

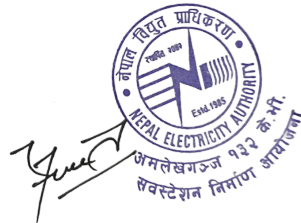
## NEPAL ELECTRICITY AUTHORITY

## AMLEKHGUNJ 132 KV SUSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

## CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
	Volume/Section	Page No.	Clause No.	Subject/Description		
1	Volume-2 Chapter-1	6	2A	The Contractor is required to design and construct the substation as well as dead end towers as per BPS for LILO arrangement for existing 132kV and 66kV overhead transmission lines as per the site condition based on the indicative layout drawings provided in Annexure IA.	1. Kindly confirm whether the layout drawings as mentioned in description are same as indicated on (Pages 25-28/890 of Vol-2), as we did not find Annexure IA in the specification. 2. For LILO arrangement of 132 kV and 66 kV Line respective Conductor quantity not found in BPS. If it is to be included on LOT basis kindly provide route length and nos. of towers for both voltage levels. 3. We understand that both the D/C Lines are equipped with OPGW, however there is no item for OPGW and associated accessories required for LILO portion in BPS. Please clarify. 4. As per BPS we understand that Nos. of DDE type special Tower requirement for LILO of 132kV Lines is 2 Nos and 66kV Lines is also 2 Nos. Any additional requirement shall paid on unit rate basis. Kindly confirm.	- Annexure IA refers to the list of drawings.  - Please quote the rate in Vendor Assessed Quantities A.1.(1.1) and B.1.(1.1) for Conductor, OPGW and other hardware accessories.  - Please visit the site for more details as the detail design is in the scope of the successful contractor.  -LILO towers for 132kV Lines is 2 Nos and for 66kV Lines is also 2 Nos.
2	Volume-2 Schedule No. 4: Installation and Other Services	28	30	Transportation of ERS Tower from NEA store, Erection of ERS Towers for minimization of shutdown of 132 kV and 66 kV line, dismantling and transport back to NEA store	Employer is requested to provide weight of ERS Tower and distance of NEA store from Site.	- NEA store is at Pathlaiya which is around 10 to 12 km from the site where ERS tower is stored.
3	Vol-II/Schedule No. 4: Installation and Other Services	27	29	Dismantling of existing 132 kV and 66 kV Towers and transportation to NEA store	Employer is requested to provide Nos. of towers to be dismantled.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
4	Volume-2 Chapter-1	10	4.2(a)	The two (2) nos of 66/11kV 10 MVA, 3-phase outdoor power transformer shall be transported from NEA Hetauda grid and shall install to the proposed Amlekhgunj substation including all materials / fittings / accessories/Digital RTCC panel/ MB/Cables including special cable (if any), etc.	We understand that these transformers along with accessories shall be free issue to Bidder at Amlekhgunj Site by Owner. Kindly confirm.	Please quote the rate in Schedule 4(a) in A.1.2 as mentioned in BPS.
5	Vol-II/Section 6: Employer's Requirements/Control And Relay Panels	554	26.1	Single bus bar protection scheme shall be provided for each main bus and transfer bus (as applicable) for 220KV and 132 kV voltage levels	We understand that for 66kV GIS Low impedance, single busbar protection is required, Kindly confirm.	Please note the voltage level as 132 kV and 66 kV.
6	Volume-2 Chapter-1	11	4.2r	12kV HT cable along with jointing Kit and other accessories for connection of LT Transformers and interconnection of LV side of 66/11 kV Transformer to Indoor LT Panel	1. We understand that cable termination/cable for all outgoing feeders of 11 kV Switchgear is not in bidder's scope. Please confirm. 2. Cable Trench required for these O/G feeders only inside S/s boundary is in scope of bidder. Kindly confirm.	Regarding 11kV outgoing feeders, contractor shall breakdown the line bays upto the boundary of substation so that the existing 11 kV bays can be connected.
7	General			Contour Layout, Geo Co-ordinates	1. Kindly provide contour layout since the site is in hilly area. 2. Kindly provide Geo-coordinates for New Amlekhgunj S/S Site.	Please visit the site for more details as the detail design is in the scope of the successful contractor.



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8	Volume-2 Chapter-1	13	4.3(y)	Dismantling and disposal of existing fencing walls, drainage/sewerage system (propose diversion if required), other structures as required. Dismantling of existing structure, foundation, equipment etc., which is required, for successful completion of the scope of work shall be included with the bid prices elsewhere in the price schedule.	Employer is requested to provide marked existing layout for better understanding of dismantling scope.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
9	Volume-2 Chapter-1	18	13.1(k)	One number each Energy meter for the record and revenue purpose is to be provided for each 66/11kV bays (Bus coupler bays to be excluded) at Amlekhgunj SubStation under present scope of contract, meeting the requirement as specified at Annexure – V.	1. Please clarify whether Energy meter are CRP mounted or indoor standalone panel or outdoor standalone panel ? 2. Whether separate Metering CTs and PTs/CVTs are required for each feeder or not. Please clarify.	Energy meter are CRP mounted. Separate Metering CTs and PTs/CVTs are required for each feeder
10	General			Price Schedule	Employer is requested to provide Bid's Price Schedule in Ms-Excel format.	- The Schedule will be attached in NEA website.
11	Volume-2 Annexure-I	45 of 890	9	Fire Protection System: i) Deluge valve - 1 Set	The line item for "Deluge Valve - 1 Set" is not found in Volume-III/ Schedule-1 & Schedule-4. Please review and add the line item accordingly, if it is to be provided.	Please quote the spare item in Part C: Mandatory Spares of 16.1 for all necessary spares for fighting system.
12	Volume-2	375 of 890	1.1.1	The scope covers supply of. Diesel Generator set of stationary type having a net electrical output of 250/125kVA capacity...	In line with Volume-III/ Schedule-1 & Schedule-4, we are considering the DG Set with electrical output of 125 kVA (and not 250kVA). Please confirm.	Confirm
13	Volume-2	732 of 890	15.11	a) The crane for 132kV GIS/66kV GIS shall have capacity of minimum 5T safe working load & minimum height of crane have shall be 8.0 meters or as per actual requirement whichever is higher.	Employer is requested to confirm whether the EOT is Single/ Double girder type.	Single Girder which shall be used for both 132 kV and 66 KV GIS.
14	Volume-2	13 of 890 519 of 890	4.3(p) 24.13	Drainage work for the Switchyard Drains & Culverts	1. As per Volume-2 Clause 4.3(p) 'drain and culverts, Drain Layout shall be developed by the contractor based on various type of drains'. 2. As per Volume-2 clause 24.13 'All items like excavation, PCC (1:2:4 and 1:4:8), brick work, plaster and stone pitching, RCC Hume pipes required for completion of drains and culverts shall be deemed to be included in the quoted rate of drain. But the Volume -3 Schedule 4 Part-C of civil works does not contain item of drain. Kindly clarify in which item of Bid Price Schedule this work is to be executed.	The detail design is in the scope of the successful bidder. Please quote the rate in Schedule 4: Part C: item no. 19
15	Volume-2	pg no 235 of 893	1.1.22.	All module shall be fixed type except air circuit breaker module, which shall be drawout type.	We have understood this clause is applicable for PMCC as well as AC & DC Distribution board also . Kindly confirm .	Shall be as per bid documents.
16	Volume-2	pg no 235 of 893	1.3.2	All busbars and jumper connections shall be of high conductivity aluminium/copper of adequate size	We propose that all busbars and jumper connections shall be of high conductivity aluminium of adequate size.	Shall be as per bid documents and further shall be discussed during detail design engineering.



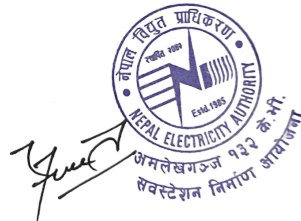
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17	Volume 2	17	13.1 C	Augmentation and integration work related to SCADA System :The 132/66/11kV bays under present scope at the substations shall be integrated by the contractor into existing SCADA system of Siemens "SINAUT Spectrum"(version 4.3.2) installed at Master Station i.e. Nepal Electricity Authority Load Dispatch Centre ( located in Siuchatar, Kathmandu). The integration shall include all hardware and software required at the Control Centre as well as necessary data base, display generation and upgrades for proposed control and monitoring of station and Network Analysis. The manufacturers of the existing SCADA system are:- LDC facilities: Siemens Germany .	SCADA System soft interface link(IEC101/104) for LDC will be provided at Local Switchyard control room. Networking and Integration to existing Third party Siemen's SCADA system at LDC,Kathmandu , to be excluded from bidder's scope. Kindly provide acceptance.	Shall be as per bid documents.
18	Volume 2	17	13.1 C	Integration of all 132/66/11 kV Bays under present scope with the SCADA of proposed Master Control Centre, Hetauda including supply of Hardware, Software, accessories etc. as per TS Section Project	SCADA System soft interface link(IEC101/104) for LDC will be provided at Local Switchyard control room. Networking and Integration to existing Third party Siemen's SCADA system at LDC,Kathmandu , to be excluded from bidder's scope. Kindly provide acceptance.	Shall be as per bid documents.
19	Volume-1 Section 3 - Evaluation and Qualification Criteria	34/204	1.3.7.d	Domestic Preference In the comparison of Bids, only the CIP price component of each Bid for the Plant and Equipment offered from outside the Employer's country shall be increased by 15%.	Since it is a global competitive tender and to provide equal opportunity to each bidder, we request Employer to remove the option of domestic preference.	Shall be as per bid documents.
20	Volume-1 Section 2 - Bid Data Sheet	28/204	ITB 7.4	Site Visit	Employer is requested to arrange/facilitate site visit around the Pre-bid meeting date i.e. either on 10 November 2022 or on 12th November 2022.	Already addressed.
21	Volume-1 Section 8 - Special Conditions of Contract	182/204	45	<b>Arbitration Place:</b> The place of arbitration shall be the place of the institution administering the arbitration.	Employer is requested to confirm the place of arbitration.	Shall be as per bid documents.
22	Volume-1 Section 8 - Special Conditions of Contract	181/204	26	<b>Completion Time Guarantee:</b> Applicable rate for liquidated damages - 0.05 % per day of delay	Kindly confirm that the LD with be applicable only on the delayed portion ?	Shall be as per bid documents.
23	Volume-1 Section 1 - Instructions to Bidders	16/204	21	Bid Security	As per tender requirement Bid Security is acceptable from a reputable source from an eligible country as described in Section-5 (Eligible Countries). As name of India is appearing in the list of Section-5 (Eligible countries). It means we can submit Original Paper Bank Guarantee issued by any reputable Indian bank/ Institution from India. Employer is requested to please confirm if our understanding is correct.	Confirm

