

NEPAL ELECTRICITY AUTHORITY
Project Management Directorate
Tamakoshi-Kathmandu 220/400 kV Transmission Line Project

IFB No. : ICB-PMD-TKTLP-075/76-01-R: Procurement of Plant for New Khimti-Barhabise 220/400 kV Transmission Line (Design, Supply and Install)

Response to the Pre-Bid Queries

S.No.	Clause of Reference	Bidder's Request	NEA Response
1	Volume I, Section 3, Cl. No. 2.5	The criteria for ISO Certificate is mentioned as “including design in scope of registration”. We request to please delete the words including design in scope of registration” as the design scope is generally not required for Conductor, Insulators, Earthwire, Hardware & Accessories etc. as the material will be supplied as per Employer Technical Specification.	In case the main contractor wishes to procure line material from some other sub-contractor / vendors, the vendor supplying the specific line material should have "including design" mentioned in the ISO certification.
2	Volume I, Section 3, Cl. No. 2.5	We understand that the bidders are required to submit Type Test report for tested towers and for towers with new design, the same is not required. Kindly Confirm.	Yes. Type test report is required only for previously tested towers.
3	Volume I, Section 1, ITB 21.3	a) Bid security from an eligible country is acceptable. Accordingly, we understand that Bank Guarantee towards Bid Security issued from reputed source in India (Not having branch in Nepal) is acceptable to NEA. Please Confirm.	Yes. An unconditional bank guarantee from a reputable source from an eligible country including India will be acceptable.
	Volume I, Section 7, GCC. 13.2	b) We understand that Bank Guarantee issued from reputed source in India (Not having branch in Nepal) against Advance payment is acceptable to NEA. Please Confirm.	Please refer "Note to Bidder" under Volume I, Section-9 Contract Forms, Advance Payment Security. If the institution issuing security is located outside the country of the employer, it shall have a correspondent financing institution located in the country of the Employer to make it enforceable.

S.No.	Clause of Reference	Bidder's Request	NEA Response
	Volume I, Section 7, GCC. 13.3	c) The Performance Bank Guarantee issued from reputed source in India (Not having branch in Nepal) is acceptable to NEA??	Please refer SCC 13.3.2. If the institution issuing security is located outside the country of the employer, it shall have a correspondent financing institution located in the country of the Employer to make it enforceable in the form of counter guarantee.
4	Volume II, Section 1, Cl. No. 1.3 & Section 3, Cl. No. 1.11	<p>a. We understand that necessary Right of Way / Way Leave and permanent Access Road required for transmission line route will be arranged by Employer (NEA) at their cost in accordance with the work schedule (Including all kind of compensation like Land, Crop, Permanent Structures...etc.). Kindly confirm, whether our above understanding is in line with bidding documents requirements.</p> <p>b. We understand that the employer's scope for ROW also includes necessary arrangements for Temporary Access Road alongwith its construction and maintenance. Kindly confirm, whether our above understanding is in line with bidding documents requirements.</p> <p>c. Employer will be responsible for the clearances of trees including tree cutting wherever required and all kind of obstacles alongwith right of way as well as in access road in Forest. Kindly confirm, whether our above understanding is in line with bidding documents requirements.</p>	<p>Only Right of Way / Way leave clearance to be arranged by the Employer. Bid documents to prevail. Access roads are not included in right of way.</p> <p>Only Right of Way / Way leave clearance to be arranged by the Employer. Bid documents to prevail. Access roads are not included in right of way.</p> <p>Only Right of Way / Way leave clearance in the forest to be arranged by the Employer. Please refer to the respective clauses (Section 3) in bid regarding forest. Bid documents to prevail.</p>

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5	Price Schedule-I	<p>As per Clause No. 1.2.1, Section-9, Page 9-5, Volume-II of Bidding documents, we understand that during freezing of Bill of Quantity for Supply of Plant / materials after detailed survey / profiling / Tower Spotting, following factors will also be considered for:</p> <p>a. OPGW Supply:</p> <p>i. OPGW quantity will be worked-out (Acceptable to NEA) as per drum schedule considering necessary extra provision for Sag, extra length required for Jointing / Termination at Joint Box...etc. as per actual requirements and accordingly payment will be made and hence, bidder need not to consider extra cost for Sag, extra length required in their working as the same will be paid by NEA at actual. Kindly Confirm.</p> <p>ii. For calculation of OPGW consumption in hilly (mountainous) stretched, inclined distance between towers will be considered, instead of horizontal distance between them. Please Confirm.</p> <p>b. Conductor Supply:</p> <p>We understand that, Conductor quantity will be worked-out (Acceptable to NEA) by considering necessary extra provision for Sag, Jumpering...etc. as per actual requirement and accordingly payment will be made and hence, bidder need not to consider extra cost for Sag, extra length required in their working as the same will be paid by NEA at actual. Kindly Confirm.</p> <p>c. Earth wire Supply:</p> <p>We understand that, Earth wire quantity will be worked out (Acceptable to NEA) by considering necessary extra provision for Sag, Jumpering...etc. as per actual requirement and accordingly payment will be made and hence, bidder need not to consider extra cost for Sag, extra length required in their working as the same will be paid by NEA at actual. Kindly Confirm.</p>	<p>There are no provisions for extra quantity of conductor / earthwire / OPGW in the documents. The contractor has to carry out stringing for conductor / earthwire / OPGW successfully.</p>

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6	Volume III, Schedule-3	We request you to please confirm whether any tax is applicable on design charges or not? If applicable, kindly request you to please confirm the applicable tax along with tax rate and in which column such tax is required to quote.	Value Added Tax (VAT) and Tax Deduction at Source (TDS) are applicable on design charges. VAT shall be paid by the Contractor and shall be reimbursed by the Employer. TDS shall be paid by the Contractor and shall be included in Bidder's offer.
	Volume III, Schedule-4(a)	i. In the Price Schedule No. 4 of Volume-3, the separate column for tax is not provided. We kindly request you to please amend the price schedule suitably. ii. We kindly request you to please confirm us, whether VAT is exempted or will be reimbursed on installation services or not?? Please Confirm.	Value Added Tax (VAT) and Tax Deduction at Source (TDS) are applicable on installation services. VAT shall be paid by the Contractor and shall be reimbursed by the Employer. TDS shall be paid by the Contractor and shall be included in Bidder's offer.
	Volume III, Schedule-4 (e)	We understand that there will not be any local (In Nepal) tax applicable on the quoted price in this schedule. Please Confirm.	Value Added Tax (VAT) and Tax Deduction at Source (TDS) are applicable on installation services. VAT shall be paid by the Contractor and shall be reimbursed by the Employer. TDS shall be paid by the Contractor and shall be included in Bidder's offer.
	Volume III, Schedule-4(b) & 4(c)	As per “Price Schedule No. 4(b) - Training Charges for training to be imparted abroad” & “Price Schedule No. 4(c) - Training Charges for training to be imparted to Employer’s Personnel by Bidder’s Instructor in Nepal”, we understand that bidders do not required to provide training to NEA personal. Kindly confirm.	Yes. Bidders are not required to provide training to NEA personnel.
	Volume III, Schedule-4(d)	As per “Price Schedule No. 4(d) - Maintenance Charges”, we understand that bidders do not required to quote for maintenance charges. Please confirm our understanding.	Yes. Bidders are not required to quote for maintenance charges.
7	Price Bid Evaluation	We understand that, price bid will be evaluated excluding taxes & Duties for the quoted prices in the Price Schedules. Please confirm our understanding.	Yes. Price bid will be evauated excluding taxes and duties for the quoted prices.

