed stresses & redundant members without computed stresses only. Kindly confirm that our understanding is correct.	
191.	4.10.3.9	Section VII – Employer's Requirements	Y	Section VII – Employer's Requirements, Clause 4.10.3.9 As per Clause 4.10.3.9, the Maximum length of structural member is specified as 12m. However, Clause 3.2 of the Technical Schedule specifies the Maximum length of structural member is 9m. Please confirm.	Refer to RFC 24 and addendum 2 S.No. 5 issued to amend Technical schedules item 3.2.23 from "9m" to "12m".
192.	4.1.3	Section VII – Employer's Requirements	Y	Section VII – Employer's Requirements, Clause 4.1.3 As per clause 4.1.3 Wind speed (VRB) is given 25.9 m/s for 10 m height is corresponding to terrain category B & reliability level 3 (500 years return period). We understand that for wind pressure calculation additional factors as per IEC 60826 are not required corresponding to reliability level 3. Please confirm.	Refer to RfC 106 and Addendum 2 S.No 9 issued to amend reliability level from Level 3, 500 year-return to Level 1, 50 year-return in Section VII - Employers Requirement subsection 2.1.4 Line Design Parameters Summary
193.	4.1.2.1	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 4.1.2.1	Refer to RfC S.No. 95

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				As per clause 4.1.2.1 Maximum swing angle is given as 35 deg. And we understand that same shall be consider for to check the electrical clearances and finalization of tower geometry. please confirm.	
194.	4.1.2.6	Section VII – Employer's Requirements	Y	Section VII – Employer's Requirements, Package 3 Clause 4.1.2.6 As per clause 4.1.2.6 of technical specification the horizontal spacing formula is given as $D_{horizontal} = \sqrt{(f+t)^2 + b^2}$ & for vertical it is given as $V_{vertical} = \sqrt{(f+t)^2}$ We understand that the formulae for horizontal and vertical clearance is not correct. We propose to use the formulae given EN 50341 for vertical & horizontal separation of tower. Please confirm.	Refer to addendum 2 S.No.11 issued to amend the formula for horizontal and vertical phase clearances in Section VII – Employer's Requirements, Clause 4.1.2.6 Phase Spacing and Conductor Configuration
195.	4.10.3.6	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Package 3 Clause 4.10.3.6 As per clause 4.10.3.6 of technical specification the wind span stated in the schedule of guarantees characteristics shall be considered for wind load calculation on cables but it is not mentioned in guarantees characteristics. kindly provide the wind span to be consider to the tower design.	Refer to RFC 30
196.			N	Grade of Lean Concrete: Please specify the exact mix grade (e.g., C10, C12, or C15) required for the blinding layer	Bidder is responsible for the preparation and testing of trial mixes for all applicable grades of concrete. However, the cement content shall be in accordance with BS 8500 & BS EN 206
197.			Y	Minimum/Maximum Depth of Foundation	Refer to RFC 37 and addendum 2 S.No. 2 and S.No.3 issued to add " All foundation must have a chimney height above ground of minimum 500mm (500mm should be

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				Kindly provide the absolute minimum or maximum excavation/foundation depth required from the Natural Ground Level (NGL).	taken above site maximum flood level)" to Section VII clause 4.11.4
198.	4.4	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause No. 4.4 – Shield Wire; ACS type Please confirm Greasing Case 2 is not applicable for ACS 7/6 AWG Overhead Ground Wire / Shield Wire (OHGW) for 330kV/132 kV.	Refer to Section VII – Employer's Requirements, Clause 4.4.4 Workmanship and Finish
199.	19.10 19.12	Price Schedule No. 4	Y	Price Schedule - ZTIP_330kV Kasama-Nakonde_Price Schedules; Schedule 4; Point No. 19.10 and 19.12 In the Price Schedule for 330kV, specifically in Schedule 4, we observed that line items 19.10 and 19.12 contain the same description: 'Type test, Conductors as per Employer Requirement section VII Part II'. We understand that line item 19.10 pertains to the Conductor, while line item 19.12 refers to the Earth Wire (OHGW). Please confirm our understanding is correct.	Note that Price Schedule; Schedule 4; Point No. 19.12 shall be for OHGW. Refer to Addendum 2 S.No. 2 issued to add "OHGW" on item 19.12 for 330kV Price Schedule 4
200.	4.5.3.1 1.5.32 18.02	Section VII – Employer's Requirements Technical Schedules Price Schedule No. 4	Y	Section VII – Employer's Requirements, Clause No. 4.5.3.1 – OPGW Characteristics, 330kV and 132kV; ZTIP Technical Schedules; Point No. 1.5.32 And Price Schedule - ZTIP_400kV Nakonde-Tanzania border_Price Schedules; Point No. 18.02 In accordance with Technical Specification, Clause No. 4.5.3.1, and ZTIP Technical Schedules; Point No. 1.5.32 'Fault current capacity (20°C – 160°C)' is specified as ≥ 200 kA2s . Conversely, the Price Schedule for 330 kV, as	The Fault current capacity (20°C – 160°C) for 400kV, 330kV and 132kV OPGW shall be 200 kA2/sec as provided for in Technical schedules. Refer to Addendum 2 S.No 2 issued to amend the Fault current capacity (20°C – 160°C) for 330kV and 132kV OPGW from 496 kA2/sec to 200 kA2/sec in 132kV, 330kV and 400kV Price Schedules.