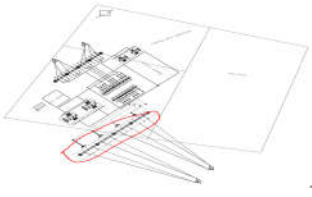


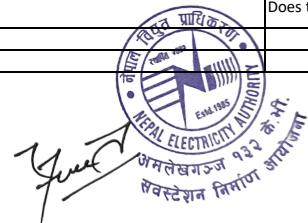
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24	Volume 1			GCC 10.2 The Employer shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, including all requisite rights of way, as specified in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement. The Employer shall give full possession of and accord all rights of access thereto on or before the date(s) specified in that Appendix.	Is land acquisition for the substation completed? If not, when will land acquisition be completed and what time will the Contractor possess the Site?	It is in final process and will be completed before the award of the contract.
25	Volume 1			CA 3.1 Effective Date (Reference GCC Clause 1) The Effective Date upon which the period until the Time for Completion of the Facilities shall be counted from is the date when all of the following conditions have been fulfilled: (a) This Contract Agreement has been duly executed for and on behalf of the Employer and the Contractor. (b) The Contractor has submitted to the Employer the performance security. (c) The Employer has paid the Contractor the advance payment provided the Contractor has submitted the advance payment guarantee. Each party shall use its best efforts to fulfill the above conditions for which it is responsible as soon as practicable.	The Bidder strongly suggests that the following condition shall be added: (d) The Contractor has been advised that the documentary credit referred to in Article 2.2 above has been issued in its favor.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
26	Volume 1&2			Scope of Work BoQ for 11kV VCB Switchgear	In the discription of Scope of Work, it's indicated that for MV Indoor Switchyard Panels, there are 8 numbers of 11kV line feeders, 2 number of incoming transformer bays, 2 numbers of station transformer bays, 1 bus coupler bay and 2 numbers bus PT. But in BoQ, There are 2 numbers of incomer, 8 numbers of outgoing feeders, 1 Buscoupler and 1 Trunking. Please kindly clarify the accurate numbers.	Please quote as per BPS and shall be discussed during DDE.
27	Volume 2 & Volume 3			Annexure-I and Price Schedules	We see the differences between Annexure-I of Volume 2 and Price Schedules of Volume 3(mandatory spares), please kindly clarifiy which should prevail.	Please quote as per BPS and shall be discussed during DDE.
28					The 132kV outgoing line lattice structure has exceeded the wall of the substation, please confirm whether the outgoing line is arranged according to this.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
29					The Bidder thinks that only 2 towers are not enough for LILO arrangement of 66kV line. Can we increase the quantity of towers in BoQ?	Please quote as per BPS and shall be discussed during DDE.
30					Does the tower of this project need load test? If so, are all types of towers required?	Towers shall be designed on reliability level 2 for all the LILo towers.



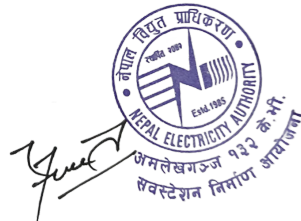
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31	Volume 2, Chapter 1			Annexure-I	According to the reference drawings provided in the bidding documents, the gantry and equipment of 132kV outgoing line has exceeded the existing wall fence. Please clarify and confirm whether the land outside the boundary is available. If the construction cannot be carried out outside the boundary, the scheme will not be able to implement.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
32	Volume 2, Chapter 1			Annexure-I	Considering the convenience of 132kV outgoing line, we suggest that the 132kV outgoing line should be changed from full overhead mode to cable-overhead mode, that is, after the cable is led out of the substation, it should be changed to overhead mode at the tower outside the substation. Please clarify whether the above scheme can be accepted.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
33	Volume 2 Chapter 17			8.0 POWER SUPPLY	All the substation automation device will get 220VDC or 230VAC UPS supply from the substation DC and UPS(5kVA) supply system. So the small 2kVA UPS for SAS will not be separated. Please confirm.	The detail design is in the scope of contractor and shall be discussed during DDE.
34	BOQ			K.1 Digital Protection Coupler 8 nos	We understand 4 nos are for 132kV Line, the other 4 are for 66kV Lines. Please confirm.	LILO towers for 132kV Lines is 2 Nos and for 66kV Lines is also 2 Nos.
35	BOQ			Relays	Whether the 132kV(66kV) line protection should be replaced in the opposite end substation? They are not included in this BOQ. Please clarify.	Existing 66 kV substation shall be dismantled after the construction of this new substation.
36	Volume 2, Chapter 14			Clause No.21.0	No.21.0 shows, The GIS building shall be of pre-engineered steel structure. Control room building, if attached to GIS hall, shall be of pre-engineered steel structure similar to GIS hall and shall be RCC framed structure, if it is not connected with GIS hall. But the appended drawings in Annexure-I shows, control room building is attached to GIS hall, GIS building is pre-engineered steel structure and control room building is RCC framed structure. Please confirm control room building is pre-engineered steel structure or RCC framed structure.	Control room shall be attached to GIS Hall or separate and shall be constructed as per bid document. Furthermore, this case shall be discussed during DDE.
37	General				We think that only 2 towers are not enough for LILO arrangement of 66kV line. Can we increase the quantity of towers in BoQ?	Please quote as per BPS and shall be discussed during DDE.
38	General				Does the transmission line tower of this project need load test? If so, are all types of towers required?	Towers shall be designed on reliability level 2 for all the LILO towers.
39	Volume 2 - Chapter 16 : PLCC			Specification of PLCC contains Wave Trap requirement.	As per our understanding digital type PLCC required only. Hence, no Wave Trap is required. Please confirm.	PLCC not required
40	Volume 2 - Chapter 23 : EHV Cable			66kV & 132kV Cable Technical Specifications are Missing.	Please provide 66kV & 132kV Cable Technical Specifications.	Please check the technical datasheet else quote the cable specifications as per latest IEC.
41	Volume 2 : GTP			GTP format is missing for PLCC & Telecommunication System.	Please provide the same.	PLCC not required.
42	Volume 2 : Drawing			Auxiliary System SLD (LT-SLD) is missing.	LT-SLD is required to make cost effective Auxiliary system. Please provide Auxiliary System SLD.	The detail design is in the scope of the successful bidder.
43	Volume 2 : Appendix - A			Bill of Quantities (BOQ) for Communication Equipment for Amlekhgunj 132/66 kV substation in Appendix - A of Volume 2 & BOQ of Volume 3 is not matching itemwise as well as quantitywise.	Please confirm on which BOQ bidder need to proceed further.	Please proceed as per BOQ and further Please visit the site for more details as the detail design is in the scope of the successful bidder.



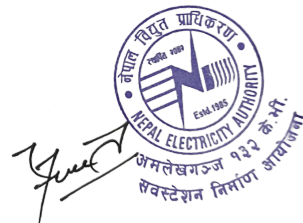
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44	Volume 2 : Annexure - 1			BOQ of Mandatory Spares marked in Annexure - 1 of Volume 2 for the below mention items are mismatching with Spare items of Volume 3 BOQ - i. 11kV Indoor VCB, ii. LT Transformer, iii. Fire Fighting, iv. PLCC and v. Control Relay Protection. vi. 145kV & 72.5kV CVT/PT	Please confirm on which BOQ bidder need to proceed further.	Please quote as per BPS.
45	Section 6, Chapter 1 - Project Specific Requirements (PSR) Clause No. : 4.1			SF6 to Air Bushing terminations/ Cable Sealing End requirement	In line to the requirement mentioned in Schedule 1 Layout received, we understand the following - in 145 kV - 4 Nos. of GIS Exit Bays are with SF6 to Air Bushing terminations and remaining 2 Nos. of GIS Bays are with SF6 to Cable terminations in 72.5 kV - All 10 Nos. of GIS Exit Bays are with SF6 to Cable termination exits.  Please confirm our understanding	For Spare Bays, no terminations required for 132 kV and 66 kV bays
46	Section 6, Chapter 1 - Project Specific Requirements (PSR) Clause No. : 4.1 H			Surge Arrestors and Bus post insulators as required shall be part of the GIS	We request to clarify the type of Surge Arrestor to be considered .i.e. GIS type of AIS type for each Line feeder bay in 145 kV and 72,5 kV system	Surge Arrestor shall be AIS type.
47	Section 6, Chapter 1 - Project Specific Requirements (PSR) Clause No. : 4.1.B.b			Three (3) nos. of 1-phase/one (1) number of 3 phase as applicable, 5-core, multi ratio, current transformers duly distributed on both side of Circuit Breaker.	We understand that all the 5 CT cores on the exit side of GIS Circuit breaker are also acceptable as the is common and widely accepted practice by all the utilities.	Please proceed as per bid documents.
48	Section 6, Chapter 1 - Project Specific Requirements (PSR) Clause No. : 4.1.G.a			A tentative layout / GA drawing of the switchyard is enclosed with this specification for 132/66/11kV Substation. The GIB duct length shall be optimized further without affecting the switchyard arrangement and bay orientation and also any of the functional requirements specified.	We understand that the Bus duct mentioned in the BOQ is tentative and the bidder can optimize the same. Please re-confirm our understanding and arrange to share the Autocad layout to work out on the bus duct routing.	Please proceed as per BOQ and further Please visit the site for more details as the detail design is in the scope of the successful contractor.
49	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 3.9			These compartments shall be such that maintenance on one feeder may be performed without de-energising the adjacent feeders	We confirm to meet the service continuity requirement during maintenance. However, in case of replacement/repair which requires removal of bus bar disconnector earthing switch module, we request for momentary shutdown of the adjacent bays considering the IEC Guidelines and safety requirement. Hope the same is acceptable	Shall be as per Bid documents.
50	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 3.11			Due to safety requirement for working on this pressurized equipment, whenever the pressure of the adjacent gas compartment is reduced during maintenance, this compartment shall be designed so that it shall remain in service to perform its intended duty.	Considering the IEC Guidelines and safety requirement, while working on the GIS equipment, whenever the pressure of a particular gas compartment is reduced during maintenance, the adjacent compartment cannot remain in service. We recommend to amend the subject clause	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



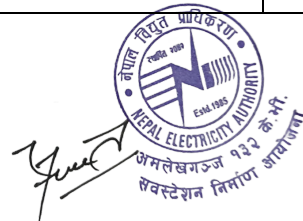
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51	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 3.11			The bus enclosure should be sectionalized in a manner that maintenance work on any bus disconnector (when bus and bus disconnector are enclosed in a single enclosure) can be carried out by isolating and evacuating the small effected section and not the entire bus.. The design of 132/66 kV GIS shall be such that in case a circuit breaker module of a feeder is removed for maintenance, both busbars shall remain in service.  Typical drawings indicating gas tight compartments are enclosed at Annexure-A.	Annexure A is not available in the Tender documents. We request to please issue the same	Annexure A refers to list of drawings which are for tender purpose only.  The detail design is in the scope of successful bidder.
52	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 4.1			The circuit breakers shall be designed for high speed single and three phase reclosing with an operating sequence and timing as specified.	Offered circuit breaker shall have 3-ph enclosure design with common drive mechanism for all three phases which shall be suitable for high speed three phase reclosing only. Kindly confirm	Shall be as per bid documents. Since, the detail design is in the scope of the successful contractor, it shall be further disussed during DDE.
53	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 4.5.4			The gap between the open contacts shall be such that it can withstand at least the rated phase to ground voltage for eight hours at zero pressure above atmospheric level of SF6 gas due to its leakage.	We wish to inform that the requirement is not as per IEC. Our offered GIS is fully type tested as per IEC 62271-203 requirement. Further incase of leakage of the SF6 gas, the suitable alarm/or trip shall be initiated by means of density monitor output to protection relays. We hope our understanding is aligned to spec. requirement	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
54	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 4.5.7			Circuit Breaker shall be supplied with auxiliary switch having additional 8 NO (normally open) and 8 NC (normally closed) contacts for future use over and above those required for switchgear interlocking and other control and protection function	Number of auxiliary contacts shall be as per OEM type tested design. Additional contacts shall be provided by means of contact multiplier relay, if required during execution. Hope the same shall be acceptable	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
55	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 4.6 (3)-c			After failure of power supply to the motor one close open operation shall be possible with the energy contained in the operating mechanism	We wish to inform that the offered hybrid drive mechanism (wherein energy stored by means of spring and transferred by hydraulic mechanism) shall have sufficient energy to perform one O-C-O operation even after failure of aux supply with spring charge. Hence requirement of manual charging is not applicable.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
56	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 4.6 (3)-d			Facility for manual charging of the closing spring shall also be provided		As per Bid documents
57	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 5.2.(6)			The local operation shall be by means of a two-position control switch located in the Local Control Cabinet (LCC).	In line to our standard offering and practice, HV device (CB/DS/ES etc.) local operation shall be done by means of push button type arrangement provided in LCC. We hope the same is acceptable.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