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8	Taxes & Duties	a) We kindly request you to please confirm us the applicable rate of income tax in Nepal.	The Bidder shall be aware of the prevailing tax laws of Nepal and shall ensure himself the applicable rate of income tax in Nepal.
		b) We kindly request you to please confirm us the applicable VAT rate on installation services.	Prevailing VAT rate is 13% which may subject to change by Government of Nepal.
		c) We understand that for imported plants and equipment, the Custom Duty, VAT and other taxes applicable in Nepal are exempted or will be reimbursed. Please Confirm our understanding.	Custom duty and VAT shall be either exempted or reimbursed by the Employer. However, TDS shall be paid by the Contractor and shall be included in Bidder's offer.
		d. We understand that VAT and other local taxes applicable in Nepal on installation services (Schedule No. 4) are exempted or will be reimbursed for this project. Please confirm our understanding.	Value Added Tax (VAT) and Tax Deduction at Source (TDS) are applicable on installation services. VAT shall be paid by the Contractor and shall be reimbursed by the Employer. TDS shall be paid by the Contractor and shall be included in Bidder's offer.
9	Volume I, Section 7, GCC. 39.2.5	As per the above referred clause, we understand that quantity of individual item can vary up to any extent subject to maximum of 15% of the contract price. Please Confirm.	The Employer shall have the right to propose the changes in the facilities that subject to increase or decrease in the Contract Price upto 15% (not a price or quantity of an individual item). Beyond 15%, it shall be as per the provisions of GCC Sub-Clause 39.2.5
10	Vendor List	We request you to kindly arrange to provide the names of approved/ acceptable manufacturers/ suppliers for major plants & equipment, which further enable us to suitably choose from and proposed in our offer.	We do not have such approved/preferred list.
11	Volume II, Section 7A	The standard Technical Particulars and format for the same is not provided for Composite Long Rod Insulator in Volume-II of bidding document. Kindly, provide the S.T.P. (Standard Technical Particulars values) of the above item for the subject project.	Please refer S.No. 1 of Addendum-1

S.No.	Clause of Reference	Bidder's Request	NEA Response
12	Volume II, Section 4 & ANNEXURE-2	<p>Design Parameters for Snow Zone Tower is same as earlier bid document (Invitation for Bids No.: ICB-TD-TKTLP-072/73-01). For DBH/DDH type tower, Loading Trees furnished with this re-invited bid document (Invitation for Bids No.: ICB-PMD-TKTLP-075/76 – 01-R) are only for snow loading conditions.</p> <p>As per the earlier bid document (Invitation for Bids No.: ICB-TD-TKTLP-072/73-01), DBH/DDH type tower are also designed for DB/DD loading conditions & additional snow loading conditions. Please find the below screen shot of notes of earlier bid.</p> <p>Additional load cases for Snow Loading Condition (10 mm radial ice) are provided. The DBH and DDH type towers shall be designed for all the load cases applied on DB and DD towers respectively, as well as the additional snow loading conditions.</p> <p>Please confirm that bidder have to consider the loading trees furnished with this re-invited bid document. No need to compare the loading trees with previous bid document. OR Provide the loading trees of non-snow loading conditions of DBH/DDH towers.</p>	Please refer S.No. 2 of Addendum-1 for Load Trees of DB & DD Towers. The DBH and DDH type towers shall be designed for all the load cases applied on DB and DD towers respectively, as well as the additional snow loading conditions.
13	Insulator String Drawings	<p>Kindly arrange to provide Insulator string drawings with individual dimensions of hardware in length of string. This will be required to calculate length from nearest live part in insulator string drawing.</p> <p>Also provide the arcing gap between arcing horns also.</p>	Bidder to furnish their drawing as per the technical requirement stipulated in relevant sections.
14	Volume II, Section 4, Cl. No. 1.4.4	<p>Swing Angle for Jumper furnished as 10° and 20°, but, as per standard industrial practices Jumper Swing shall be 22° and 44°.</p> <p>Kindly review the values and confirm that towers to be designed considering Jumper Swing angle as 22° and 44°.</p>	Please refer S.No.3 of Addendum-1 for table of swing angles and live metal clearances.
15	Volume II, Section 4, Cl. No. 1.5.2	Kindly furnish Wind pressure on tower to be considered under various loading conditions for Snow Zone Towers DBH & DDH.	Please refer clause 1.5.2 of Section IV of the technical specification.

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16	Volume II, Section 4, Cl. No. 2.7.12 & Cl. No. 2.4	As per Cl. No. 2.7.12, Page No. 4-43, "Section 4 - Tower, Foundation, Erection, Stringing and Commissioning of Line", Volume-II, "The total depth of open type foundations below the ground level shall not be less than 1.5 meters and more than 3.5 meters." Whereas, as per Cl. No. 2.4 on page 4-39 of "Section 4 - Tower, Foundation, Erection, Stringing and Commissioning of Line" in Volume – II, "The Bidder shall offer open type of foundation (i.e. slab and chimney) with maximum depth of foundation as 3.0 meters...." Kindly confirm Bidder has to design open type of foundation (i.e. slab and chimney) with maximum depth of foundation as 3.0 meters.	Maximum depth of foundation may be kept as 3m
17	Volume II, Section 4, Cl. No. 1.7.1.1	As per clause 1.7.1.1 "Tower steel sections", "Section 4 - Tower, Foundation, Erection, Stringing and Commissioning of Line", Volume – II, we understand that for non-snow zone towers (DA, DB, DC & DD) steel material E250 Grade-A and E350 Grade-A is to be considered. Kindly confirm that our above understanding is in line with bid requirement.	Yes
18	Volume II, Section 4, Cl. No. 1.2	As per Cl. No. 1.2 "Classifications of Towers", Section-4, Volume-II, please confirm that the towers are to be checked for single circuit strung condition also.	Yes
19	Volume III, Schedule-3, Design Services	Kindly refer Schedule-3 "Design Services" of Volume-III, Page 11 of 24, Lump-Sum rate for design services of tower body extension (+18m, +25m with unequal LE) & their foundation design for Tower type DB & DD. We presumed that, body extensions will require at execution stage & bidder have to quote the design charges in this schedule. Weight & volume of this body extensions will be paid as per the unit rate.	Yes.
20	Volume I, Section-9, Contract Agreement Article 1.1.2.2 & 3.1	Can the Pre-bid queries be included in this list.	The issued clarifications and addenda shall be included in the list of Sub-Article 1.1 of Contract Agreement.
		Can the opening of Documentary credit be the 4th condition for making the Contract Effective as total payment of foreign currency shall be done through Letter of Credit.	No. The provisions of Contract shall prevail.