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				detailed in Schedule No. 1, line item no. 18.02 the de- scription indicates the Short Circuit Current rating as 496 kA2/sec. Both these values are contradictory. A Short Circuit Current rating of 31.5 kA is too high to meet considering that the diameter of OPGW has to be maintained around 13 mm with a Ultimate tensile strength (UTS) between the range ≥ 105 kN. For earlier Zambia tender, RFB No: ZM-ZESCO-466150- CW-RFB – Package 1, OPGW Short Circuit Current (for 0.5s) was ≥ 20 kA. We request you to please clarify above.	Regarding the short circuit current refer to RfC 108
201.	21.38	Price Schedules No. 1	N	Section IV – Bidding Forms, ZTIP_330kV Kasama-Na- konde_Price Schedules and ZTIP_132kV Nakonde-Isoka LI-LO_Price Schedules; Schedule No. 1 – Item No. 21.38 As per point no. 21.38 regarding Spare quantity, quantities are given for “Additional tower legs. All members & bolts, excluding main legs”. We understand that this item re- quires differential weight of individual leg extensions over and above weight of +0m LE. Kindly confirm our under- standing is correct.	Confirmed
202.			N	Geotechnical Investigation Report, Attached Table 54, Re- sults of Soil Resistivity Test We understand that the number of tower refers to the tower number as per staking table. Kindly confirm. Else, kindly provide co-ordinates for each location mentioned in soil resistivity table.	Information provided is deemed sufficient for bidding pur- poses.

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203.	0.7.24	Technical Schedules	N	Section VII – Employer's Requirements, ZTIP Technical Schedules, Point no.0.7.24 Foundation Load factors As per technical schedule, it is mentioned that partial factor for material strength is to be considered as given below. Partial factor for concrete - 1.5 Partial factor for reinforcing steel- 1.2 Soil property at suspension tower- 2 Soil property at tension tower- 2.2 from the above we understand that if density of soil="X", Angle of repose="y" & Bearing capacity="z", then the following parameters are to be considered for foundation design. For suspension tower, Soil density ="x/2.0" Angle of repose = "y" Soil bearing capacity= "z/2.0" for Tension tower , Soil density ="x/2.2" Angle of repose = "y" Soil bearing capacity= "z/2.2" Kindly confirm whether our understanding is correct.	Information provided is deemed sufficient for bidding purposes.
204.		Section III – Evaluation and Qualification Criteria	N	We would appreciate your confirmation as to whether it is acceptable for the Bidder to engage a specialized design subcontractor for the tower design activities. In this case, the Bidder would demonstrate compliance with the tower	Refer to ITB 1.1. The bidder shall bear responsibility for the Design, Supply and Installation of the Plant under the scope of this bid.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				design requirements through the proposed design sub-contractor, while compliance with the tower manufacturing requirements would be demonstrated through the proposed tower manufacturer. Kindly confirm whether such an arrangement is acceptable for the purpose of bid submission and evaluation.	
205.	2.1.3	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 2.1.3 – Training Kindly confirm whether the required software licences (PLS-CADD, PLS-TOWER, STAAD Pro, etc.) shall be perpetual licences or subscription licences valid only for the contract duration. We understand that licence validity up to 4 years shall be acceptable.	Licenses valid shall be for the entire contract duration.
206.	4.12.8	Section VII – Employer's Requirements	Y	Vol-II Foundation Testing, Clause 4.12.8, Clause 4.12.8 Kindly confirm whether foundation destructive (ultimate load) tests are mandatory under this Contract or whether previously approved test reports for identical tower/foundation configurations will be accepted.	Where pad and chimney foundation is not used, the pull-out tests, uplift tests, and rock anchor tests shall be conducted. Refer to Addendum 2 S.No. 2 issued to include the foundation test in schedule 3 for all the Prices Schedules.
207.		Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Inspection & Testing Kindly confirm whether the Client's representatives' Daily Allowance (DA), accommodation, transportation and other inspection-related expenses during inspection, testing and FAT are under the Employer's scope.	Refer to RFC 58