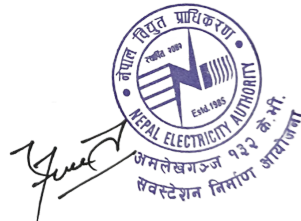
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58	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 8.2			The earth end of the high voltage winding and the ends of the secondary winding shall be brought out in the terminal box.	In line to our standard offering and practice, Earth end of the high voltage winding of voltage transformer shall be earthed within the enclosure itself as per type tested design. We hope the same is acceptable.	It shall be acceptable if there is no change in performance and shall be discussed during DDE.
59	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear Clause No. : 8.2.5.d			Voltage transformers secondary shall be protected by Miniature Circuit breakers (MCBs) with monitoring contacts for all the windings	In line to our standard offering, MCB for the secondary protection of the VT shall be placed in the LCC. Hope the same is acceptable	Acceptable
60	Section 6, Chapter 1 - Project Specific Requirements (PSR)	7 of 890	4.1	SF6 to Air Bushing terminations/ Cable Sealing End requirement	In line to the requirement mentioned in Schedule 1 Layout received, we understand the following - in 145 kV - 4 Nos. of GIS Exit Bays are with SF6 to Air Bushing terminations and remaining 2 Nos. of GIS Bays are with SF6 to Cable terminations in 72.5 kV - All 10 Nos. of GIS Exit Bays are with SF6 to Cable termination exits.  Please confirm our understanding	For Spare Bays, no terminations required for 132 kV and 66 kV bays
61	Section 6, Chapter 1 - Project Specific Requirements (PSR)	10 of 890	4.1 H	Surge Arrestors and Bus post insulators as required shall be part of the GIS	We request to clarify the type of Surge Arrestor to be considered .i.e. GIS type of AIS type for each Line feeder bay in 145 kV and 72,5 kV system	AIS type
62	Section 6, Chapter 1 - Project Specific Requirements (PSR)	8 of 890	4.1.B.b	Three (3) nos. of 1-phase/one (1) number of 3 phase as applicable, 5-core, multi ratio, current transformers duly distributed on both side of Circuit Breaker.	We understand that all the 5 CT cores on the exit side of GIS Circuit breaker are also acceptable as the is common and widely accepted practice by all the utilities.	Please proceed as per bid documents.
63	Section 6, Chapter 1 - Project Specific Requirements (PSR)	9 of 890	4.1.G.a	A tentative layout / GA drawing of the switchyard is enclosed with this specification for 132/66/11kV Substation. The GIB duct length shall be optimized further without affecting the switchyard arrangement and bay orientation and also any of the functional requirements specified.	We understand that the Bus duct mentioned in the BOQ is tentative and the bidder can optimize the same. Please re-confirm our understanding and arrange to share the Autocad layout to work out on the bus duct routing.	Please proceed as per BOQ and further Please visit the site for more details as the detail design is in the scope of the successful contractor.
64	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	708 of 890	3.9	These compartments shall be such that maintenance on one feeder may be performed without de-energising the adjacent feeders	We confirm to meet the service continuity requirement during maintenance. However, in case of replacement/repair which requires removal of bus bar disconnector earthing switch module, we request for momentary shutdown of the adjacent bays considering the IEC Guidelines and safety requirement. Hope the same is acceptable	Shall be as per Bid documents.
65	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	708 of 890	3.11	Due to safety requirement for working on this pressurized equipment, whenever the pressure of the adjacent gas compartment is reduced during maintenance, this compartment shall be designed so that it shall remain in service to perform its intended duty.	Considering the IEC Guidelines and safety requirement, while working on the GIS equipment, whenever the pressure of a particular gas compartment is reduced during maintenance, the adjacent compartment cannot remain in service. We recommend to amend the subject clause	Shall be as per Bid documents.





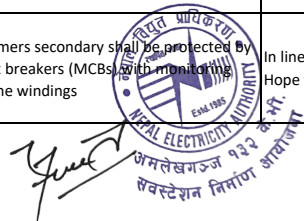
## NEPAL ELECTRICITY AUTHORITY

## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

## CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
	Volume/Section	Page No.	Clause No.	Subject/Description		
66	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	708 of 890	3.11	The bus enclosure should be sectionalized in a manner that maintenance work on any bus disconnecter (when bus and bus disconnecter are enclosed in a single enclosure) can be carried out by isolating and evacuating the small effected section and not the entire bus.. The design of 132/66 kV GIS shall be such that in case a circuit breaker module of a feeder is removed for maintenance, both busbars shall remain in service.  Typical drawings indicating gas tight compartments are enclosed at Annexure-A.	Annexure A is not available in the Tender documents. We request to please issue the same	Annexure A refers to list of drawings which are for tender purpose only.  The detail design is in the scope of successful bidder.
67	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	716 of 890	4.1	The circuit breakers shall be designed for high speed single and three phase reclosing with an operating sequence and timing as specified.	Offered circuit breaker shall have 3-ph enclosure design with common drive mechanism for all three phases which shall be suitable for high speed three phase reclosing only. Kindly confirm	Shall be discussed during DDE
68	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	717 of 890	4.5.4	The gap between the open contacts shall be such that it can withstand at least the rated phase to ground voltage for eight hours at zero pressure above atmospheric level of SF6 gas due to its leakage.	We wish to inform that the requirement is not as per IEC. Our offered GIS is fully type tested as per IEC 62271-203 requirement. Further incase of leakage of the SF6 gas, the suitable alarm/or trip shall be initiated by means of density monitor output to protection relays. We hope our understanding is aligned to spec. requirement	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
69	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	718 of 890	4.5.7	Circuit Breaker shall be supplied with auxiliary switch having additional 8 NO (normally open) and 8 NC (normally closed) contacts for future use over and above those required for switchgear interlocking and other control and protection function	Number of auxiliary contacts shall be as per OEM type tested design. Additional contacts shall be provided by means of contact multiplier relay, if required during execution. Hope the same shall be acceptable	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
70	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	718 of 890	4.6 (3)-c	After failure of power supply to the motor one close open operation shall be possible with the energy contained in the operating mechanism	We wish to inform that the offered hybrid drive mechanism (wherein energy stored by means of spring and transferred by hydraulic mechanism) shall have sufficient energy to perform one O-C-O operation even after failure of aux supply with spring charge. Hence requirement of manual charging is not applicable.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
71	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	718 of 890	4.6 (3)-d	Facility for manual charging of the closing spring shall also be provided		As per Bid Documents.
72	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	721 of 890	5.2.(6)	The local operation shall be by means of a two-position control switch located in the Local Control Cabinet (LCC).	In line to our standard offering and practice, HV device (CB/DS/ES etc.) local operation shall be done by means of push button type arrangement provided in LCC. We hope the same is acceptable.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
73	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	725 of 890	8.2	The earth end of the high voltage winding and the ends of the secondary winding shall be brought out in the terminal box.	In line to our standard offering and practice, Earth end of the high voltage winding of voltage transformer shall be earthed within the enclosure itself as per type tested design. We hope the same is acceptable.	It shall be acceptable if there is no change in performance and shall be discussed during DDE.
74	Section 6, Chapter 1 - Project Specific Requirements (PSR); Section - Gas Insulated Switchgear	725 of 890	8.2.5.d	Voltage transformers secondary shall be protected by Miniature Circuit breakers (MCBs) with monitoring contacts for all the windings	In line to our standard offering, MCB for the secondary protection of the VT shall be placed in the LCC. Hope the same is acceptable	Acceptable



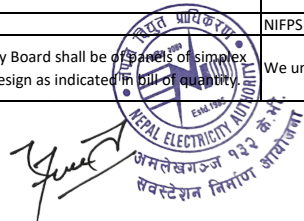
## NEPAL ELECTRICITY AUTHORITY

## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

## CLARIFICATION-1

SN	Reference of bidding document			Bidder's Query	NEA Reply	
	Volume/Section	Page No.	Clause No.			Subject/Description
75	CHAPTER 1-Project Specification Requirement	5 of 890	2	two sets of 132/66 kV, 100 MVA 3- phase transformers, (along with installation of two sets 66/11 kV, 10 MVA 3- phase transformers supplied from NEA)	As per the mentioned clause, we understand that tertiary 11kV is not applicable for 100MVA power transformer, hence transformer rating will be 100MVA 132/66kV only. Wherever tertiary mentioned in specification/SLD/Data sheets are not to be considered. Kindly confirm our understanding is correct.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
76	CHAPTER 1-Project Specification Requirement	14 of 890	5	e) Seismic Requirement for Substations equipment: 0.5g (Horizontal peak acceleration value). Seismic Requirement for Substations civil structure: Minimum value of 0.36g (Horizontal peak acceleration value). The contractor shall provide the justification for use of above value during DDE.	Kindly confirm Seismic requirement for transformer 0.5g or 0.36g.	0.5 g
77	Section 6: Employer's Requirements/(GTR) - Transformer & Reactor	789 of 890	3.5.1.2	52 kV and above Hermetically sealed Oil filled condenser type/ RIP bushing with porcelain or composite insulator	We are considering Oil-Air OIP type porcelain bushings for both HV(145kV) and LV(72.5kV) side and Neutral will be 36kV Solid porcelain/ Oil communicating type bushing Kindly confirm.	The detail design is in the scope of successful bidder and further shall be discussed during DDE.
78	Section 6: Employer's Requirements/(GTR) - Transformer & Reactor	805 of 90	5.2.3	Type Tests on fittings: Bushing (Type Test as per IEC: 60137, including snap back/seismic test)	Snap back/Seismic test report will be provided for 400kV and above voltage class bushings. For 145kV and 72.5kV class bushings test reports other than snap back/seismic tests will be provided Kindly confirm.	Shall submit as per the bid document.
79	Section 6: Employer's Requirements/(GTR) - Transformer & Reactor	810 of 890	6.0 Technical Parameters	Percent impedance voltage at rated MVA and 75deg C mentioned as 12.5% (percentage impedance shall match with that of existing transformer for Parallel Operation)	Kindly provide existing transformer details like rating plate and impedance values at rated and extreme taps for consideration.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
80	Section 6: Employer's Requirements/(GTR) - Transformer & Reactor	810 of 890	6.0 Technical Parameters	Preferred losses are NLL = 45 KW (MAX), LL = 280 KW (Max) and Aux Loss = 3 Kw	Kindly confirm the losses are fixed or capitalization is applicable as mentioned in appendix 8_Functional guarantees document for evaluation.	As per Appendix-8
81	Power transformer GTP	1	10.2	Hotspot rise in winding mentioned 55deg C	The mentioned Hotspot rise 55deg C is very less and same as winding rise mentioned, hot spot rise will be 66deg C as per standards. Kindly confirm.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
82	Power transformer GTP	1	10.3	Temperature Indicators and accessories and fittings make	Transformer Fittings and accessories make shall be as per Hitachi Approved vendor list Kindly confirm.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
83	General	-	-	Bushings and terminations	We have considered Termination for HV and LV side OIL-AIR Bushings- Please confirm	Shall be decided during DDE
84	Manufacturer QR			Must submit the type test report carried out by reputed independent testing laboratory for the identical item in the same rating and construction.	We propose to perform type test on identical item in the same rating and construction at our own test laboratory in presence of reputed independent testing laboratory representative. Please accept.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
85	Manufacturer QR			Must have successfully carried out the complete type test including Dynamic Short Circuit (DSC) test as per IEC over last 7 years period as on the originally scheduled date of bid opening in Reputed Independent Testing Laboratory on : - 132 kV voltage class, three phase 100 MVA transformer or higher voltage level or higher rating transformer	Dynamic Short Circuit Test, if manufacturer prove DSC Similarity as per IEC 60076 Part - 5 for offered Transformer with DSC tested transformer, we will not perform DSC Test. Please accept. For Complete Type Test, We propose to perform type test on identical item in the same rating and construction at our own test laboratory in presence of reputed independent testing laboratory representative. Please accept.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
86	General	-	-	Transportation	Is their any Transformer overall Dimension limitations & Transport Dimensions or transport weight limitations ? If yes please specify	Please visit the site for more details as the detail design is in the scope of the successful contractor.
87	General	-	-	NIFPS system	NIFPS system not in our scope of supply, kindly confirm.	Confirm
88	Chapter 15: Control, Relay & Protection Panels	Page 531 of 890	2.1	Control and Relay Board shall be of panels of simplex or duplex type design as indicated in bill of quantity.	We understand that Simplex type Panels to be offered in the present scope. Please confirm.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