S.No.	Clause of Reference	Bidder's Request	NEA Response
	Article 1.1, 2.2 & 3.1	Contractor's scope is 3.1 (a) and (b) and Employer's scope is 3.1 (c). There are no chances of non-compliance of 3.1 (c) due to reasons attributable to the Contractor. Hence, proposed to delete this clause	No. Clause shall not be deleted. The provisions of Contract shall prevail.
21	Volume I, Section 9, (A) Terms of Payment	Advance will be paid within _____ days from receipt of invoice. It is suggested to have maximum of 15 days as no JMC / calculations are required to be verified by site team	The provisions of Contract shall prevail.
22	Volume I, Section 9, Contract Agreement, Article 2.2	100% of foreign payment shall be done through Documentary Credit	No. Only eighty percent (80%) of total payment of items under Schedule-1 of Bid Price Schedule (Vol-III) shall be done through Letter of Credit.
23	Volume I, Section 9, Appendix 1, (A) Terms of Payment, Schedule No. 4	Proposed to increase the interest rate to 0.75% per month or as per prevailing interest in Nepal https://nrb.org.np/bfr/bfrstatistics.php?tp=interest_rate_structure&&vw=15	Proposal could not be accepted. The provisions of Contract shall prevail.
24	Volume I, Section 9, Appendix 1, (B) Payment Procedure, Cl. No. d.	Please provide the list of documents required.	Please refer Volume I, Section 9, Appendix 1, (B) Payment Procedure, Cl. No. d. of the Bidding Documents.
25	Volume I, Section 9, Appendix 2	The date of adjustment shall be 90 days prior to the shipping date.	No. The provisions of Contract shall prevail.
26	Volume I, Section 9, Appendix 3, (a) Cargo Insurance	Contractor requests Employer not to freeze the deductible amount	The provisions of Contract shall prevail.
27	Volume I, Section 9, Appendix 3, (b) Installation All Risks Insurance	Review required - It should be 100% of the Contract Price	No. The provisions of Contract shall prevail.
28	Volume I, Section 8, Cl. No. 7.3	Please clarify whether 5 Years from the Effective Date or work completion date.	The period shall be five (5) years from the work completion date.
29	Volume I, Section 8, Cl. No. 14.5.c	Request to provide more clarity in the process and duration of reimbursed from submission of the invoices	The clause itself is explanatory. The provisions of Contract shall prevail.

S.No.	Clause of Reference	Bidder's Request	NEA Response
30	Volume I, Section 8, Cl. No. 26.2	Request for applicability of Liquidated Damages on the balance work and not on the whole Contract Price	Request could not be accepted. The provisions of Contract shall prevail.
31	Volume I, Section 8, Cl. No. 31.5	Request to provide clarity in situation in which the work is completed and the line is not commissioned Why the Contractor cannot transfer the assets, once the work is completed?	The provisions of Contract shall prevail.
32	Volume I, Section 8, Cl. No. 32.1	Once the agreed scope of work is completed, then why should the Contractor incur the cost of Care of Facilities / Watch & Ward of the line upto Operational Acceptance, which is not in the control of the Contractor?	The provisions of Contract shall prevail.
33	Volume I, Section 8, Cl. No. 47.1	We request to provide necessary documents / reports.	Soft copy of the IEE report can be collected from the project office.
34	Volume I, Section 3, EQC Cl. No.2.4.1	We request you to kindly allow the bidder's having experience in executing any Infra projects having cross country works atleast for a length of 44 kms in any sector outside the bidder's home country since executing a contract outside the home country is more important rather executing a project similar to a proposed contract. Hence, we request you to kindly amend clause accordingly which will allow more bidders to participate.	Request could not be accepted. The provisions of Contract shall prevail.
35	Volume II, Section 4, Cl. No. 1.5.5.1 & 1.5.5.2	In Broken wire condition, it is mentioned as breakage of 'both sub conductors', which we presume should be 'all four sub conductor's', since the tower's are with Quad conductors per phase. Please confirm.	Yes. "All four sub conductors"
36	Volume II, Section 4, Cl. No. 1.6.4.2	In this clause, length 'L' for redundant bending check is mentioned as length of redundant between bolt. For inclined redundant members the length 'L' shall be projected horizontal length. Please confirm.	Bid document will prevail
37	Volume II, Section 4, Cl. No. 1.1.3.1	Single line diagram of TT DA, DB, DC, DD/DDE shall be provided by the employer. The same are not included in the tender drawings. We kindly request you to provide single line diagram align with electrical clearances of existing TT 'DB' and TT 'DD/DDE'.	Typical of Tower available in bidding documents ,however SLD structural dwg,BOM ,shop drwg shall be provided to successful bidder.
38	Volume II, Section- XI	The Leg Extension (LE) schematic diagram is shown upto 16.5m LE. But TT 'DDH' requires LE upto 23.5m height. Please provide schematic diagram of LE from 16.5m to 23.5 m LE.	Please refer S.No. 10 of Addendum-1 for additional drawing for Leg Extension scheme.

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39	Volume III, Schedule-1, Item No. 5.2 and Schedule 4(a), SI. No. 7.2	The BOQ in Supply schedule and Installation schedule for tower extensions DDH are not matching. Please provide the same.	The items for +16.5 m , +18 m & +19.5 m Leg Extensions of Schedule-1 are kept under item +18 m L.E of Schedule-4(a) and the items for +23.5 m & +25 Leg Extensions of Schedule-1 are kept under item +25 m L.E of Schedule-4(a) since the installation rates are not supposed to vary substantially.
40	Volume I, Section 3, Cl. No. 1.3.7 (d)	In the comparison of Bids, only the CIP prices component of each Bid for the Plant and Equipment offered from outside the Employer's country shall be increased by fifteen percent (15%). Criteria to decide whether the product is domestically produced, is not specified in the Bid Document, Please provide same	The Bidder shall ensure the items that are domestically produced and to be supplied from within the Employer's country and mention and quote such items under Schedule-2.
41	Volume I, Section 3, Cl. No. 2.5 Item No. 2(iv)	Must submit the type test report carried out by reputed independent accredited testing laboratory for the size offered. We understand that, type test report of higher size conductor is also acceptable. Also type test need not to be conducted, if all tests as per technical specification is already conducted in reputed laboratory or in presence of employer within last 5 years. Please Confirm.	Bidder has to abide by the bidding document
42	Volume I, Section 3, Cl. No. 2.5 Item No. 4(iv)	Must submit the type test report carried out by reputed independent accredited testing laboratory for the size offered. We understand that type test report from reputed independent accredited laboratory of offered size of OPGW cable is also acceptable & if conducted in last 5 years from reputed laboratory or in presence of employer then type test need not to be conducted. Please confirm if understanding is correct.	Bidder has to abide by the bidding document
43	Volume I, Section 3, Cl. No. 2.5 Item No. 5(iv)	Must submit the type test report carried out by reputed independent accredited testing laboratory for the size offered. We understand that type test report from reputed independent accredited laboratory on higher size is also acceptable & if conducted in last 5 years from reputed laboratory or in presence of employer then type test need not to be conducted. Please confirm if understanding is correct.	Bidder has to abide by the bidding document

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44	Volume I, Section 8, SCC Cl. No. 14.5.2, Duties on Equipment, Plant, Materials and Supplies, Sub Clause (a) & (c)	We understand from clause a & c of aforementioned section that, all Equipment supplies, material & plant are subject to custom duty at rate of 1% of CIP which shall be reimbursed by employer on submission of receipts. However contractor's equipment are exempted from customs, VAT and other applicable taxes on submission of Bank Guarantee equivalent to implied custom duty. Please confirm if our understanding is correct.	Yes.
45	Volume I, Section 8, SCC Cl. No. 14.5.2, Duties on Equipment, Plant, Materials and Supplies, SubClause (b)	We understand that all non consumable tools & plant used in installation of facility which are not incorporated in works shall be taken out of Nepal within 90 days to avoid any implied tax. Also please confirm if these tools can be transferred to other similar project of Nepal electricity Authority without attracting any implied tax.	The provisions of Contract shall prevail. NEA is not entitled to confirm the clarification sought.
46	Volume I, Section 9, Appendix 2	The base date shall be the date 28 days prior to the deadline for submission of the Bid, however a per adjustment form given in section 4 of volume 1, it is mentioned that base date shall be 30 days prior to the deadline for submission of the Bid. Please clarify	The provisions under Section -9 Contract Forms, Appendix-2 shall prevail. The base date shall be 28 days prior to the deadline for submission of the Bid.
47	Volume II, Section 1, Cl. No. 1.4	We Understand that, it is mandatory to establish two stores, i.e. one at New Khimti & one at Barahbise. Please confirm if our understanding is correct.	The Employer's assume it will be better to have stores at both ends of the transmission line. However, the location of the stores may be changed based on the suitability and betterment to the Project and the Contractor.
48	Volume II, Section 1, ANNEXURE-C	As per bid, open cast foundation need to be done, however annexure C of said clause asks, undertaking from the proposed agency for Pile foundation, also there is no time in BOQ related to pile foundation. Please confirm bidder need not to submit "Proforma of Undertaking by the Proposed Agency for Pile Foundation"	As per Technical Specification and BPS.

