

Electricity Grid Modernization Project
Design, Supply, Installation, Testing and Commissioning of Ghorahi-Khungri (Madichaur) 132 kV Transmission Line and Associated Substations at Khungri and Ghorahi.
OCB NO:PMD/EGMP/GKTLSS-077/78-01

Clarification-1

S. No.	Reference Section and Clause	Description in Bid Document	Bidders Query/ Comments	NEA's Clarification																		
1	Volume-IIB, Section-3, 6. Technical parameters & Section-21, Technical Particular for 33/ 11kV Distribution Transformer	Vector group of 33/11 kV, Distribution transformer is DyN11 at Section-3 while at Section-21, it is YNyno	Please clarify the vector group to be used.	Please read this as YNyno.																		
2	Volume-IIB, Section-I-Project Specific Requirement (PSR)	In this Section-1-Project Specific Requirement (PSR), There are ANNEXURE-I, ANNEXURE-II, ANNEXURE-III and ANNEXURE-IV.	Regarding the missing of preferred list of the equipments.	Also add to the last paragraph of ANNEXURE-IV, LIST OF PREFERRED (SHORTLISTED) MAKE as per following; It is preferred that the following equipments be supplied from the manufacturers listed hereunder: 1) Main Protection Relays, Control & Relay panel, Substation Automation System from: ABB, ALSTOM, SIEMENS, Fuji, Reyrolle, Toshiba, Mitsubishi, GE or equivalent. 2) Energy Meters from: ELSTER (ABB), ACTARIS (Schlumberger), EDMI, SIEMENS or equivalent. 3) SF ₆ Circuit Breakers from: ABB, ALSTOM, Hitachi, Siemens, Toshiba/ Mitsubishi, LG, Fuji, GE or equivalent. 4) VCB Switchgear from: ABB, ALSTOM, Hitachi, Siemens, Toshiba/ Mitsubishi, LG, Fuji, GE, Schneider Electric or equivalent. 5) On-Load Tap Changer: The on-load tap-changer (OLTC) to be equipped on the power transformers and associated control equipment shall be from MR Germany or ABB Sweden or equivalent. 6) AVR: The AVR to be equipped on the RTCC shall be from MR Germany or ABB Sweden or equivalent. 7) Temperature Indicators: shall be from AB Khilstrom, Sweden or equivalent. 8) Communication System: NOKIA, NOKIA SIEMENS, SIEMENS, ABB or equivalent. The bidders may offer equipment/ brands other than those listed above that are better or equivalent with regard to quality and performance substantiated with appropriate documents. The bidder is required to submit all technical information, brochures, test reports of the proposed equipment for assessing equivalence with the shortlisted vendor during the bid submission.																		
3	Volume-IIA, Section-4, Clause-4.5.2	In view of the difficult hilly/ ridges terrain conditions, forest reaches, restricted ROW of 18 m, narrow based towers are conceived for this Transmission Line so as to minimize the benching, rock cutting/ revetment works. The base width of narrow based basic towers shall be fixed on techno-economic considerations as well to expedite the execution of project. The recommended base widths for different Towers (i.e. Centre to Centre distance between tower legs at the point of connection between legs & chimney for normal ±0 m body extension shall be as follows:	we did not find slim tower's drawings and details in the bidding document, could you please share the detailed drawings about the slim tower?	In view of the difficult hilly/ ridges terrain conditions, forest reaches, restricted ROW of 18 m, narrow based towers (Slim towers) are conceived for this Transmission Line so as to minimize the benching, rock cutting/ revetment works. The base width of narrow based basic towers shall be fixed on techno-economic considerations as well to expedite the execution of project. The recommended base widths for different Towers (i.e. Centre to Centre distance between tower legs at the point of connection between legs & chimney for normal ±0 m body extension shall be as follows: Note:-Please consider the implication of slim based tower on the weight and cost of tower While bidding.																		
				<table border="1"> <thead> <tr> <th>Types of Tower</th> <th>Minimum Values (meter)</th> <th>Maximum Values (meter)</th> </tr> </thead> <tbody> <tr> <td>DA</td> <td>3</td> <td>4.5</td> </tr> <tr> <td>DB</td> <td>4.5</td> <td>5.5</td> </tr> <tr> <td>DC</td> <td>5.5</td> <td>6.5</td> </tr> <tr> <td>DD/ DDES</td> <td>6.5</td> <td>7</td> </tr> <tr> <td>DF</td> <td>7</td> <td>9</td> </tr> </tbody> </table>	Types of Tower	Minimum Values (meter)	Maximum Values (meter)	DA	3	4.5	DB	4.5	5.5	DC	5.5	6.5	DD/ DDES	6.5	7	DF	7	9
Types of Tower	Minimum Values (meter)	Maximum Values (meter)																				
DA	3	4.5																				
DB	4.5	5.5																				
DC	5.5	6.5																				
DD/ DDES	6.5	7																				
DF	7	9																				
4	Volume-I, Section-3, 2.4-Bidder's Experience		Query about the percentage of completeness in "Substantial Completion Certificate" accounting in work experience.	For substantial completion certificate: only 90 % or above completed works will be accounted in the work experiences.																		
5	Volume III, BoQ of line, Schedule-1- Clause-1.0 Tower and Line Materials		Quantities of TT DA is not provided. Please confirm.	confirmed. Not in the scope.																		