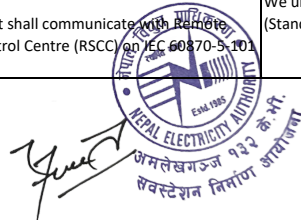
## NEPAL ELECTRICITY AUTHORITY

## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

## CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
	Volume/Section	Page No.	Clause No.	Subject/Description		
89	Chapter 15: Control, Relay & Protection Panels	Page 562 of 890	33	CONTROL PANEL	For Substations with Automation System, control and monitoring at bay level will be part of Local HMI of respective Bay Control Unit. Hence, conventional type control panels are not applicable. Please confirm.	Confirm
90	Chapter 15: Control, Relay & Protection Panels	Page 564 of 890	33	LINE PROTECTION PANEL (132kV) 9. Cut-out and wiring with TTB for the energy meter: 1 Set	We understand that supply of Energy Meters are in the present scope. Please confirm.	Confirm
91	Chapter 15: Control, Relay & Protection Panels	Page 564 of 890	33	LINE PROTECTION PANEL (132kV) 10. Directional Back up Over current and E/F protection scheme: 1 Set	We understand that Numerical over current and earth fault protection as in-built function of Bay control unit will also be acceptable. Please confirm.	Shall be discussed during DDE
92	Chapter 15: Control, Relay & Protection Panels	Page 564 of 890	33	In a substation where 66 KV lines are under the scope of the contract, bidder is required to give the protection scheme as per latest IEC.	We understand that as specified in BOQ Price Schedule, 66kV Lines should be offered with Main Distance Protection and Backup overcurrent & earth fault protection. Please confirm.	Confirm
93	Chapter 15: Control, Relay & Protection Panels	Page 565 of 890	33	a) BUSCOUPLER PANEL 2. Numerical Non Directional Over Current and Earth Fault Relay 1No.with High Set Feature and in built LBB protection( LBB function as part of BCU is acceptable) : 1 No.	We understand that Numerical over current and earth fault protection as in-built function of Bay control unit will also be acceptable. Please confirm.	Shall be discussed during DDE
94	Chapter 15: Control, Relay & Protection Panels	Page 567 of 890	33	e) TRANSFORMER PROTECTION PANEL (132/66kV) 8. Cut-out and wiring with TTB for energy meter: 1 Set for HV and 1 Set for MV	We understand that supply of Energy Meters are in the present scope. Please confirm.	Confirm
95	Chapter 15: Control, Relay & Protection Panels	Page 567 of 890	33	e) TRANSFORMER PROTECTION PANEL (132/66kV) 8. Cut-out and wiring with TTB for energy meter: 1 Set for HV and 1 Set for MV	Kindly clarify whether Energy Meters to be considered for both HV (132kV) & MV side (66kV) or only for HV side (132kV)	Please proceed as per bid documents.
96	Chapter 15: Control, Relay & Protection Panels	-	-	Energy Meter for 66/11kV Transformer	We understand that Energy Meter is required only for HV side (66kV) and not required for LV side (11kV). Please confirm.	Please proceed as per bid documents.
97	Chapter 17: Substation Automation System	Page 610 of 890	3.3.4	Communication Protocol The communication protocol for gateway to control centre must be open protocol and shall support IEC 60870-5-101 and IEC 61850 for all levels of communication for sub-station automation such as Bay to station HMI, gateway to remote station etc..	We understand that IEC 60870-5-104 protocol as per new LDC system requirement. Please confirm.	Confirm
98	Chapter 17: Substation Automation System	Page 612 of 890	4.1.5	Switched Ethernet Communication Infrastructure: The bidder shall provide the redundant switched optical Ethernet communication infrastructure for SAS. One switch shall be provided to connect all IEDs for two bays of 132kV yard to communication infrastructure. Each switch shall have at least two spare ports for connecting bay level IEDs and one spare port for connecting station bus.	There is no guideline specified for estimation of bay level Ethernet Switches for 66kV and 11kV Bays. We propose as below. Please confirm. One switch shall be provided to connect all IEDs for every three bays of 66kV and total two Ethernet switches for all the bays of 11kV to communication infrastructure.	Please proceed as per bid documents.
99	Chapter 17: Substation Automation System	Page 630 of 890	-	TYPICAL ARCHITECTURAL DRAWING OF SUBSTATION AUTOMATION SYSTEM Note: 3. For gateway, it shall communicate with Remote Supervisory Control Centre (RSCC) on IEC 60870-5-101 protocol.	We understand that Gateway 1 and Gateway 2 as in-built function of Server 1 (Hot) and Server 2 (Standby) will also be acceptable. Please confirm.	Please proceed as per bid documents.



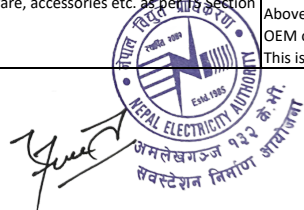
## NEPAL ELECTRICITY AUTHORITY

## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

## CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
	Volume/Section	Page No.	Clause No.	Subject/Description		
100	Chapter 1: Project Specification Requirement	Page 10 of 890	4.2	e. ...The protection to be provided on 132 kV and 66kV lines shall be as under; Main-I Protection shall be differential/distance protection scheme as per specification of section control and Relay panels compatible with protection system installed at relevant substations. Backup Protection be Directional Overcurrent / Earth Fault based protection system.	We understand that as per Chapter 15, 132kV & 66kV Lines shall be offered with distance protection. Line differential protection is not applicable for the present scope. Please confirm.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
101	Chapter 1: Project Specification Requirement	Page 17 of 890	13.1	c. Augmentation and integration work related to SCADA System The 132/66/11kV bays under present scope at the substations shall be integrated by the contractor into existing SCADA system of Siemens 'SINAUT Spectrum'(version 4.3.2) installed at Master Station i.e. Nepal Electricity Authority Load Dispatch Centre (located in Siuchatar, Kathmandu). The integration shall include all hardware and software required at the Control Centre as well as necessary data base, display generation and upgrades for proposed control and monitoring of station and Network Analysis. The manufacturers of the existing SCADA system are:- LDC facilities: Siemens Germany	We request NEA to limit the scope of bidder in the present scope to providing necessary technical support for point to point testing with LDC at Gateways part of Substation End only. Any modification / integration works at LDC should be carried out by either NEA or to be taken up with existing OEM separately by NEA.  Above request is to ensure that all Bidders are on par and there is no undue advantage to existing OEM on account of this scope which is Proprietary in nature. This is also the standard practice followed by all major utilities globally.	Please proceed as per bid documents.
102	BOQ Price Schedule	Page 2 of 32	1.2	132kV Line Control Panel and relay panel with directional overcurrent and earth fault relay for spare bay	We understand that for Spare line bay, line distance / differential protection is not required. Only directional over current and earth fault protection to be considered. Please confirm.	Confirm
103	BOQ Price Schedule	Page 2 of 32	1.2	132kV Line Control Panel and relay panel with directional overcurrent and earth fault relay for spare bay	We propose to offer directional overcurrent and earth fault protection as in-built function of Bay Control Unit. Please confirm.	Shall be discussed during DDE
104	BOQ Price Schedule	Page 2 of 32	2.2	66kV Line Control Panel and relay panel with directional overcurrent and earth fault relay for spare bay	We understand that for Spare line bay, line distance / differential protection is not required. Only directional over current and earth fault protection to be considered. Please confirm.	Confirm
105	BOQ Price Schedule	Page 2 of 32	2.2	66kV Line Control Panel and relay panel with directional overcurrent and earth fault relay for spare bay	We propose to offer directional overcurrent and earth fault protection as in-built function of Bay Control Unit. Please confirm.	Shall be discussed during DDE
106	BOQ Price Schedule	Page 3 of 32	3.1	C/R Panel for Station Transformer	We do not recommend Separate C/R Panel for Station Transformer. We propose to consider the control & protection of Station Transformer as built in function of Station Auxiliary BCU. Please confirm.	Please quote as per BPS and shall be discussed during DDE
107	BOQ Price Schedule	Page 7 of 32	1.0	Integration of all 132/66 kV Bays under present scope with the SCADA of SIEMENS (SINAUT Spectrum) at Load Dispatch Centre, Kathmandu including supply of Hardware, Software, accessories etc. as per Section Project.	We request NEA to limit the scope of bidder in the present scope to providing necessary technical support for point to point testing with LDC at Gateways part of Substation End only. Any modification / integration works at LDC should be carried out by either NEA or to be taken up with existing OEM separately by NEA.  Above request is to ensure that all Bidders are on par and there is no undue advantage to existing OEM on account of this scope which is Proprietary in nature. This is also the standard practice followed by all major utilities globally.	Please proceed as per bid documents.



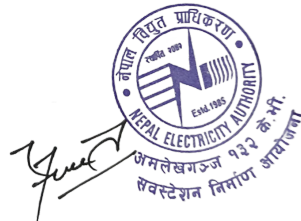
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	Volume/Section	Page No.	Clause No.	Subject/Description		
108	BOQ Price Schedule	Page 7 of 32	2.0	Integration of all 132/66 kV Bays under present scope with the SCADA at proposed Master Control Centre (MCC), Hetauda including supply of Hardware, Software, accessories etc. as per TS Section Project.	Please provide us the details of existing Master Control Centre (MCC).	Master Control Centre (MCC) is under the Grid Substation Automation Project Phase II and are in the final stage of award of contract.
109	BOQ Price Schedule	Page 7 of 32	2.0	Integration of all 132/66 kV Bays under present scope with the SCADA at proposed Master Control Centre (MCC), Hetauda including supply of Hardware, Software, accessories etc. as per TS Section Project.	We request NEA to limit the scope of bidder in the present scope to providing necessary technical support for point to point testing with MCC at Gateways part of Substation End only. Any modification / integration works at MCC should be carried out by either NEA or to be taken up with existing OEM separately by NEA.  Above request is to ensure that all Bidders are on par and there is no undue advantage to existing OEM on account of this scope which is Proprietary in nature.  This is also the standard practice followed by all major utilities globally.	Please proceed as per bid documents.
110	BOQ Price Schedule	Page 11 of 32	6.3.1	COMMON SPARES Power supply module for Bus Bar protection.	Since Power supply module are internal part of Numerical Bus Bar Protection relays, it is not possible to offer separately under spares.	Please quote as per BPS and shall be discussed during DDE
111	BOQ Price Schedule	Page 11 of 32	6.3.2	COMMON SPARES Bay unit module	We understand that Bay Unit module is not applicable, incase of Centralized type Busbar Protection. Please confirm.	Please quote as per BPS and shall be discussed during DDE
112	BOQ Price Schedule	Page 11 of 32	6.4.1	Breaker failure relay	We understand that Breaker failure relay is not applicable, if offered as in-built function of busbar protection relay as per specification clause 26.3. Please confirm.	Please quote as per BPS and shall be discussed during DDE
113	BOQ, Digital Protection Coupler	1	S.no-1	Digital teleprotection coupler	As per BOQ, quantity of Digital protection coupler is 8nos. We request you to confirm us station wise segregation of 8nos of Digital protection coupler.	Please quote as per BPS and shall be discussed during DDE
114	BOQ, Telecommunication equipment	1	S.no-2	Telecommunication Equipments	As per BOQ we understand that offered SDH equipment need to integrate with existing SDH equipments at Kamane 132kV, Pathalaiya 132 kV, Hetauda 66kV, Simara 66kV Substations.  We request you to confirm below:- 1. Make & model of existng FOTE equipment. 2. Optical link distance of all remote station from local end. 3. Network architecture.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
115	GCC	114	9.1	When completed, the Facilities should be fit for the purposes for which they are intended as defined in the Contract.	Please confirm the below modification: When completed, the Facilities should be as per Employer's Sepcifications fit for the purposes for which they are intended as defined in the Contract.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
116	GCC	119	16.5	The provisions of this GC Clause 16 shall survive termination, for whatever reason, of the Contract.	The provisions of this GC Clause 16 shall survive 3 years from termination, for whatever reason, of the Contract.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
117	GCC	140	27.8	If the Facilities or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the Employer because of any of the aforesaid reasons.	Kindly confirm that the overall Defect Liability Period including replaced or repaired equipment will not exceed 24 months (Sun-Set Date) from the date of actual date of commencement of original DLP.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