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49	Volume II, Section 3, Cl. No. 1.8.1	<p>From mentined clause we understand following</p> <p>A. Mentioned clause seems to be contradictory, If tree cutting is in scope of employer then damage due to same should not be in scope of contractor. Please confirm.</p> <p>B. We understand from above that tree cutting required for access road, foundation, erection & stringing & including their removal from site is in scope of Employer. However Contract shall be responsible for if any tree cutting required for setup it's facility / Store.</p>	<p>The tree cutting for the clearance of RoW and tower foundation shall be the responsibility of the Employer. The access road and tree cutting for it if required shall be the responsibilty of the Contractor. If trees beyond the responsibilty of the Employer are cut or damaged due to the Contractor's work, the Contractor shall bear the risks and compensation arising due to it.</p>
50	Volume II, Section 3, Cl. No. 1.11.6	<p>From the referred clause, we understand that, employer shall not compensate for standing crop during Foundation, Tower Erection & same shall be in scope of contractor. Please confirm if our understanding is correct.</p>	<p>Yes. Your understanding is correct.</p>
51	Volume II, Section 4, Cl. No. 1.8.6.2	<p>Specification for obstruction light is provided, however as per BOQ, no obstruction light is required, please confirm of any obstruction light is to be supplied under the contract.</p>	<p>As per BPS not required but if needed as per actual site condition bidder will have to supply as per Tech. spech .</p>
52	Volume II, Section 4, Cl. No. 1.14.1	<p>A Galvanized tower of each type complete with 9 M extension shall be subjected to design and destruction tests by first applying test loads applied in a manner approved by the Employer.</p> <p>We have following understanding: -</p> <p>a. Since design is provided by employer except DBH & DDH, so as per our understanding DA, DB, DC & DD tower shall not be subjected to design and destruction test. Please confirm.</p> <p>b. Tower type DDB & DDH shall be tested to destruction with 9M extension. Please include same in price schedule.</p> <p>c. All type of towers i.e. DA, DB, DC, DD, DBH & DDH will be subjected to proto assembly.</p>	<p>a)Your understanding is correct. b)Already included in BPS schedule -4(e) c)Yes</p>
53	Volume II, Section 4, Cl. No. 1.3.3, TABLE 1.3.1	<p>It is mentioned that (*) values are for towers in Hilly Region. However no values are indicated with (*) marking.</p>	<p>Please igonre text "*" values are for towers in Hilly Region".</p>

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54	Volume II, Section 4, Cl. No. 1.2.3.3	<p>Towers shall be designed for providing unequal leg extensions with maximum difference between the shortest and longest leg of 6m for DB,DC,DD, DBH, DDH towers.</p> <p>a) Maximum leg difference for DA tower design is not furnished. Please Provide Same.</p> <p>b) Is unequal cross arms is acceptable for DBH & DDH towers. Please Confirm.</p>	<p>a)Maximum Leg Difference for DA type tower is 3m.</p> <p>b)To be designed as per T.S.</p>
55	Volume II, Section 4, Cl. No. 2.6.2.2	Resistance against side thrust, Please confirm if CBIP methodology to design chimney reinforcement is acceptable.	Yes.
56	Volume II, Section 7A, Cl. No. 1.1.2	<p>Bidder shall quote such composite insulators which have proven use under foggy/humid operational conditions in polluted industrial environment combined with smoke and dust particles. The Bidder shall furnish evidence in the form of certification from the power utilities that the similar type of product supplied to them had been performing satisfactory. The Bidder shall also submit certified test report for an accelerated ageing test of 5000 hours such as that described in Appendix-C of IEC-61109 or in 62217.</p> <p>We understand bidder need to propose Anti Fog Composite Long Road Insulator suitable for altitude of 2800 mtrs & minimum creepage distance of 13020 mm. Please confirm if our understanding is correct.</p>	Bidder has to abide by the Tech specification
57	Volume II, Section VIII, Cl. No. 1.1.1	<p>The hardware fittings shall be suitable for use with Disc insulators and /or porcelain long rod insulators having ball and socket fittings. The hardware fittings shall be as per the specification drawings enclosed with Section- VII of the specification. Each hardware fitting shall be supplied complete in all respects and shall include the following hardware parts:</p> <p>We understand hardware fittings shall be suitable for composite long rod insulator, please confirm of our understanding is correct.</p>	Yes.
58	Volume III, Schedule-1, Item No. 5.7.1.2	<p>“Installation hardware set for above 24 Fibre OPGW Fibre Optic cabling including all cable fittings & accessories as per below: - 5 Sets”</p> <p>Please clarify, how many OPGW Tension assembly (for splicing), OPGW Pass through (for non splicing) assembly or OPGW suspension assembly employer need. Please bifurcate 5 sets in aforementioned fittings.</p>	It will be on pro-rata basis of main supply of hardware fittings

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59	Volume II, Section X (10)	Plan & profile of line has been provided, however GPS coordinates of tower location are missing, request you to please provide same.	Please refer Appendix-1 of this clarification for the preliminary tower schedule carried out by the Employer.
60	Volume III, SCHEDULE-1, Item No. 5.1 & 5.2	For items under 5.1 and 5.2, the basic towers and leg extensions quantities are given. We understand that bidders are required to quote prices for basic tower only against the given description of (“basic tower”) in the schedule and for all the leg extensions, bidders are required to quote the price of those leg extensions only, i.e. excluding price of basic tower Kindly confirm.	Yes.
61	Volume II, Section 4, Cl. No. 2.9.1.2	As per the above referred Clause in Volume-II of the bidding document, bidders are required to furnish the guaranteed foundation details (i.e. Excavation Volumes, Concrete Volumes and Weight of Reinforcements) along with unit rates for excavation, concreting and reinforcement for each type of foundation for DDH/DBH type towers. However, there is no provision for providing such details in the price schedule for DDH and DBH type towers. Hence, we kindly request you to provide suitable format for tower type DBH and DDH to enable the bidders to provide the details in the price schedule.	Bidders are to submit details in their own Format
62	Volume III, SCHEDULE-2, Item No. 5.2.1 & SCHEDULE-4(e) SI. No. 3	Please refer Item No. 3, Price Schedule No. 4 (e) of Volume-III, where Earthwire configuration mentioned is 7/3.35 mm GS Earthwire; whereas as per Price Schedule No. 1 and Price Schedule No. 2 the configuration of Earthwire is given as 7/3.66 mm GS Earthwire. Kindly request you to please amend suitably the configuration of Earthwire in Price Schedule No. 4 (e) as 7/3.66 mm GS Earthwire.	Please refer S.No. 13 of Addendum-1.
63	Volume III, SCHEDULE-1	TOTAL (Total of Column 9 to be carried forward to Schedule No.5: Grand Summary)	Please refer S.No. 4 of Addendum-1.
64	Volume III, SCHEDULE-2	TOTAL (Total of Column 9 to be carried forward to Schedule No.5: Grand Summary)	Please refer S.No. 5 of Addendum-1.
65	Volume III, SCHEDULE-3	TOTAL (Total of Columns 7 and 8 to be carried forward to Schedule No.5: Grand Summary)	Please refer S.No. 6 of Addendum-1.