6	Volume-IIA, Section-3, Preliminary Works, Clause-3.1-Check Survey and Staking	The proposed 132 kV Transmission double circuit line with ACSR Cardinal Conductor is passing through undulating hilly landscapes of Dang, Pyuthan and Rolpa districts. The variation of attitude of the terrain ranges from approximately 614 m above MSL to approximately 1845 m above MSL. It is envisaged to adopt towers suitable for systems with 950 kV peak BIL (for balance length) for the proposed 132 kV Transmission line.	Please confirm the clearances to be adopted , as BIL for proposed line is 950 KV. Further, there is no altitude correction factor is mentioned. We are assuming the clearances provided for swing angles are comprising of Altitude correction factor and BIL.	Use altitude correction factor above 1000 m MASL as per IS standards.
7	Volume IIA, Section-4, Tower Design, Clause -4.5.4, Preliminary Design		As there is no quantity of TTDA is mentioned in BPS, do we need to design and test TTDA. Please clarify	Not in the scope. Please follow Price bid and specification.
8	Volume IIA, Section-4, Tower Design, Clause-4.9-d- Gusset Plates	Minimum thickness of gusset shall be 2mm more than the lattice it connects, only in case when the lattice is directly connected on the gusset outside the leg member. In no case gusset shall be less than 5mm in thickness.	Please clarify the minimum thickness of gusset plates 5mm or 6mm.	The minimum thickness of gusset plates is 5mm.
9	Volume IIA, Section- 4, clause 4.6.5 & Section-11, clause-11.6	Section- 4, clause 4.6.5: - Line Conductor/ ground wire tension at everyday temperature and without external load, should not exceed the following percentage of the ultimate tensile strength of the conductor: Initial unloaded tension 35% and - the final unloaded tension of conductors at every day temperature for Transmission line shall not exceed 22% of UTS of conductor and 20% of UTS of ground wire Provided that the ultimate tension under everyday temperature and 100% design wind pressure, or minimum temperature and 36% design wind pressure does not exceed 50% of the ultimate tensile strength of the conductor/ ground wire. Section-11, clause-11.6-Factor of safety table.	Under clause 4.6.5 full wind case tension limit is 50% of UTS (Factor of Safety - 2.0), while as per clause 11.6 full wind tension limit is 40% (Factor of safety - 2.5).Please clarify the minimum factor of safety to be adopted for conductor and OPGW?	Please read the Full wind tension limit as 50 % (factor of safety-2).
10	Volume IIA, Section-11, Clause- 11.7, schedule A.7 & Volume IIA, Section -4, Clause- 4.7	In the volume II A Section-11 (Technical Schedule), Clause 11.7, schedule A.7 (Tower Particulars, S.No.-1.1.1) Tension based on net section area is given as 2600 Kg/cm ² - As per volume II A, Section -4, transmission line tower, Clause no 4.7 (Details of Structural Steel), Minimum guarantee yield stress for MS = 2600 & for HT = 3600 Kg/cm ² .	As per volume II (A), Chapter-11 (Technical Schedule), Clause 11.7 schedule A.7 (Tower Particulars, S.No.-1.1.1) Tension based on net section area is given as 2600 Kg/cm ² . But as per volume II (A) Chapter -4 transmission line tower, Clause no 4.7 (Details of Structural Steel), Minimum guarantee yield stress for MS = 2600 & for HT = 3600 Kg/cm ² . Kindly confirm that bidder we can use both MS & HT material as per IS 2062 for tower design?	It should be as per clause 4.7.
11	Volume IIA, Section-14, Tender Drawings, Tower Outline Drawing	Drawing is attached in the Documents.	We are considering combinations as per attached diagram (Annexure A). Please confirm whether our understanding is correct or not?	Please refer the attached diagrams in bid document.
12	Volume I, Section 6-Employer's Requirements	Electrical Engineers-GIS	Shall we submit Electrical Engineer:AIS instead of GIS? Please kindly confirm.	Electrical Engineers-GIS is type mistake. Please read this as AIS.
13	Volume IIB, Section 21-Technical Schedule	The Circuit breaker power frequency voltage withstand and lightning shock voltage withstand are 275kV/ 650kV in the technical document, and it is 325kV/ 750kV in the technical schedule.	The CB power frequency voltage withstand and lightning shock voltage withstand are 275kV/ 650kV in the technical document, but it is 325kV/ 750kV in the parameter table. Which one shall prevail?	It should be 325 kV/ 750 kV