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## CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
	Volume/Section	Page No.	Clause No.	Subject/Description		
118	GCC	140	27.9	Except as provided in GCC Clauses 27 and 33, the Contractor shall be under no liability whatsoever and howsoever arising, and whether under the Contract or at law, in respect of defects in the Facilities or any part thereof, the Plant, design, or engineering, or work executed that appear after Completion of the Facilities or any part thereof, except where such defects are the result of the gross negligence, fraud, criminal, or willful action of the Contractor.	Contractor shall have no liability whatsoever after completion of Defect liability Period.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
119	GCC read with SCC	181	27.1.0	The critical components covered under the extended defect liability are Gas Insulated Switchgear (GIS), Power Transformers, Substation Automation System (SAS) and the period shall be 3(three) years.	Kindly confirm the same DLP as per clause 27.2 of GCC for critical components as well	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
120	GCC	140	28	The Contractor guarantees that during the Guarantee Test, the Facilities and all parts thereof shall attain the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement, subject to, and upon the conditions therein specified	LD percentages for Failure to Attain Functional Guarantees to be specified.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
121	GCC	141	29.1	The Contractor shall, subject to the Employer's compliance with GCC Subclause 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 Contractor shall not indemnify against the claims of Intellectual Property as regards the sale of the products produced by the Facilities in any country. The same is not owned by the Contractor and therefore cannot be held accountable for the said intellectual property.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
122	GCC read with SCC	181	31.5 and 32.1	31.5 In the 4th line, replace "Completion of the Facilities" by "Operational Acceptance of the Facilities". 32.1 Replace all "Completion" by "Operational Acceptance".	Pursuant to clause 24.6, the Facilities or that part thereof shall be deemed to have reached Completion as of the date of the Contractor's notice or repeated notice, or as of the Employer's use of the Facilities, as the case may be. Therefore, Transfer of Ownership in the event of Deemed Completion should also occur upon Completion of Facilities. Kindly Confirm	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
123	GCC	148	37	Request to Add a Clause	Add: The Parties are aware of the outbreak of a Coronavirus (commonly known as COVID-19) or any mutation of such virus which is or may impact normal business and execution of this Contract. The Parties agree that Contractor is entitled to cost compensation, time extension, or other reasonably required contract adjustments, if any consequences whether directly or indirectly resulting out of, or in connection with the coronavirus outbreak, lead to delays in delivery of goods or provision of services or otherwise affect Contractor's contractual obligations or duties.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



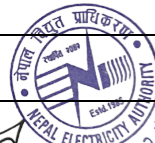
## NEPAL ELECTRICITY AUTHORITY

## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

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124	GCC	154	40.2	Except where otherwise specifically provided in the Contract, the Contractor shall submit to the Project Manager a notice of a claim for an extension of the Time for Completion, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Employer and the Contractor shall agree upon the period of such extension. In the event that the Contractor does not accept the Employer's estimate of a fair and reasonable time extension, the Contractor shall be entitled to refer the matter to a Dispute Board, pursuant to GCC Subclause 46.1	Please confirm the timeline (no. of days) within which the approval for submitted time extension will be accorded by the Employer after a detailed submission by the Contract.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
125	Contract Agreement	187	3	Effective Date (Reference GCC Clause 1) The Effective Date upon which the period until the Time for Completion of the Facilities shall be counted from is the date when all of the following conditions have been fulfilled: (a) This Contract Agreement has been duly executed for and on behalf of the Employer and the Contractor. (b) The Contractor has submitted to the Employer the performance security. (c) The Employer has paid the Contractor the advance payment provided the Contractor has submitted the advance payment guarantee.	Please add the below additional conditions for Effective Date (d) The Contractor has been advised that the documentary credit referred to in Article 2.2 above has been issued in its favor. (3) The Employer handed over clear sites including necessary permits.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
126				Request to Add a Clause	Please add the Below: Electronic Component Shortage: For the purpose hereof, (i) "Event" means the current military invasion from Russia in the Ukraine and any other or further military conflict which may arise in connection therewith or as a result thereof and any economic and other sanctions imposed by, amongst others, EU and USA against Russia and Belarus in connection with the Russia/Ukraine conflict. This can lead not exclusively to price increases, transportation and logistics constraints, shortages /prices increase in the procurement of products and commodities (e.g. copper, aluminium, steel, oil and gas); (ii) "Electronic Component Shortage" means the continuing global shortage of microchips, including but not limited to Field Programmable Gate Array, known as FPGA and the component called Spartan 6 among others, or apparatus or components which include microchips. The Parties acknowledge that the consequences of the Event and/or the Electronic Component Shortage is affecting or may have an adverse impact on the Contractor's ability to perform its Contract. If consequences of the Coronavirus, the Event and/or the Electronic Component Shortage continue affecting, will or may have an adverse impact on the Contractor's ability to perform the Contract in accordance with its terms, the Parties shall, if so requested in writing by the Contractor, negotiate in good faith and agree without delay reasonable amendments to the terms and conditions of the Contract, including, but not limited to, revisions of the Time Schedule and/or any increase in the Contract Price	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
127	SCC - 14.5 - 2 - G	178	14.5 (2 - g)		Under this clause, the Rate of Advance Income Tax what the employer will deduct from the Invoices of Contractor has not been mentioned. Kindly clarify the Rate of AIT which will be applicable for this Contract.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



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## NEPAL ELECTRICITY AUTHORITY

## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

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128	SCC - 14.5 - 2 - G	178	14.5 (2 - g)		In case the Advance Income Tax rate is revised Upward, the contractor will be compensated as per the tender GCC clause 14.4.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
129	General				It is indicated that the entire price schedule shall be quoted on USD. Please confirm the Contract will be divisible (Supply+ Civil+ Erection) OR a Single Contract. Please confirm the Civil & erection Contract will be awarded in Nepalese Rupees (NPR) and the Offshore supply in USD or three freely convertible foreign currencies. Please confirm.	Please proceed as per Bid Data Sheet
130	General				Kindly clarify whether Nepal Income Tax is deductible on Export Sales Invoices of all imported material and equipment, supplied by Bidders.	Shall be as per rules of Government of Nepal
131	GCC	Pg.No.7	Clause 14.2	Notwithstanding GCC Subclause 14.1 above, the Employer shall bear and promptly pay all customs and import duties as well as other local taxes like, e.g., a value-added tax (VAT), imposed by the law of the country where the Site is located on the Plant specified in Price Schedule No. 1 and that are to be incorporated into the Facilities.	Kindly clarify whether Bidder to pay Nepal Customs duty for Offshore Material & Equipment for the project even when we are an Exporter.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
132	GCC	7-41	34.1	To the extent specified in the Appendix (Insurance Requirements) to the Contract Agreement, the Contractor shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified in the said Appendix. The identity of the insurers and the form of the policies shall be subject to the approval of the Employer, who should not unreasonably withhold such approval.	Please note that "approval of insurer", "form of policies" from Employer will not be accepted. We will arrange policy from the Nepal insurer who are the partner of our group insurance program. Kindly accept the same.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
133	GCC	7-41	34.1	(c) Third Party Liability Insurance Covering bodily injury or death suffered by third parties including the Employer's personnel, and loss of or damage to property occurring in connection with the supply and installation of the Facilities.	Please note that Third Party Liability will be part of the Erection All Risk policy for the limits mentioned in appendix below.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
134	GCC	7-42	34.1	(f) Employer's Liability In accordance with the statutory requirements applicable in any country where the Contract or any part thereof is executed.	We request you to delete this clause, as employers liability is covered under workers compensation in Nepal	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
135	GCC	7-42	34.2	The Employer shall be named as co-insured under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1, except for the Third Party Liability, Workers' Compensation, and Employer's Liability Insurances, and the Contractor's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1 except for the Cargo Insurance During Transport, Workers' Compensation, and Employer's Liability Insurances. All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies.	We request you to remove the co-insured condition from this clause. Principal details (NEA) will be mentioend in the policy.  Further we request you to remove this sentence from the clause "All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies."	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



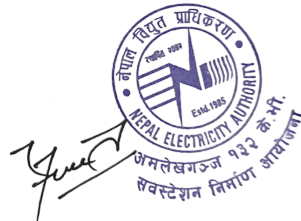
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## AMLEKHGUNJ 132 KV SUSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

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136	GCC	7-42	34.3	The Contractor shall, in accordance with the provisions of the Appendix (Insurance Requirements) to the Contract Agreement, deliver to the Employer certificates of insurance or copies of the insurance policies as evidence that the required policies are in full force and effect. The certificates shall provide that no less than 21 days' notice shall be given to the Employer by insurers prior to cancellation or material modification of a policy.	We request you to remove this sentence from the clause "The certificates shall provide that no less than 21 days' notice shall be given to the Employer by insurers prior to cancellation or material modification of a policy."  Any notice related to cancellation or material modification of policy will be given by the Contractor to Employer, not by the insurer.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
137	GCC	7-42	34.5	The Employer shall at its expense take out and maintain in effect during the performance of the Contract those insurances specified in the Appendix (Insurance Requirements) to the Contract Agreement, in the sums and with the deductibles and other conditions specified in the said Appendix. The Contractor and the Contractor's Subcontractors shall be named as co-insureds under all such policies . All insurers' rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies. The Employer shall deliver to the Contractor satisfactory evidence that the required insurances are in full force and effect. The policies shall provide that not less than 21 days' notice shall be given to the Contractor by all insurers prior to any cancellation or material modification of the policies. If so requested by the Contractor, the Employer shall provide copies of the policies taken out by the Employer under this GCC Subclause 34.5.	Please note that Bidder will not be part of Owner controlled program.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



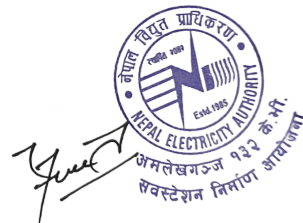
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## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