S.No.	Clause of Reference	Bidder's Request	NEA Response
66	Volume III, SCHEDULE-4(e)	TOTAL (Total of Column 8 to be carried forward to Schedule No.5: Grand Summary)	Please refer S.No. 7 of Addendum-1.
67	Volume II, Section-1, Cl. No. 2.0(g)	<p>Please refer Clause No. 2 (g), Section-1, Page No.1-7, Volume-II of the bid documents where Qualification requirement is given for qualified manufacturer(s) of accessories of conductor & earthwire, OPGW, whereas the same is not given in Clause No. 2.5, Section-3, Evaluation and Qualification Criteria, Volume-I of the bid documents.</p> <p>We understand that the Bidder has to follow only Qualification Requirement given in Clause No. 2.5, Subcontractor, Section-3, Volume-I of the bid documents and as per the same bidder do not required to submit any QR documents for accessories of conductor & earthwire and accessories of OPGW.</p>	Bidder has to Comply Clause No. 2.5, Section-3, Volume-I
68	Volume II, Section 1, Cl. No. 3.3.1	<p>Please refer Clause No. 3.3.1, Section-1, Page No. 1-9, Volume-II of the bid documents, where in the last line of the table it is mentioned that “For 400 kV AC Transmission Lines with Triple Snowbird Conductor”.</p> <p>We understand that there is no requirement of Triple Snowbird Conductor in this tender, therefore kindly request you to please delete the above mentioned line from the given Table and amend suitably the same.</p>	Please refer S.No. 12 of Addendum-1.

S.No.	Clause of Reference	Bidder's Request	NEA Response
69	Volume I, Section 3, Cl. No. 2.5	<p>As per Clause No. 2.5, Section-3, Volume-I of the bid document, the bidder has to submit type test reports carried out by reputed independent accredited testing laboratory for all the items/equipments for the size offered except Towers. Whereas, according to Item No. 1, 2 and 3 of Price Schedule No. 4 (e), Volume-III of the bid documents, the bidder required to quote type test charges for Tower, Conductor and Earthwire.</p> <p>As per above, we understand that if valid type tests certificates of similar design are available for Composite Long Rod Insulator/Insulator Strings along-with Hardware Fittings/OPGW... etc., then no need to carry out fresh type test on the above referred items/equipments.</p> <p>Kindly confirm our understanding.</p> <p>However, fresh type test required to be carried out for Tower/Conductor/Earthwire and the type test charges for each individual item will be paid by the Employer as per the price quoted in respective price schedule. Kindly confirm our understanding.</p>	Technical specification to be followed
70	Volume I, Section 3, Cl. No. 2.5	<p>As per Clause No. 2.5, Section-3, Volume-I, we understand that bidders are required to submit the Manufacturing Authorization from subcontractors and hence, Letter of Undertaking as per format given in Volume-II, is not required to be submitted.</p> <p>Kindly Confirm.</p> <p>If Letter of Undertaking is required to submit at bidding stage, then we would like to bring to your kind notice that it will be very much difficult to get such undertaking on stamp paper from subcontractors placed at different locations, also such practice is not followed in foreign countries. Hence, we request to permit the bidder to submit such undertaking on letter head of the subcontractor, if required to submit.</p>	Bidder has to Comply Clause No. 2.5, Section-3, Volume-I

S.No.	Clause of Reference	Bidder's Request	NEA Response
71	Volume II, Section 1, Cl. No. 3.0 and Section 4 Cl. No. 1.7.1.1	We understand that Grade C steel has to be used for supply of all the towers. Please confirm our understanding is correct.	The provisions of Bid Document shall prevail.
72	Volume II, ANNEXURE-1, Sag Tension Calculation	i) The temperature in starting condition of sag tension calculation of earth wire (Snow zone) should be -5deg instead of 5 degree. ii) The temperature 32 deg in last column of sag tension calculation of conductor (Snow zone) should be 32 deg instead of -32 degree.	Please refer S.No. 8 & 9 of Addendum-1 for revised sag tension calculations of conductor (snow zone) and earth wire (snow zone) respectively.
73	Volume II, ANNEXURE-2, Load Trees	i) All loading trees are provided for Ice Loading condition (-5 deg +28% Wind). However, as per Sag tension calculation, the Tension under 0deg Full wind is much more than that of Ice condition. Please confirm Full wind condition to be considered or not. If yes, please provide loading tree for the same. ii) Body wind is not shown in Security condition load trees. Please confirm wind loading to be considered in security condition or not.	The loading conditions for DB and DD towers shall be considered in addition to ice loading condition for determining the loadings of DBH and DDH towers respectively. Please refer S.No. 2 of Addendum-1 for Load trees for 400 kV D/C Quad Moose DB & DD Towers.
74	Volume II, Section 7A, Section 8 & Section 9	a. OPGW & fittings can be offered for snow Zone & Non Snow Zone. Please confirm if our understanding is correct. b. Same Composite Long Rod insulators of 120kV & 160kN will be accepted for Snow Zone & Non Snow Zone. Please confirm if our understanding is correct. c. Same Hardware Fittings of 120kV & 160kN will be accepted for Snow Zone & Non Snow Zone. Please confirm if our understanding is correct.	a. Yes. Your understanding is correct. b. Yes. Your understanding is correct. c. Yes. Your understanding is correct.

Appendix-1: Preliminary Tower Schedule

NO.	Location NO.	Type of Tower	Coordinate			Deviation Angle	Chainage	Span	Wind span	Weight span(HOT)			Weight span(COLD)			Remarks/Crossings
			Easting X	Northing Y	Elevation Z					back	ahead	total	back	ahead	total	
										m	m	m	m	m	m	
1	Ap1	DD	410719.539	3042555.302	639.113	right 00° 00' 00"	0	386.192	193	0	187	187	0	186	186	Cultivated land, 11kV line, river, foot track
2	Ap2	DB	410514.46	3042882.543	640.417	right 04° 20' 21"	386.192	507.651	450	199	-23	176	200	-54	146	Cultivated land, 11kV line, foot track, highway, cart track, lt line, forest
3	Ap3	DD	410278.202	3043331.867	715.988	left 22° 06' 59"	893.843	741.815	628	540	340	880	569	338	909	Cultivated land, 11kV line, foot track, highway, lt line, forest, road, house (to be shifted)
4	Ap4	DD	409711.171	3043810.161	718.529	right 45° 30' 41"	1635.658	610.314	686	404	-147	265	406	-184	231	Cultivated land, foot track, forest, road, house (to be shifted)
5	Ap5	DD	409664.976	3044418.724	876.039	right 04° 49' 23"	2245.972	574.177	603	774	457	1230	810	472	1281	Cultivated land, foot track, forest, road, lt line, canal, house (to be shifted)
6	Ap5.2	DD	409669.808	3044992.881	813.933	right 00° 00' 03"	2820.149	399.158	488	120	184	305	106	181	288	Cultivated land, forest, road
7	Ap6	DB	409673.172	3045392.025	829.469	left 07° 43' 49"	3219.307	442.701	421	216	340	556	218	361	580	Cultivated land, forest, foot track
8	Ap6.1	DA	409617.323	3045831.189	802.494	right 00° 00' 25"	3662.008	239.631	342	105	105	217	84	103	194	Cultivated land, forest, 11kV line, lt line
9	Ap7	DB	409587.121	3046068.909	810.263	left 08° 20' 35"	3901.639	537.471	389	134	337	472	137	344	481	Cultivated land, forest, foot track, road, river
10	Ap8	DD	409442.733	3046586.622	775.18	right 12° 14' 19"	4439.11	605.445	575	201	576	778	194	597	792	Cultivated land, forest, foot track
11	AP8.2	DB	409407.408	3047191.036	696.303	left 00° 10' 23"	5044.555	288.263	450	37	97	140	16	82	105	Cultivated land, foot track, lt line, river
12	Ap9	DC	409389.72	3047478.756	705.148	right 15° 56' 47"	5332.818	710.723	502	190	138	330	204	125	332	Cultivated land, forest, foot track, 11kV line, lt line, canal