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208.			N	Project Data/Documents We could not locate the Hydrological Impact Report in the shared document folder. The folder appears blank. Kindly provide the complete report.	Refer to RfC 153
209.		Section VII – Employer's Requirements – Drawings	N	Section VII – Employer's Requirements Kindly provide the approved drawings for insulators and hardware fittings, including assembly details and loading schedule.	Information provided is deemed sufficient for bidding purposes
210.	2.1.3	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 2.1.3 – Training The training schedule includes GIS and Remote Sensing Training for four personnel for a minimum period of 14 days. Kindly clarify whether this training is within the Contractor's scope. We understand that this requirement is not applicable to the Contractor.	Refer to Section VII – Employer's Requirements, Clause 2.1.3 – Training and 330kV Price Schedule 4, item 22.04.
211.	2.3	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 2.3 – Scope of Works Kindly confirm whether the Contractor is required to perform a complete detailed survey, LiDAR survey, and tower spotting for the entire transmission line route, or only verify the Employer's existing LiDAR survey and PLS-CADD data. If additional LiDAR survey is required, please specify whether it applies to the entire route or only selected sections.	The contractor shall conduct a detailed survey and tower spotting, confirmation and acceptance of the overhead line route alignment provided as coordinates and PLS-CADD pdf plan and profiles, tower and foundation selection, foundation pegging as provided for in Section VII – Employer's Requirements, Clause 2.3 – Scope of Works

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
212.	2.4	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements Clause 2.4 – Additional Information Provided Since the supplied PLS-CADD profiles and geotechnical information are for reference only and the Employer accepts no liability for their accuracy, kindly clarify the commercial adjustment mechanism if substantial deviations in quantities arise during detailed engineering and field survey.	Where quantities established by the contractor significantly differ from those of the bid, the rates such items as per Price Schedule shall be used for any changes subject to approval by the Employer.
213.	2.5	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements Clause 2.5 – Transmission Line Route Kindly confirm the procedure for obtaining Employer approval for route deviations. Please also confirm whether additional quantities resulting from Employer-approved route changes shall be measured and paid separately.	The line route has been fully acquired by the employer.
214.	4.12.8	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements Employer's Requirements, Clause 4.12.8 Kindly confirm whether revised foundation classifications established after detailed geotechnical investigations shall be measured and paid based on the quoted BOQ unit rates.	Where foundation classes as established by the contractor significantly differ from those of the bid, the rates for the different foundation classes as per Price Schedule shall be used for any changes subject to approval by the Employer as provided for in Section VII – Employer's Requirements Employer's Requirements, Clause 4.12.8 shall
215.	2.3	Section VII – Employer's Requirements	Y	Section VII – Employer's Requirements Clause 2.3 – Scope of Works Kindly specify the minimum number of foundation pull-out tests, uplift tests, and rock anchor tests required under the Contract.	Where pad and chimney foundation is not used, the pull-out tests, uplift tests, and rock anchor tests shall be conducted. Refer to Addendum 2 S.No. 2 issued to include the foundation test in schedule 3 for all the Prices Schedules.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
216.		Section IV – Bidding Forms	N	Section IV – Bidding Forms, Tower Load Testing Kindly confirm whether destructive (ultimate load) tower tests are required for each tower type/family proposed under the Contract.	Refer to RfC 206
217.	2.5	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Clause 2.5 Kindly clarify whether additional costs arising from Employer-directed route diversions after contract award shall be reimbursable as a variation.	The line route has been fully acquired by the employer.
218.		Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, Biodiversity Requirements Kindly identify the exact chainages where biodiversity-sensitive or no-go zones exist and confirm whether alternative access routes have already been established by the Employer.	Refer to the Biodiversity Management Plan provided in ITB 11.2 (i)
219.	2.3	Section VII – Employer's Requirements	N	Section VII – Employer's Requirements Clause 2.3 Kindly confirm whether permanent maintenance/access roads are required along the entire transmission line route or only for selected tower locations and inaccessible areas.	Refer to Section VII – Employer's Requirements, Clause 6
220.		Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, OPGW Requirements Kindly provide the detailed fibre allocation schedule, termination philosophy, and terminal arrangement for the 48-core OPGW.	Information provided is deemed sufficient for bidding purposes