14	Volume IIB, Section-2-General Technical Requirement, Annexure-B, Drawings attached	Single line diagram in bid document.	We found that some Equipment parameters and quantities in BOQ are not consistent with the single line drawing, please confirm which one shall prevail?	The size and rating of the equipment shall be proposed by the bidder to fit in the system parameters but not less than indicated rating in BOQ.
15	Volume III, BOQ of Khungri SS, Schedule No.1 A-h-4.0	BOQ of Khungri SS, Schedule No.1	Please confirm that is 33 kV Cable along with accessories and termination equipments both ends for termination of 33 kV LT Transformer?	As unit is Lump sum, Bidders need to access the quantity to complete the work as per singleline diagram.
16	Volume IIA, SECTION-8-Optical Groung Wire (OPGW) and Optical Terminal Equipment	SECTION-8-Optical Groung Wire (OPGW) and Optical Terminal Equipment	Based on your requirements in 8.3 optical fiber identification and in 8.4 buffer tube, we recommend OPGW with PBT Aluminum tube as following, and the diameter is 12mm, different with that (11.4mm) specified in the schedule A.11 of Section - 11, please kindly confirm is it acceptable? if not, we Will adopt the OPGW of stainless steel tube?	Please follow bid requirement.
17	Volume IIA, Section - 4, Transmission Line Tower and Section-14, Tender Drawings, DWG011-Tower Outline Configuration	Drawing No DWG011.	Please kindly confirm that, the tower outline drawing is for suspension tower DA or angle tower DB, DC,DD, DF?	For all.
18	Volume IIA, Section-4, Transmission Line Tower and Section-14, Tender Drawings, DWG011-Tower Outline Configuration	Drawing No DWG011.	According to the bidder's understanding of the drawing, there are basic body and +6m body extension for each tower. And Basic body has -3m extension leg, -1.5m extension leg and 0m leg (basic leg) , +6m extension body has +1.5m extension leg and +3m leg, +4.5m leg, +6m leg, +7.5m leg and +9m extension leg, please kindly confirm it?	Please refer tower outline diagram.
19	Volume IIA, Section-4, Transmission Line Tower		Does the word "wind load" here means wind speed or wind pressure ? Does 36% wind load mean 36% of design wind speed or design wind pressure ?	Wind load means load in KG applied to structure calculated from wind pressure as per IS standards.
20	Volume IIA, Section-4, Transmission Line Tower	4.7 Details of Structural Steel Steel quality IS:2062, BS:4360	a) Is chinese steel standard of GB/T 706-2016: Hot rolled section steel and GB/T 1591 High strength low alloy structural steel are acceptable? Which also can satisfy the requirements.	It should be as per Steel quality IS:2062, BS:4360
21	Volume IIA, Section-4, Transmission Line Towe and Section-11, Technical Schedule	4.9 Miscellaneous Design Criteria e) Minimum Thickness of Members, Leg Members : 5mm 11.8 Schedule A.8 TOWER MEMBERS PARTICULARS 3.Thickness of legs, members in cross arms and in ground wire peaks 6 mm	Regarding the minimum thickness of the leg members of towers, there are 5mm and 6mm, which one shall prevail?	Please read as 6mm.
22	Volume IIA, Section-11, Technical Schedule	11.14 Schedule A.14-INSEPTION TESTS AT MANUFACTURE'S PLANT	Please kindly confirm that, Does the tower load test shall conform IEC 60652?	Yes confirmed.
23	Volume IIA, Section - 4, Transmission Line Towe and Section-11, Technical Schedule	11.6 Schedule A.6 FACTOR OF SAFETY	Is there any requirements of safety factor for tower design? Please kindly confirm.	Please follow bid documents.