NO.	Location NO.	Type of Tower	Coordinate			Deviation Angle	Chainage	Span	Wind span	Weight span(HOT)			Weight span(COLD)			Remarks/Crossings
			Easting X	Northing Y	Elevation Z					back	ahead	total	back	ahead	total	
										m	m	m	m	m	m	
13	Ap10	DD	409542.682	3048172.824	773.007	right 01° 35' 35"	6043.542	282.858	501	580	373	955	592	445	1039	Cultivated land, forest
14	Ap10.1	DB	409613.424	3048446.692	743	right 00° 00' 00"	6326.399	436.5	361	-88	224	138	-160	225	66	forest
15	Ap11	DD	409722.589	3048869.306	746.257	left 18° 56' 17"	6762.899	341.05	390	214	-15	198	213	-58	154	Cultivated land, foot track, forest, lt line, house(to be shifted)
16	Ap11.1	DB	409697.876	3049209.459	777.036	left 00° 00' 08"	7103.949	236.586	291	359	365	725	402	458	862	Cultivated land, foot track, lt line, house(to be shifted)
17	Ap12	DB	409680.723	3049445.422	756.992	right 05° 10' 54"	7340.535	182.815	211	-128	-22	-145	-221	-69	-284	Cultivated land, foot track, lt line, house(to be shifted), canal
18	Ap12.1	DD	409683.99	3049628.208	754.801	right 00° 00' 00"	7523.35	536.238	360	203	271	475	251	271	522	Cultivated land, forest, foot track
19	Ap13	DB	409693.573	3050164.36	762.972	right 00° 00' 07"	8059.587	559.403	550	266	75	343	265	56	324	Cultivated land, forest, foot track, Tamakoshi River
20	Ap14	DC	409703.589	3050723.673	829.867	left 17° 26' 52"	8618.99	329.807	455	490	-412	78	509	-566	-58	Cultivated land, forest, foot track, lt line
21	Ap14.1	DB	409610.35	3051040.026	923.138	left 00° 00' 11"	8948.797	359.705	354	759	17	780	913	-18	903	Cultivated land, forest, foot track, house(to be shifted), canal
22	Ap15	DD	409508.64	3051385.052	958.306	right 14° 03' 23"	9308.502	542.837	462	343	792	1133	377	843	1219	Cultivated land, forest, foot track, canal
23	Ap16	DB	409486.206	3051927.425	823.062	left 05° 09' 14"	9851.339	195.169	385	-228	-543	-761	-280	-814	-1080	Cultivated land, forest, foot track, canal
24	Ap16.1	DD	409460.656	3052120.914	868.201	right 13° 11' 12"	10046.508	325.221	266	749	147	891	1020	144	1156	Cultivated land, forest, foot track
25	Ap16.2	DD	409492.755	3052444.547	870.883	left 17° 29' 32"	10371.729	255.309	291	177	292	472	181	349	535	Cultivated land, forest, foot track, canal
26	Ap17	DB	409440.423	3052694.435	873.296	left 02° 28' 42"	10627.038	257.649	258	-35	-102	-137	-93	-184	-277	Cultivated land, forest, foot track, canal
27	Ap17.1	DB	409376.756	3052944.094	888.41	left 00° 08' 01"	10884.687	239.929	250	362	198	563	444	227	675	Cultivated land, forest, foot track
28	Ap18	DB	409316.926	3053176.443	887.046	right 09° 17' 33"	11124.615	363.724	302	41	102	145	11	85	99	Cultivated land, forest, foot track, canal
29	Ap19	DD	409284.292	3053538.7	891.053	left 07° 23' 48"	11488.339	418.858	392	262	123	385	278	110	388	Cultivated land, forest, foot track, canal
30	Ap19.1	DB	409193.319	3053947.56	912.7	right 00° 00' 00"	11907.198	159.532	290	297	204	501	311	257	569	forest

NO.	Location NO.	Type of Tower	Coordinate			Deviation Angle	Chainage	Span	Wind span	Weight span(HOT)			Weight span(COLD)			Remarks/Crossings
			Easting X	Northing Y	Elevation Z					back	ahead	total	back	ahead	total	
										m	m	m	m	m	m	
31	Ap20	DD	409158.67	3054103.284	903.227	left 31° 35' 13"	12066.73	525.176	352	-42	-210	-256	-96	-262	-362	Cultivated land, forest, canal
32	Ap21	DB	408792.989	3054480.228	1048.001	left 01° 08' 37"	12591.906	404.168	476	757	-74	684	809	-122	689	forest
33	Ap22	DB	408505.832	3054764.645	1119.112	left 03° 33' 55"	12996.074	363.112	386	483	192	678	531	194	729	Cultivated land, forest, foot track, canal, road, 11kV line, house (to be shifted)
34	Ap23	DC	408232.455	3055003.633	1118.358	right 15° 09' 54"	13359.186	668.091	516	170	356	529	167	358	528	Cultivated land, forest, foot track, canal, 1t line
35	Ap24	DD	407862.013	3055559.617	1110.113	right 26° 07' 24"	14027.277	176.659	423	311	210	523	310	262	573	Cultivated land, forest, foot track
36	Ap24.1	DD	407838.797	3055734.744	1083.285	right 00° 00' 20"	14203.936	701.576	440	-36	236	207	-88	230	151	Cultivated land, forest, foot track, river
37	Ap25	DD	407746.664	3056430.244	1142.201	left 31° 16' 59"	14905.512	489.579	598	472	20	491	479	-7	471	forest, foot track, football field
38	Ap26	DC	407439.698	3056811.635	1208.726	left 17° 09' 15"	15395.091	367.278	431	477	23	500	504	-10	494	forest, foot track
39	Ap27	DB	407135.271	3057017.103	1232.705	left 03° 25' 28"	15762.368	367.201	368	347	168	517	380	164	546	forest, foot track, canal
40	Ap27.1	DA	406819.181	3057203.981	1240.629	left 00° 00' 41"	16129.569	143.258	255	200	-36	175	204	-64	154	Cultivated land, forest, foot track
41	Ap28	DD	406695.849	3057276.864	1235.467	left 02° 25' 04"	16272.827	627.502	387	179	144	324	207	132	339	Cultivated land, forest, foot track, canal
42	Ap29	DB	406142.638	3057573.034	1298.993	right 03° 30' 42"	16900.329	332.771	482	488	56	545	500	29	530	Cultivated land, road, foot track, house (to be shifted)
43	Ap30	DD	405859.436	3057747.771	1314.74	left 00° 00' 07"	17233.1	693.629	517	277	602	879	303	617	920	Cultivated land, forest, foot track, canal
44	Ap31	DC	405269.116	3058111.973	1236.17	right 10° 52' 17"	17926.728	203.234	452	100	-65	38	85	-102	-13	Cultivated land, foot track
45	Ap31.1	DA	405119.382	3058249.392	1250.503	left 00° 00' 04"	18129.963	406.846	307	268	-7	269	305	-53	261	Cultivated land, forest, foot track, canal
46	Ap32	DB	404819.631	3058524.48	1300.937	left 07° 58' 15"	18536.809	307.14	359	417	301	718	463	342	805	Cultivated land, forest, foot track
47	Ap32.1	DB	404566.729	3058698.766	1253.494	right 00° 00' 10"	18843.949	337.855	324	7	364	372	-34	411	377	Cultivated land, forest, foot track, canal, 11kV line