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138	GCC	7-43	34.6	If the Contractor fails to take out and/or maintain in effect the insurances referred to in GCC Subclause 34.1, the Employer may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Contractor under the Contract any premium that the Employer shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Contractor. If the Employer fails to take out and/or maintain in effect the insurances referred to in GCC 34.5, the Contractor may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Employer under the Contract any premium that the Contractor shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Employer. If the Contractor fails to or is unable to take out and maintain in effect any such insurances, the Contractor shall nevertheless have no liability or responsibility towards the Employer, and the Contractor shall have full recourse against the Employer for any and all liabilities of the Employer herein	Please note that Bidder will not be part of Owner controlled program.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
139	Section 9 - Contract Forms	9-11	-	(a) Cargo Insurance Covering loss or damage occurring, while in transit from the supplier's or manufacturer's works or stores until arrival at the Site, to the Facilities (including spare parts therefore) and to the construction equipment to be provided by the Contractor or its Subcontractors.	Please note that we have a Marine policy in India covering supplies made from our factory to worldwide and a certificate will be arranged to cover this movement upto the delivery site	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
140	Section 9 - Contract Forms	9-11	a)	(*) Excess 5% of claimed amount subject to minimum of NRs. 20,000 for Normal and NRs. 80,000 for act of God perils and collapse .	Please note that "deductibles will be as per our policies". As per inco terms, if Bidder has the insurable interest then Bidder holds the responsibility to absorb the loss & accordingly the deductibles	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
141	Section 9 - Contract Forms	9-11	-	(b) Installation All Risks Insurance Covering physical loss or damage to the Facilities at the Site, occurring prior to completion of the Facilities, with an extended maintenance coverage for the Contractor's liability in respect of any loss or damage occurring during the defect liability period while the Contractor is on the Site for the purpose of performing its obligations during the defect liability period.	We request you to limit the Sum Insured as 100% of total price for plant and equipment as per the standard industry practice.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
142	Section 9 - Contract Forms	9-11	(b)	(*) Excess 5% of claimed amount subject to minimum of NRs. 10,000 for Normal and NRs. 30,000 for testing period.	Please note that Deductibles will be as per Nepal Insurance regulation which are non negotiable.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



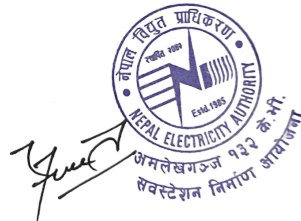
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## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

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143	Section 9 - Contract Forms	9-11	-	(c) Third Party Liability Insurance Covering bodily injury or death suffered by third parties (including the Employer's personnel) and loss of or damage to property (including the Employer's property and any parts of the Facilities that have been accepted by the Employer) occurring in connection with the supply and installation of the Facilities.	Please note that wherever Bidder is legally liable, Third Party Liability cover will be arranged as part of the Erection All Risk policy for the limits mentioned below:  Third Party Liability Bodily Injury/Death for a total limit of NRs 3,000,000  Contractors employees will be covered under Workmen Compensation policy	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
144	Section 9 - Contract Forms	9-12	-	(f) Employer's Liability In accordance with the statutory requirements applicable in any country where the Facilities or any part thereof is executed.	This should be deleted as employers liability is covered under workers compensation in Nepal.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
145	Bid Price Schedule-No4-Installation & Services-Part- C	27/35 of BPS	Part C- item no- 1	Item no 1.0 -Site Clearance Work as instructed by Engineer on LS	Kindly provide the details enabling bidders to understand what is to be consider under Site clearance. Please provide contour drgs, Existing Amlekhgunj 66kv AIS Layout & details to be consider by bidder under this item	Please visit the site for more details as the detail design is in the scope of the successful contractor.
146	Bid Price Schedule-No4-Installation & Services-Part- C	27/35 of BPS	Part C- item no- 2	Item no-2.0 Geotechnical Investigation as per TS Loc 3	Understand Geotech report is provided with tender & further bidder has to only consider 3 Bore log at 3 location as per BPS item. . No other test needs to be carried out under Geotechnical investigation. Kindly confirm bidder's understanding.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
147	Bid Price Schedule-No4-Installation & Services-Part- C	27/35 of BPS	Part C- item no- 3	3.0 Detail Survey, Contour Mapping and Soil Resistivity Test LS 1	Kindly furnish the preliminary Contour details enabling us to work in Site levelling & grading item. Futher in the event of order, scope of details survey, Contour Mappng & Conduing ERT is in bidder' scope.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
148	Bid Price Schedule-No4-Installation & Services-Part- C	27/35 of BPS	Part C	Any Missing item like dewateirng or any items not included in BOQ	We request you to kindly include any missing items in the Civil BOQ viz dewatering works, etc etc. Kindly \	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
149	Bid Price Schedule-No4-Installation & Services-Part- C	27/35 of BPS	Part C- item no- 8	Item No 8- Providing and fixing in position Fe 500 steel reinforcement of various diameter confirming to relevant IS code in R.C.C. works including straightening, cutting, bending, binding with 20 SWG annealed wire for tying the reinforcement bars at each junctions ( binding wire shall not be measured separately) including all waste and cut pieces, provision for adequate numbers of spacers, chairs, providing and placing cement mortar (1:1) cover blocks to keep the bars in intended position at all levels all complete as per drawings, specifications and instruction of the the engineer. (Lap length shall not be measured for the payment).	We understand that Lap & Chairs shall be payable as part of Measurement as per IS/BIS. Hence we request you to kindly amend the item description as Laps & Chairs shall be payable. Kindly accept our proposal	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
150	Bid Price Schedule-No4-Installation & Services-Part- C	28/35 of BPS	Part C- item no- 13.1.b & 13.2.c	Vehicle Parking Shed	It seem this item is been repeated in 13.1 b. & 13.2 c. Hence it has to be deleted from either of the one. Kindly Confirm	Please quote as per BPS and shall be discussed during DDE
151	Bid Price Schedule-No4-Installation & Services-Part- C	29/35 of BPS	Part C- item no- 13.3	All Civil Works related to Pre-Engineered 132 kV GIS and 66 kV GIS Hall along with AHU to be supplied as per Schedule 1 including foundation, internal cable trench, excavation, PCC, RCC and Reinforcement etc all complete to erect the building as per approved drawing and Technical Specification	We understand that like 13.1 & 13.2 item, bidder has to quote rates per Sqm of the Building of PEB . However, like wise excavation, PCC, RCC & Reinforcement steel & Structural Steel of PEB viz cable trench inserts, angle support, channel, Girder etc shall be paid separately under item no 9 Miscellaenous Structural steel & all other items as per relevant items of Excavation, PCC, RCC etc Kindly confirm our understanding.	Please quote the rate as mentioned in BPS of Bid Documents.



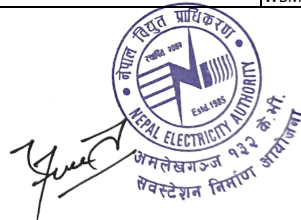
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## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

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152	Bid Price Schedule-No4-Installation & Services-Part- C	29/35 of BPS	Part C- item no-13.3	All Civil Works related to Pre-Engineered 132 kV GIS and 66 kV GIS Hall along with AHU to be supplied as per Schedule 1 including foundation, internal cable trench, excavation, PCC, RCC and Reinforcement etc all complete to erect the building as per approved drawing and Technical Specification	We understand that like 13.1 & 13.2 item, bidder has to quote rates per Sqm of the Building of PEB . However, like wise excavation, PCC, RCC & Reinforcement steel & Structural Steel of PEB viz cable trench inserts, angle support, channels, Girder etc shall be paid separately under item no 9 Miscellaenous Structural steel & all other items as per relevant items of Excavation, PCC, RCC etc Kindly confirm our understanding.	Please quote the rate as mentioned in BPS of Bid Documents.
153	Bid Price Schedule-No4-Installation & Services-Part- C	30/35 of BPS	Part C- item no-25 & 26	Masonry works, Randon Rubble masonry & Platering works	We understand that item no,25 & 26 of Civil BPS is for Gabion/Retainin wall. Kindly Confirm our understanding	Shall be discussed during DDE
154	General			Dismantling & disposal works	We understand that scope of work for this project beng greenfield substation, we do not envisage anykindly of dismantling work of existing foundation( tower, equip), trenches, road, drainage,fencing etc. Kindly Confirm the same. In case of any such work during execution is envisaged, it shall be paid as extra item.	Please quote in Schedule 4(a) and shall be discussed during DDE.
155	Bid Price Schedule-No4-Installation & Services-Part- C			Civil Work & Civil Price schedule	We understand that the Civil work & Civil Price schedule provided with tender documents covers all items of the Civil work as required for the scope & as practices followed by NEA shall be paid on remeasurement basis on actual executed quantities at quoted unit rates. Any item not covered in the BOQ will be treated as extra item & shall be paid to bidders. Kindly Confirm.	Please refer the bid documents.
156	Bid Price Schedule-No4-Installation & Services-Part- C			Civil Work & Civil Price schedule	Quoted unit rates of Civil works items are applicable & Valid upto +/-15 % of the Variation in Quantities provided with the BOQ & not total amount of Civil work. Further Bidder shall propose new rates for quantity variation beyond +/-15% of the individual quantities of Civil BOQ. Kindly Confirm.	Please refer the bid documents.
157	General			Approach Road upto Substation Entry	Approach road upto Substation entry shall be in NEA's Scope only. In case of any strengthening require/repair of approach road requirement shall be in done by NEA. Kindly Confirm our understanding as there is no separate line item against this.	Please refer the bid documents.
158	General			Scope of Civil works for Building	Scope of Civil works as per Civil BoQ & TS is limited to 132kv/66kv GIS PEB Bldg, MCR RCC Bldg, FPPH, Btype Double Storey Quarter, associated UG Water Tank-2 Nos, FF Water Tank & Vehicel Parking shed 1 No only. No Transit camp or any other building is envisaged other than called in Civil BOQ. Kindly Confirm.	Please refer the bid documents.
159	Volume-2	13/890	4.3 CC	Doors and windows of front face shall be wooden (carved). TS for door and windows has been attached in Annexure....	Kindly furnish the relevant annexure....mention under CC	Shall be discussed during DDE
160	General			Construction water & Power	We understand that Construction water & Power shall be provided at single point near to SS premises Free of Cost to bidder & all further distribution shall be in bidder's scope.	Contractor shall arrange the water and power supply by themselves.
161	General			Laydown area for Site office, fabrication yard, labour colony	We understand that laydown area for Site office, Farbication, yard, labour colony etc shal lbe provided to us free of cost within the vicinity of SS Plot by NEA. Kindly Confirm	Contractor shall arrange the office by themselves near the site.
162	General			Plot plan of Amlekhgunj SS with Dimension drawing	We request you to kindly provide dimension drawing of SS with Plot plan	Please visit the site for more details as the detail design is in the scope of the successful contractor.
163	Boundary wall drawing			Boundary wall drawing	Kindly furnish the Boundary wall drawing as per NEA practices enabling bidder to consider the same accordingly for Cost Consideration.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
164	Rainwater harvesting	17/75	6.1	Chapeter -14 TS- Civil Works- Rain water Harvesting	As per the said clause if GWT is within 8.0m from FGL, No RWH is required. Kindly Confirm the same.	Confirm
165	Strengthenin of Existing road	18/75	7.d	Chapeter -14 TS- Civil Works- Road works	in case of any strengthening of existing road work is require it shall be done with providing 100mm WBM with 25mm premix carpet after filling pot holes.	Shall be discussed during DDE