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221.		Section VII – Employer's Requirements	N	Section VII – Employer's Requirements, OPGW Requirements Kindly provide the detailed crossing schedule indicating all road, railway, river, telecom, pipeline, and existing transmission/distribution line crossings along the transmission line route.	Information provided is deemed sufficient for bidding purposes
222.	17.1	Section II – Bid Data Sheet	N	Section II, BDS, Clause no - 17.1 Price basis As this project is a grant from world bank, we presume Custom duties and VAT are exempted for this project. Please clarify.	Refer to RfC 7
223.	23.1	Section II – Bid Data Sheet	Y	Section II, BDS, Clause no - 23.1 Bid Submission In view of tough site and extensive local data required for estimation purpose. We request an extension of the bid submission deadline by at least Four (4) weeks. This extension would enable us to prepare and submit a complete and competitive proposal, both technically and commercially	Refer to RfC 1 and Addendum 2 S.No. 1 issued to extended bid submission from 7 August 2026 to 21 August 2026 .
224.	2.1 4.1	Section VII – Employer's Requirements	N	2.1 Description of the Package 3 Transmission Lines 4.1 Overhead Line Design Data “2.1.4 Line Design Parameters Summary To ensure consistency, the following table summarizes key design parameters for all lines, aligned with EN 50341 (Level 3 reliability, 500-year return period) and IEC standards. Climate basis: wind 3s gust 36 m/s at 10m height (q ₀ =800 Pa), max temp +45°C, min -5°C, seismic MMI VI-VII per EN 1998. Altitude corrections per IEC 60071-2	Refer to RfC 3