NO.	Location NO.	Type of Tower	Coordinate			Deviation Angle	Chainage	Span	Wind span	Weight span(HOT)			Weight span(COLD)			Remarks/Crossings
			Easting X	Northing Y	Elevation Z					back	ahead	total	back	ahead	total	
										m	m	m	m	m	m	
48	Ap33	DD	404288.546	3058890.495	1224.742	right 22° 26' 00"	19181.804	166.582	253	-27	36	14	-74	21	-47	Cultivated land, forest, foot track
49	Ap33.1	DA	404197.84	3059030.216	1235.086	right 00° 00' 29"	19348.386	307.375	237	128	207	348	144	224	385	Cultivated land, forest, foot track
50	Ap34	DC	404030.507	3059288.051	1236.465	left 06° 19' 41"	19655.761	341.7365	325	101	31	133	83	-7	76	Cultivated land, forest, foot track, canal
51	Ap34.1	DA	403813.528	3059552.066	1257.026	left 00° 00' 00"	19997.498	248.662	296	311	91	414	350	81	447	Cultivated land, forest, foot track
52	Ap35	DC	403655.709	3059744.098	1267.649	left 25° 03' 08"	20246.061	429.456	339	160	228	387	169	230	399	Cultivated land, forest, foot track, Culvert, road, Temple, 11kV line, house (to be shifted)
53	Ap36	DB	403267.739	3059928.25	1264.635	right 13° 37' 48"	20675.517	156.672	293	202	-11	193	200	-29	173	Cultivated land, forest, foot track
54	Ap36.1	DA	403146.019	3060026.893	1267.973	left 00° 00' 14"	20832.189	425.116	293	167	-9	173	185	-54	149	Cultivated land, forest, foot track, river
55	Ap37	DB	402815.725	3060294.53	1318.533	right 08° 33' 20"	21257.305	334.134	382	437	352	789	481	397	878	Cultivated land, forest, foot track
56	Ap37.1	DB	402590.303	3060541.168	1290.544	right 00° 00' 03"	21591.439	345.928	341	-18	35	19	-63	10	-50	Cultivated land, foot track
57	Ap38	DA	402356.927	3060796.515	1308.212	left 00° 00' 13"	21937.367	423.355	386	312	73	391	337	47	392	Cultivated land, forest, foot track, river
58	Ap39	DB	402071.297	3061108.997	1343.729	left 07° 44' 59"	22360.722	475.935	452	353	-7	347	378	-38	341	Cultivated land, forest, foot track, river, canal, lt line
59	Ap40	DD	401705.754	3061413.78	1396.507	left 00° 00' 14"	22836.658	492.092	486	488	265	754	518	267	787	Cultivated land, forest, foot track, river, canal
60	Ap41	DC	401327.78	3061728.884	1400.559	left 14° 41' 19"	23328.75	405.663	449	229	97	326	226	79	305	Cultivated land, forest, foot track, river, 11kV line, lt line
61	AP41.1	DD	400960.509	3061901.146	1416.924	right 05° 11' 25"	23734.413	161.794	284	310	97	413	328	104	441	Cultivated land, forest, foot track, river
62	Ap42	DC	400820.843	3061982.82	1430.477	left 18° 03' 54"	23896.206	386.244	277	65	-112	-48	58	-182	-126	Cultivated land, foot track, canal, lt line, road
63	Ap42.0	DA	400443.398	3062064.793	1486.108	right 00° 00' 24"	24282.45	371.709	388	505	-262	248	575	-366	216	Cultivated land, foot track, canal, 11kV line, house (to be shifted)
64	Ap43	DA	400080.166	3062143.724	1586.886	left 00° 00' 22"	24654.159	202.775	297	646	-431	220	749	-553	203	Cultivated land, FOREST, foot track, canal, 11kV line, house (to be shifted)
65	Ap43.1	DB	399882.011	3062186.761	1641.026	left 13° 02' 34"	24856.934	314.27	263	642	75	719	765	54	821	FOREST, foot track

NO.	Location NO.	Type of Tower	Coordinate			Deviation Angle	Chainage	Span	Wind span	Weight span(HOT)			Weight span(COLD)			Remarks/Crossings
			Easting X	Northing Y	Elevation Z					back	ahead	total	back	ahead	total	
										m	m	m	m	m	m	
66	Ap44	DD	399567.771	3062182.433	1649.099	right 17° 39' 02"	25171.204	301.364	319	238	-547	-301	260	-773	-501	FOREST, foot track, canal, 11kV line, lt line
67	Ap44.1	DB	399279.363	3062269.846	1758.587	left 00° 00' 21"	25472.568	298.725	311	869	289	1153	1094	331	1418	forest, foot track
68	Ap45	DD	398993.472	3062356.465	1743.087	right 45° 44' 37"	25771.293	161.281	232	6	-312	-283	-36	-482	-485	Cultivated land, forest, foot track
	Ap45.1	DB	398919.249	3062499.652	1783.091	right 00° 01' 05"	25932.574	535.728	372	472	-454	12	642	-539	94	Cultivated land, forest, foot track, road
70	Ap46	DB	398672.853	3062975.355	2009.096	right 10° 39' 26"	26468.301	288.467	446	1033	-621	418	1117	-889	237	Cultivated land, Bushes, foot track, road
71	Ap47	DB	398589.838	3063251.619	2123.253	right 00° 00' 07"	26756.769	342.879	330	933	-101	829	1201	-165	1032	forest, Bushes, foot track, 132kV Transmission Line
72	Ap47.1	DB	398491.176	3063579.997	2163.01	left 00° 00' 37"	27099.648	249.997	303	447	-357	90	511	-536	-27	forest, Bushes, foot track, road, Jiri Highway, 11kV line
73	Ap48	DC	398419.197	3063819.408	2242.392	left 16° 50' 23"	27349.645	127.073	193	616	-72	544	796	-132	664	Bushes, foot track, Jiri Highway
74	Ap48.1	DD	398348.926	3063925.283	2246	left 07° 03' 28"	27476.718	454.44	292	200	377	578	260	397	659	Bushes, foot track, Jiri Highway, 11kV line
75	Ap49	DD	398053.004	3064270.168	2210.164	right 28° 12' 13"	27931.158	596.662	527	77	376	459	57	382	444	Bushes, foot track, canal
76	Ap49.1	DB	397924.606	3064852.851	2196.697	left 00° 00' 20"	28527.82	166.306	382	220	-21	201	214	-65	150	Cultivated land, lt line, foot track
77	Ap50	DC	397888.802	3065015.257	2200.307	left 20° 07' 33"	28694.126	144.864	156	187	53	240	232	44	276	Cultivated land, lt line, foot track
78	Ap50.1	DA	397810.842	3065137.355	2203.606	right 00° 00' 20"	28838.99	181.567	164	93	311	426	102	406	539	Cultivated land, Bushes, foot track
79	Ap50.2	DD	397713.145	3065290.397	2188.849	left 07° 39' 37"	29020.557	690.765	442	-129	25	-100	-223	5	-214	forest, Bushes, foot track, canal
80	AP51	DDH	397267.165	3065817.899	2301.51	right 20° 27' 10"	29711.322	273.648	489	678	-124	566	698	-213	502	Cultivated land, Bushes, foot track
81	Ap51.1	DBH	397174.649	3066075.433	2342.194	left 00° 00' 03"	29984.97	649.227	476	398	-173	225	487	-209	276	Cultivated land, Bushes, foot track, lt line
82	Ap52	DDH	396955.148	3066686.428	2525.851	left 12° 45' 26"	30634.197	249.995	473	850	-631	223	886	-923	-32	Cultivated land, Bushes, foot track, 11kV line, lt line, Jiri Highway
83	Ap52.1	DBH	396820.759	3066897.229	2632	right 00° 00' 22"	30884.192	293.954	290	903	-421	485	1195	-605	596	Cultivated land, Bushes, foot track, canal
84	Ap52.2	DDH	396662.765	3067145.114	2716.064	right 01° 39' 31"	31178.146	187.397	248	728	202	929	912	248	1156	Cultivated land, Bushes, foot track, road