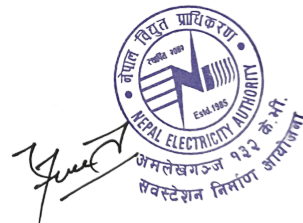
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SN	Reference of bidding document				Bidder's Query	NEA Reply
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166	Repair of Existing Road if any Hetauda- Simara Highway to Amlekhgunj	20/75		The proposed substation shall be constructed within Hetauda Simara highway for Amlekhgunj Substation. The construction site will be easily accessible by vehicle during any weather. The scope of works in this section comprises construction of access road and repair and maintenance of the same during the construction period so that it shall be left in well and good condition at the end of the project construction. For this purpose, the Contractor has to lay a new layer of sub-base course of thickness of 150mm (compacted) on the existing surface with proper grading, watering and compaction as directed by the Employer and, handover the road with smooth and compacted gravel surface after the completion of the substation works.	We request you to kindly include the line item in Civil BOQ for Repair and access road as per said requirement in TS of Civil works.	Please proceed and quote as per Bid documents
167	Chapter 14- TS Civil works			Auxillary Bldg, Quarter Building, Transt Camp	We understand Bidders scope excludes any kind building other then specified in Civil price schedule. Kindly Confirm that auxillarybldg, Quarter bldg, Transit camp etc is excluded from bidders scope	Please proceed and quote as per Bid documents
168	Chapter 14- TS Civil works	63/75	24.3	Mode of Measurement - Excavation	We understand excavation for all Civil work viz tower, equipment foundation, auxi foundation, MCR, GIS bldg, Boundary wall, Fencing, Road, rail Cum Road, drain, B type quarter, Vehicle Shed, Trafo Foundation, Cable trenches , etc shall be paid under itme no C 4.1. & 4.2. Kindly Confirm our understanding & Correct Mode of Measurement item clause 24.3	Please refer the Bid documents.
169	Chapter 14- TS Civil works			MCR Adoining to GIS PEB Bldg	As per clause called in for PEB Bldg, if Control Room building adjoining to GIS PEB Bldg, can also be constructed as PEB Bldg. however the tender drg shows MCR bldg as RCC type & GIS as PEB Bldg. Kindly confirm can bidder propose PEB bldg of MCR as it is adjoining to GIS Hall which is PEB	Please refer the Bid documents.
170	Tender drgs for Various Bldgs			Optimization of GIS Hall, MCR & any other bldg	Can bidder optimized the size of the various building meeting the scope requirements as called in TS for GIS Hall, MCR Bldg, 11kv Bldg etc. Kindly confirm. If no, kindly indicat the minimum dimensions for al lthis bldgs as tender drg is not legitimate & not readable.	Shall be decided during DDE
171	General			Approved makes of Cement, Reinf Steel & Structural steel of NEA	We request you to kindly furnished approved brands of Cement, Reinf. Steel & Struc. Steel as per NEA	Shall be decided during DDE
172	General			Appoved list of Finishing & Construction material for Building works of NEA	We request you to kindly furnished approved list Finishing & Construction materials as per NEA	Shall be decided during DDE
173	Role of Consultant Appointed by NEA for this project if any .			Role of Consultant Appointed by NEA for this project	We understand that NEA will be directly approving the Civil drawing & Supervising the complete project. In case any consultant is appointed for this project , we request you to kindly share the details of the Consultant & roles & responsibility of NEA Appointed Consultant for this project.	The role of the consultant will be monitoring of the project.
174	Section 6 - Employer's Requirements	6-19	7. Personnel Requirements	7. GESI Expert	Kindly elaborate GESI Expert.	GESI Expert refers Gender Equality Social Inclusion Expert as per ADB



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CLARIFICATION-1						
SN	Reference of bidding document				Bidder's Query	NEA Reply
	Volume/Section	Page No.	Clause No.	Subject/Description		
175	CHAPTER 1-Project Specification Requirement	Page 5 of 890	1. GENERAL	<p>Nepal Electricity Authority (NEA) intends to establish a new 132/66/11kV Gas Insulated Switchgear (GIS) Substation at Amlekhgunj ( at present Amlekhgunj substation is operating at 66kV level as an AIS substation) mainly to cater the increasing demand in Simara-Parwanipur-Birgunj Corridor.</p> <p>The above mentioned project is being funded by ADB and NEA is the Executing Agency This specification describes the requirements for construction of the substations on a turnkey basis. Sites are Greenfield and the Contractor shall be responsible for access and all necessary utilities.</p>	We understand that present project site is Greenfield and our scope does not involve any works at existing 66kV Amlekhgunj AIS Substation. Please confirm.	After the commissioning of this project, the contractor shall help to dismantle all the equipments and transport them to NEA store, Hetauda
176	CHAPTER 1-Project Specification Requirement	Page 5 of 890	2.a)	(along with installation of two sets 66/11 kV, 10 MVA 3- phase transformers supplied from NEA)	<p>We understand that our scope is limited to installation of NEA supplied 66/11kV Power Transformer only. Commissioning of NEA supplied Power Transformer is not in our scope as same needs to be carried out by the OEM. Kindly confirm our understanding.</p> <p>Please also ensure the availability of OEM personnel at Site for supervision of Installation works.</p>	Please proceed as per bid documents.
177	CHAPTER 1-Project Specification Requirement	Page 10 of 890	4.2	c. The two (2) nos of 66/11kV 10 MVA, 3-phase outdoor power transformer shall be transported from NEA Hetauda grid and shall install to the proposed Amlekhgunj substation including all materials / fittings / accessories/Digital RTCC panel/ MB/Cables including special cable (if any), etc.	Please check whether Digital RTCC Panel and AVR needs to be considered in the present scope or not as normally same would have been already supplied by Transformer Manufacturer. If same needs to be supplied, request you to provide a separate line item in the price schedule for offering the same.	Please proceed and quote as per Bid documents
178	CHAPTER 1-Project Specification Requirement	Page 16 of 890	9.0	Chapter 23- EHV Cable	Kindly provide the document "Chapter 23 - EHV Cables" as the same is not available in the tender specifications.	Attached along with this document
179	CHAPTER 1-Project Specification Requirement	Page 17 of 890	13.1	i) Training at Manufacturer's works. The Contractor shall include in the training charges payment of per Diem allowance to NEA trainees @ as per NEA Regulations per day per trainee for the duration of training abroad. Furthermore, the contractor shall bear all the costs towards accommodation, meals and other incidental expenses and to and fro economy class air ticket from Nepal to place of training. The duration of training shall be excluding travelling period.	We request you to exclude the expenses like per Diem allowance, accommodation, meals, to & fro air fare, local transportation and other incidental expense from the scope.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.



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## CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
	Volume/Section	Page No.	Clause No.	Subject/Description		
180	CHAPTER 1-Project Specification Requirement	Page 17 of 890	13.1	i) Training at Manufacturer's works. The Contractor shall include in the training charges payment of per Diem allowance to NEA trainees @ as per NEA Regulations per day per trainee for the duration of training abroad. Furthermore, the contractor shall bear all the costs towards accommodation, meals and other incidental expenses and to and fro economy class air ticket from Nepal to place of training. The duration of training shall be excluding travelling period.	Kindly share the details of per Diem allowance to NEA trainees as per NEA Regulations.	150 USD - 165 USD per day as per the ranking
181	CHAPTER 1-Project Specification Requirement	Page 18 of 890	13.1	ii) On Job Training in Nepal: The travelling and living expenses of Owner's personnel for the training programme conducted in Nepal shall be borne by the Owner. The contractor shall bear the per diem expense @ NRs. 2000.00 per person/day.	Kindly clarify the number of owner personnel attending On Job Training in Nepal.	The number of owner personnel shall be 5
182	CHAPTER 1-Project Specification Requirement	Page 18 of 890	13.1	ii) On Job Training in Nepal: The travelling and living expenses of Owner's personnel for the training programme conducted in Nepal shall be borne by the Owner. The contractor shall bear the per diem expense @ NRs. 2000.00 per person/day.	We request you to exclude the per diem expense from the scope.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
183	CHAPTER 16: PLCC	Page 573 of 890	-	-	We understand that supply of PLCC is not part of present scope. Please confirm.	Confirm
184	General	-	-	Editable format of Price Schedule and Technical Data Sheet	Request you to provide us the editable format of Price Schedule and Technical Data Sheet.	For Price Schedule, it will be uploaded in NEA website
185	General	-	-	-	As per the BPS, we understand that the requirement is XLPE copper cables for 66kV line and transformer bays. Kindly confirm our understanding.	Confirm
186	General	-	-	-	Kindly confirm whether the requirement is XLPE cables or Busduct for 145kV Line and Transformer bays.	Please quote as per BPS and shall be discussed during DDE
187	PHYSICAL AND OTHER PARAMETERS OF Amalekhgunj Substations is located in Bara, district	Page 14 of 890	5	321m from MSL	We presume that Altitude Factor not to be considered. Please confirm.	Confirm
188	145kV & 72 kV Gas Insulated SF6 to Air Termination:-(if required)	Page 9 of 890	G)	a) 145kV, 1600A, 1-phase SF6 to air bushings for outdoor overhead connections. The can	As per Layout Page 27 of 890, 3-Phase Duct is shown, Please clarify.	The detail design is in the scope of the successful contractor.
189	145kV & 72 kV Gas Insulated SF6 to Air Termination:-(if required)	Page 9 of 890	G)	b) 72.5kV, 1250A, 1-phase SF6 to air bushings for outdoor overhead connections. The cantilever strength of the 72.5kV SF6 to air bushings shall be of minimum 8kN.	As per Layout Page 27 of 890, Cable connection is shown, No duct. Kindly clarify.	The detail design is in the scope of the successful contractor.
190	OVERALL LAYOUT	Page 27 of 890		OVERALL LAYOUT	Please confirm Cable connection and Duct connection Feeder for 132kV & 66kV.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
191	OVERALL LAYOUT	Page 25 of 890			Not matching with Building Layout as per Page 34 of 890. Kindly clarify.	The layout is for tender purpose only. The detail design is in the scope of the successful contractor.



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## CLARIFICATION-1

SN	Reference of bidding document			Bidder's Query	NEA Reply	
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192	General	-	-	EARTH LINK BOX WITH SVL / WITHOUT SVL AND INCLUDING LINK CABLE	Quantity not found in BPS. Please clarify.	Please quote as per BPS and shall be discussed during DDE
193	General	-	-	SOIL TEST REPORT	Soil Resistivity not found in Soil Test Report. Please provide Soil Resistivity.	It is in the scope of the successful contractor.
194	SPECIFIC REQUIREMENT	Page 17 of 890	13.1	d) One set ¼C x 300 Sq. mm XLPE power cable for oil filtration units of transformers shall be provided along with 250Amps, TPN MCCB receptacles at Amlekhgunj substation. The cable shall be terminated at 250A MCCB receptacle at one point near Transformer in the yard	Please confirm Cable Size.	Please refer the bid documents. The detail design is in the scope of the successful bidder.
195	4.2 Transformers and other main equipments	Page 11 of 890	W	Cranes for GIS Hall	We presume that Single Girders Crane required. Please confirm.	Confirm
196	Layout and SLD			Layout and SLD	Bay serial order is different in Tender layout compared to tender single line diagram. Please confirm which should be followed.	The layout is for tender purpose only. The detail design is in the scope of the successful bidder.
197	Tender drawings			SLD, Layout, Plan, Section, Elevation Etc.	The drawings provided with tender documents are not readable. Please provide the readable drawings.	The drawings are for tender purpose only. The detail design is in the scope of the successful bidder.
198	Connection with exiting			Connection with exiting 66kV AIS S/s	We understand that there is no connection between existing 66kV AIS substation and bidders present scope 132/66/11kV amlekhgunj substation. Kindly confirm	Confirm
199	Creepage			Technical Specifications	We understand 25mm/kV Creepage is required. Kindly confirm.	Please refer the bid documents. The detail design is in the scope of the successful bidder.
201	Insulators			Insulators	Disc Insulator/Composite Long rod: As per TS we understand disc or long rod insulator both can be considered whereas as per BPS we are considering disc insulators. Please confirm.	Both insulators can be used and shall be discussed during DDE.
202	Sample drawings			Sample drawings	Kindly provide LT switchgear Single line diagram.	The detail design is in the scope of the successful contractor.
203	Sample drawings			Sample drawings	Kindly provide indoor & outdoor cable trench drawings and standard sections.	The detail design is in the scope of the successful contractor.
204	Control & Power Cable			Control & Power Cable	Control & Power Cabling: Kindly Confirm the below Points: i) Control & Power Cables Core detail & sizes are not available. Kindly furnish the same to enable us to estimate the cable quantity. ii) Isolator, CT & CVT cabling will be provided in PVC pipe. No provision of RCC trench is envisaged. PVC pipes will be connected to nearest cable trench. iii) We are not considering any cable tray for indoor / outdoor cable laying. iv) Power & Control cables in switchyard shall be laid on cable support angles. v) Kindly furnish Control Cable Philosophy (if any).	The detail design is in the scope of the successful contractor.
205	66kV Cable Specification			66kV Cable Specification	Please provide the specification for 66kV HV cable	Please proceed as per relevant IEC
206	GIS extension			GIS extension	We understand that bidder has to consider any one side GIS equipment extension provision. No future bays envisaged other than shown in tender SLD (for 132kV 4L,2Spare L, 2x132kV ICT,1BC and for 66kV 4L,2Spare L, 2x132kV LV ICT & 2x66kV HV ICT,1BC) & as mentioned in BPS (i.e. for 132kV 4L, 2Spare L, 2x132kV ICT, 1BC and for 66kV 4L ,2Spare L, 2x132kV LV ICT & 2x66kV HV ICT, 1BC). Kindly confirm.	Confirm. The bidder has to consider for both 132 kV and 66 KV side each for GIS equipment extension provision.