S. No.	Specifica- tion Clause	Document Refer- ence	Adden- dum Re- quired [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE																		
				(Ka=1.08 at 1,600 masl for 330/132kV; 1.16 at 2,200 masl for 400kV, segment-wise). Pollution: Heavy (Class d) for 330/132kV; Very Heavy (Class e) for 400kV to align with TANESCO. “ 4.1.3 Climatic Data While the detailed overhead transmission line design pa- rameters are given in the Technical Schedules under General Requirements, the representative climatic condi- tions to be used for the transmission lines design shall be as follows: <table><tr><th>Description</th><th>Units</th><th>Value</th></tr><tr><td>Minimum ambient temperature</td><td>°C</td><td>-1</td></tr><tr><td>Average daily temperature</td><td>°C</td><td>25</td></tr><tr><td>Maximum ambient temperature</td><td>°C</td><td>45</td></tr><tr><td>Wind speed*</td><td>m/s</td><td>36</td></tr><tr><td>Keraunic levels (average ground flashes/km² / year)</td><td>No/km²/year</td><td>38</td></tr></table> * Wind speed is given as 3-second gust under terrain category B of IEC 60826:2017. This can be equated to a VRB wind speed value of 25.9m/s (10-minute mean) under the IEC 60826 wind load methodology. According to the definition of basic wind speed in IEC 60826, the basic wind speed at 10 minutes should be se- lected. The following are the basic wind pressures under different wind speeds. Please kindly clarify which basic wind pressure should be taken. $q_{0,3} = 0.5 \cdot \mu \cdot V_{RB,3}^2 = 0.5 \cdot 1.225 \cdot 36^2 = 794 \text{ Pa}$ $q_{0,10} = 0.5 \cdot \mu \cdot V_{RB,10}^2 = 0.5 \cdot 1.225 \cdot 25.9^2 = 411 \text{ Pa}$ 6.2.4 Reference wind speed V_R The reference wind speed V_R (m/s) corresponding to the selected return period T is defined as mean value of the wind during a 10 min period at a level of 10 m above ground. Usually V_R is measured in weather stations typical of terrain type B. In such cases, V_R is identified as V_{RB}.	Description	Units	Value	Minimum ambient temperature	°C	-1	Average daily temperature	°C	25	Maximum ambient temperature	°C	45	Wind speed*	m/s	36	Keraunic levels (average ground flashes/km ² / year)	No/km ² /year	38	
Description	Units	Value																					
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				where q_0 is the dynamic reference wind pressure (in Pa or N/m²) and is given in terms of the reference wind speed V_{RB} modified by roughness factor K_R (see Table 5) corresponding to the terrain category at the location of the line: $q_0 = \frac{1}{2} \rho (K_R V_{RB})^2 \quad (V_{RB} \text{ in m/s, and } q_0 \text{ in N/m}^2) \quad (13)$																																			
225.	4.11	Section VII – Em- ployer's Require- ments Technical Sched- ules	N	<table border="1"><tr><td>0.7.24</td><td>Foundation Load Factors:</td><td></td></tr><tr><td>0.7.25</td><td>Concrete</td><td>1.5</td></tr><tr><td>0.7.26</td><td>Reinforcing steel</td><td>1.2</td></tr><tr><td>0.7.27</td><td>Conductors and earthwires under maintenance load conditions</td><td>1.6</td></tr><tr><td>0.7.28</td><td>Soil property at suspension towers</td><td>2</td></tr><tr><td>0.7.29</td><td>Soil property at angle towers</td><td>2.2</td></tr></table> 4.11.4 Specified Types of Foundations The required basic type of foundations depends on the soil type defined in the table below: Table 7 - Specified Types of Foundations <table border="1"><tr><th>Type of Soil</th><th>Type of Foundations</th></tr><tr><td>1</td><td>Reinforced concrete foundations with adequate rock anchors.</td></tr><tr><td>2 - 5</td><td>Reinforced concrete pad and chimney or auger footing with enlarged base (elephant foot)</td></tr><tr><td>6</td><td>Special foundation (raft or pile)</td></tr></table> The foundations shall be designed to resist thrust, uplift, overturning and vertical and horizontal forces. Foundations shall also be able to withstand the stresses which may be imposed upon them under erection and stringing operations. Concrete foundations shall be designed according to the latest edition of the following standards: <table border="1"><tr><td>BS EN 1992</td><td>Design of Concrete Structures</td></tr><tr><td>BS EN 1997</td><td>Geotechnical Design</td></tr><tr><td>BS EN 206-1 and BS 8500</td><td>Concrete Specification, performance, production and conformity</td></tr><tr><td>IEEE 691</td><td>Guide for transmission structure foundation design and testing</td></tr></table> Based on the foundation partial safety factors in Technical Schedules and relevant reference standards in technical specification. As per Clause A.2 of EN1997 partial safety factors shall be applied for various soil parameters such as angle of shearing resistance, unconfined shear strength and weight density etc. However, partial factor for soil density is 1.0.	0.7.24	Foundation Load Factors:		0.7.25	Concrete	1.5	0.7.26	Reinforcing steel	1.2	0.7.27	Conductors and earthwires under maintenance load conditions	1.6	0.7.28	Soil property at suspension towers	2	0.7.29	Soil property at angle towers	2.2	Type of Soil	Type of Foundations	1	Reinforced concrete foundations with adequate rock anchors.	2 - 5	Reinforced concrete pad and chimney or auger footing with enlarged base (elephant foot)	6	Special foundation (raft or pile)	BS EN 1992	Design of Concrete Structures	BS EN 1997	Geotechnical Design	BS EN 206-1 and BS 8500	Concrete Specification, performance, production and conformity	IEEE 691	Guide for transmission structure foundation design and testing	Information provided is deemed sufficient for bidding purposes
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				Table A.2 - Partial factors for soil parameters (γ_M) <table><tr><th>Soil parameter</th><th>Symbol</th><th>Value</th></tr><tr><td>Angle of shearing resistance^a</td><td>γ_ϕ</td><td>1,25</td></tr><tr><td>Effective cohesion</td><td>γ_c</td><td>1,25</td></tr><tr><td>Undrained shear strength</td><td>γ_{cu}</td><td>1,4</td></tr><tr><td>Unconfined strength</td><td>γ_{qu}</td><td>1,4</td></tr><tr><td>Weight density</td><td>γ_f</td><td>1,0</td></tr></table> ^a This factor is applied to $\tan \phi'$ 1600/1.0= 1600 kg/m³ (angle tower) Kindly confirm our assumption is correct or not.	Soil parameter	Symbol	Value	Angle of shearing resistance ^a	γ_ϕ	1,25	Effective cohesion	γ_c	1,25	Undrained shear strength	γ_{cu}	1,4	Unconfined strength	γ_{qu}	1,4	Weight density	γ_f	1,0	
Soil parameter	Symbol	Value																					
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Weight density	γ_f	1,0																					
226.	18.2	Section I – Instructions to Bidders	N	“The Bidder may express the Bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Employer’s Country.” Based on the currency provisions for bids, bidders may quote bid prices in any currency.	Refer to ITB 18.2																		