NO.	Location NO.	Type of Tower	Coordinate			Deviation Angle	Chainage	Span	Wind span	Weight span(HOT)			Weight span(COLD)			Remarks/Crossings
			Easting X	Northing Y	Elevation Z					back	ahead	total	back	ahead	total	
										m	m	m	m	m	m	
85	Ap53	DDH	396566.659	3067305.991	2706.327	right 02° 42' 56"	31365.543	534.424	383	-16	1038	1022	-62	1124	1061	forest, grassland, Bushes, foot track, road, canal
86	Ap53.1	DDH	396314.626	3067777.254	2486.842	right 12° 57' 40"	31899.968	670.607	629	-461	650	194	-547	669	129	Cultivated land, forest, grassland, Bushes, foot track, canal
87	Ap54	DDH	396139.061	3068424.472	2381.073	left 08° 44' 29"	32570.575	560.628	621	32	171	205	13	161	176	Cultivated land, Bushes, foot track, road, house(to be shifted)
88	Ap54.1	DDH	395911.765	3068936.956	2398.617	left 00° 00' 07"	33131.203	381.628	473	392	16	411	402	-17	388	Cultivated land, Bushes, foot track, road, house(to be shifted)
89	Ap55	DDH	395757.029	3069285.806	2435.248	right 13° 21' 02"	33512.83	719.308	553	366	198	568	399	189	592	Cultivated land, Bushes, forest, foot track, road, house(to be shifted)
90	Ap55.1	DBH	395625.086	3069992.909	2513.327	right 00° 00' 04"	34232.138	328.16	531	527	-302	232	535	-425	120	Cultivated land, forest, foot track
91	Ap56	DDH	395564.898	3070315.502	2599.312	right 23° 12' 49"	34560.298	587.156	463	638	302	947	762	303	1072	Cultivated land, grassland, Bushes, foot track
92	Ap57	DBH	395693.434	3070888.416	2596.506	left 09° 38' 12"	35147.453	310.772	455	285	669	954	284	815	1099	forest, grassland, foot track
93	AP57.1	DDH	395709.745	3071198.76	2494.411	right 06° 43' 49"	35458.226	187.937	273	-347	1284	944	-493	1790	1307	forest, foot track
94	AP57.2	DBH	395741.536	3071383.989	2392.976	right 01° 00' 09"	35646.163	474.651	367	-1062	973	-77	-1568	1074	-476	forest
95	AP57.4	DDH	395829.999	3071850.323	2208.364	left 16° 20' 02"	36120.814	549.563	535	-461	628	172	-562	661	104	forest
96	Ap58	DD	395776.441	3072397.27	2094.229	left 17° 13' 40"	36670.377	139.757	353	-65	616	544	-98	856	746	forest
97	Ap58.1	DD	395722.237	3072526.087	2060.213	right 30° 46' 23"	36810.133	277.177	226	-473	993	525	-712	1316	609	forest
98	Ap58.2	DA	395760.585	3072800.598	1935.443	left 00° 00' 10"	37087.31	235.75	290	-690	1206	531	-1013	1616	624	forest
99	AP58.4	DB	395793.19	3073034.082	1779.624	right 00° 00' 31"	37323.059	369.905	337	-933	937	11	-1343	1104	-225	Cultivated land, forest, road, foot track
100	Ap59	DD	395844.405	3073400.424	1625.583	left 27° 54' 39"	37692.964	551.435	533	-536	1561	1026	-703	1722	1024	Cultivated land, forest, road, foot track, house(to be shifted), canal
101	Ap60	DB	395656.235	3073918.76	1267.49	left 02° 23' 55"	38244.399	166.368	428	-893	1102	205	-1054	1540	481	Cultivated land, forest, road, foot track, house(to be shifted), canal
102	AP60.1	DC	395592.969	3074072.629	1177.873	left 08° 11' 13"	38410.766	676.511	436	-912	122	-787	-1350	108	-1239	Cultivated land, forest, road, foot track, river, canal

NO.	Location NO.	Type of Tower	Coordinate			Deviation Angle	Chainage	Span	Wind span	Weight span(HOT)			Weight span(COLD)			Remarks/Crossings
			Easting X	Northing Y	Elevation Z					back	ahead	total	back	ahead	total	
										m	m	m	m	m	m	
103	Ap61	DC	395249.228	3074655.303	1256.836	left 09° 40' 40"	39087.277	141.661	414	564	-352	213	577	-539	41	forest
104	Ap61.1	DC	395157.762	3074763.478	1291.598	left 00° 00' 26"	39228.938	746.692	472	498	-296	208	684	-335	356	forest, foot track
105	AP62	DC	394675.574	3075333.604	1568.28	right 00° 00' 01"	39975.63	302.531	561	1099	-503	589	1138	-708	422	Cultivated land, road, 11kV line
106	Ap62.4	DD	394480.211	3075564.598	1680.549	left 42° 41' 19"	40278.161	521.85	428	828	-54	776	1033	-79	964	Cultivated land, Bushes, foot track
107	Ap63	DD	393962.35	3075628.997	1784.404	left 07° 08' 08"	40800.011	264.8	417	592	978	1569	617	1261	1878	Cultivated land, Bushes, forest, foot track
108	Ap63.1	DB	393697.55	3075628.78	1643.175	left 00° 03' 02"	41064.811	302.329	313	-677	879	205	-960	1105	147	Cultivated land, foot track, house (to be shifted)
109	Ap63.2	DB	393395.221	3075628.265	1523.353	right 00° 01' 09"	41367.14	290.994	319	-554	877	324	-780	1119	340	Cultivated land, foot track, 11kV line
110	Ap64	DD	393104.228	3075627.867	1412.299	right 00° 00' 00"	41658.134	0	157	-561	0	-561	-807	0	-803	