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				1.Can the bidder use Chinese Renminbi (RMB) as a foreign currency for quotation? 2.If the bidder submits a quotation priced in Chinese RMB as a foreign currency, is ZESCO Limited allowed to make payment to the bidder in Chinese RMB?	
227.	4.6.4.2 5.5 5.7 5.9	Section VII – Employer's Requirements Technical Schedules	Y	Section VII – Employer's Requirements, Clause 4.6.4.2 Insulator Strings As per Section VII – Employer's Requirements, Clause 4.6.4.2 Insulator Strings for 330 kV Suspension string and Tension string, wherein the Total Creepage is specified as 9680 mm.  However, in the ZTIP Technical Schedule, the following clauses specify the Total Creepage as 9900 mm: • Clause 5.5 – Single/Jumper Suspension String Assembly for 330 kV Line • Clause 5.7 – Double Suspension String Assembly for 330 kV Line • Clause 5.9 – Double Tension String Assembly for 330 kV Line  Accordingly, there is a discrepancy between the Total Creepage values specified in the Employer's Requirements and the Technical Schedule. Kindly clarify which Total Creepage requirement should be considered for bidding and detailed design.	The Insulator Strings for 330 kV Suspension string and Tension string creepage distance shall be 9900mm as provided for in the Technical Schedules. Refer to Addendum 1 S.No 9 issued to amend the 330 kV Suspension string and Tension string creepage distance from 9680mm to 9900mm in Section VII – Employer's Requirements, Clause 4.6.4.2 Insulator Strings
228.	4.6.4.1	Section VII – Employer's Requirements	Y	Section VII – Employer's Requirements, Clause 4.6.4.1 Insulator Units	Where a conflict occurs between values tabulated in the RfB and those computed using applicable standards, the more conservative value shall be adopted.

S. No.	Specification Clause	Document Reference	Addendum Required [Y/N]	REQUEST FOR CLARIFICATION ON	EMPLOYER'S RESPONSE
				As per Section VII – Employer's Requirements, Clause 4.6.4.1 Insulator Units, for the 120 kN Glass Insulators, the following parameters are specified: • Disc Diameter: 280 mm • Unit Spacing: 146 mm • Creepage Distance: 450 mm  As per Section VII – Employer's Requirements, Clause 4.6.4.1 Insulator Units, for the 160 kN Glass Insulators, the following parameters are specified: • Disc Diameter: 330 mm • Unit Spacing: 146 mm • Creepage Distance: 450 mm  Whereas, as per Table 1 of International Standard IEC 60305, Edition 5.0 2021-01  We understand that, there are lot of discrepancies in specific data of 120kN and 160kN Insulator, between all the Clauses of Technical Specifications and IEC Standard 60305. Therefore, we request you to kindly clarify these and specify the specific data in a single table mentioning all the details (IEC designation, Disc diameter, Unit spacing, Minimum Creepage distance of a disc and other details) of 120kN, 160kN and 210kN Glass Insulators.	Refer to Addendum 2 S.No 13 issued include the forestated statement.in Section VII – Employer's Requirements, Clause 4.2 OHL Design Standards and Codes
229.			N	Grounding Material Kindly provide the details of required threaded couplers for earth rods, earthing rod clamps, bolted tower connector clamp, C-tap compression connectors to quote the most comprehensive and competitive grounding offer.	Refer to item 17.00 of the 330kV Price Schedules; item 14.00 of the 132kV Price Schedules and item 14.00 of the 400kV Price Schedules



/END