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## CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
	Volume/Section	Page No.	Clause No.	Subject/Description		
207	Drawings			"General Layout" - Page 27 of 890 & "GIS and control building cum administration building" - Page 38 of 890	GIS Bays location & orientation inside GIS hall in "General Layout" & "GIS and control building cum administration building" is not matching. Please confirm which one need to be followed.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
208	Drawings			Drawings	The GIS hall cum control room building dimensions shall be followed as per tender drawings. Kindly confirm.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
209	Bus bar protection, SAS & LT Switchgear			Bays under scope	We understand that bidder has to consider necessary provision for 132kV, 66kV & 11kV bays shown in tender SLD & BOQ for 132kV 4L,2Spare L, 2x132kV ICT,1BC for 66kV 4L,2Spare L, 2x132kV LV ICT & 2x66kV HV ICT,1BC) Kindly confirm.	Please proceed as per bid documents.
210	Line side hardware			Line side hardware	Line side Tension string or hardware is excluded from bidders scope, kindly confirm.	Please quote the rate in Vendor Assessed Quantities A.1.(1.1) and B.1.(1.1) for Conductor, OPGW and other hardware accessories.
211	ERT			ERT	Please share the earth resistivity value.	It is in the scope of successful bidder.
212	Site cordinate			Site cordinate	Please share the site cordinate for present scope	Please visit the site for more details as the detail design is in the scope of the successful contractor.
213	Site area			Site area	Please share the allotted area for present scope	Please visit the site for more details as the detail design is in the scope of the successful contractor.
214	Telecom system			Telecom system	We understand total one number FOTE equipment is envisaged under present scope for 2 numbers 132kV Lines and 2 numbers 66kV lines. As mentioned in BPS, kindly confirm.	Please proceed as per bid documents.
215	10MVA Transformer			10MVA Transformer	We understand 10MVA two numbers transformer dismantling, loading, unloading shall be done by NEA whereas bidder scope shall be limited to Erection, testing & commissioning. Kindly confirm our understanding.	Please quote the rate in Schedule 4(a) Part I-A.1.2
216	Line			Line	Please share the line length of all associated lines.	Shall be discussed during DDE
217	GIB-66kV & 66kV GIS			GIB-66kV & 66kV GIS	As per price schedule we understand that no bus duct of 66kV level required under present scope of bidder inside/outside GIS hall as there is no such line item found. Lines and transformer bay connection shall be suitable for cable in 66kV GIS equipment. If GIS duct required kindly include the same in BPS and clarify for which feeder GIS termination shall be suitable for duct and for which feeders it should be suitable for cable termination. accordingly necessary SF6/air bushings also need to be included in BPS. Please confirm.	66 kV bays will be connected through power cables.
218	132kV GIS at amlekhgunj SS			132kV GIS at amlekhgunj SS	We understand that 132kV Transformer-1 & 2 GIS bay shall be suitable for per phase 1Rx1Cx800sqmm Cu, XLPE power cable termination. No bus duct is envisaged for such bays, no SF6 to air bushings are required for the same. Kindly confirm our understanding.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
219	132kV GIS at amlekhgunj SS			132kV GIS at amlekhgunj SS	As per BPS Sl.no. Q.4(ii), 132kV Pathilya1 & 2 Line GIS bay shall be suitable for per phase 1Rx1Cx1200sqmm Cu, XLPE power cable termination OR shall be broughtout to GIS hall with the help of GIS bus duct and shall be terminated with the help of SF6/air bushing as per BPS Sl.no. D 1.5.1 & 1.6.1. Kindly confirm our understanding.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
220	132kV GIS at amlekhgunj SS			132kV GIS at amlekhgunj SS	As per BPS Sl.no. Q.4(iii), 132kV hetauda 1&2 Line GIS bay shall be suitable for per phase 1Rx1Cx1200sqmm Cu, XLPE power cable termination OR shall be broughtout to GIS hall with the help of GIS bus duct and shall be terminated with the help of SF6/air bushing as per BPS Sl.no. D 1.5.1 & 1.6.1. Kindly confirm our understanding.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
221	132kV GIS at amlekhgunj SS			132kV GIS at amlekhgunj SS	We understand 132kV spare 1&2 Line GIS bay shall be broughtout to GIS hall with the help of GIS bus duct and SF6/air bushing as per BPS Sl.no. D 1.5.1 & 1.6.1. Kindly confirm our understanding.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
222	Relay test kit			Relay test kit	We understand that BPS line item I, 3.3 refers for normal relay tool kit, No numerical relay test kit is envisaged under present scope of bidder. Please confirm.	Please proceed as per bid documents.
223	DPC			DPC	As per BPS line item number "K.1." total 8 quantities are mentioned, we understand 4 numbers DPC complete Supply and E.T.C. required at amlekhgunj substation(for 2 x132kV Lines & 2x 66kV lines) and rest 4 quantities are need to be supplied as loose item for connecting remote end. Please confirm.	Please proceed as per bid documents.
224	SAS			SAS	We understand SAS shall be suitable for 12 bays of 11kV, kindly confirm.	Please quote as per BPS.



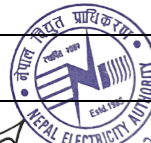
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## CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
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225	LT switchgear			LT switchgear	We understand that all main incomers only of LT switchgear are need to be integrated with auxiliary BCU of substation at amlekhgunj. Please confirm.	Please proceed as per BPS.
226	Differential protection at 132kV Lines			Differential protection at 132kV Lines	We understand that 132kV all lines shall be with line differential protection along with loose supply for connecting remote end. No protection panel envisaged for spare line bays. Kindly confirm	Please refer Schedule 1: Part A - I.1(1.2)
227	Differential protection at 66kV Lines			Differential protection at 66kV Lines	We understand that 66kV all lines shall be with line differential protection along with loose supply for connecting remote end. No protection panel envisaged for spare line bays. Kindly confirm	Please refer Schedule 1: Part A - I.2(2.2)
228	CRP			CRP	We understand for 132kV and 66kV voltage level each 2-2 numbers Spare feeders are in scope whereas no protection panels are envisaged and circuit breaker relay panels only considered under present scope of supply. Please confirm.	Please refer Schedule 1: Part A - I.1(1.2) and I.2(2.2)
229	9KV LA			9KV LA	Kindly confirm the requirement is of 45 numbers , 9kv LA.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
230	100MVA Transformer			100MVA Transformer	We understand that present scope 100MVA transformers need to be supplied along with spare oil , tank and necessary filtration plant only. Whereas no online/offline DGA, Fibre optic temperature sensor not envisaged under present scope of bidder as the same is not mentioned in BPS.Kindly confirm	Please refer Schedule 1: Part A - H.6 and H.7
231	315kVA LT Transformer			315kVA LT Transformer	Kindly confirm Level-1 LT transformer is required or please share the energy efficiency level of transformer as per latest standards.	Please proceed as per bid documents.
232	315kVA LT Transformer			315kVA LT Transformer	Please provide losses (Load Loss & No load loss) for 315kVA LT Transformer.	As per relevant IEC
233	LT switchgear			LT switchgear, BPS Sl.no. L-4	Please confirm that 400V emergency LDB required for AC OR DC OR both type.	Please proceed as per bid documents.
234	Illumination			Illumination	Illumination specification calls for LED type fixtures, whereas in the same specification at Annexure-1, conventional lighting fixture i.e fluorescent & CFL etc are mentioned. Please confirm which we need to consider.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
235	Illumination			Illumination	As per BPS line item number C-1.6 Township area lighting is mentioned, but township quarter illumination line item is not available. Please include the same in BPS.	Please include the price in vendor assessed quantities item C.1.6
236	EOT crane			EOT crane	We understand that EOT crane for 132kV & 66kV GIS hall shall be of single girder and shall be common for both voltage rating GIS. Please confirm.	Confirm
237	Subcontractor Experience			Subcontractor Experience	We request you to kindly reduce GIS manufacturing experience from 7 years to 5 years. Please confirm.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
238	General			General	11kV line is crossing through centre of layout and need to be shifted or demolished. We understand that dismantling & shifting is not in bidder's scope. Please confirm.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
239	Township/colony location			Township/colony location	Township/colony location is not available in tender drawings. Overall layout showing township/ quarter and distance from CRB is required. Kindly provide the same.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
240	General			Dismantling/Shifting Works	We understand that any dismantling or shifting work will be arranged by NEA and bidder's will get encumbrance free land , Please confirm.	Please proceed and quote as per BPS
241	General			RMC for concreting works	We understand that approved ready mix concrete(RMC) is allowable for concreting works, We request to please provide approved RMC vendors list.	Allowable but have to take approval from employer which shall be discussed during DDE.
242	General			Disposal of excess Soil and Concrete	We request to please provide us the location for disposal of excess soil and concrete waste. Kindly mention the distance from proposed site to disposal yard.	Shall be discussed during DDE
243	General			Civil Works	We trust that, the diversion of the water stream or nalla(if any) inside proposed area is not in bidder scope. Please confirm.	Confirm
244	General			Civil Works	We trust that, the rain water harvesting for the proposed sites is not included in bidders scope. If it is required, kindly add a separate item for the same in the BPS.	Rain water harvesting is not required.
245	General			Civil Works	If earth fill depths are high, the foundations can be rested on filled up soil after ensuring proposer compaction formed by plate load test or the applicable Geo-tech tests, Kindly confirm.	The detail design is in the scope of the successful contractor and shall be decided during DDE.



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SN	Reference of bidding document				Bidder's Query	NEA Reply
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246	Schedule No.4_ PART-C_ CIVIL WORKS			Approach Road	Line item for approach road from main road to substation entry gate is not provided, We understand that approach road is excluded from Bidder's scope, Please confirm.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
247	Schedule No.4_ PART-C_ CIVIL WORKS			Civil Works	We understand that outfall point for drain shall be within plot premises or near to boundary. Please confirm.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
248	Schedule No.4_ PART-C_ CIVIL WORKS			Provided quantity of Civil Works	We understand that the quantity provided in Schedule No. 4_ PART-C_ Civil works is tentative and Bidders may ask amendment for the same if any quantity increases during detailed engineering, Please confirm our understanding.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
249	Schedule No.4_ PART-C_ CIVIL WORKS			Civil Works	Bidder request to specifically mention where gabion wall is required in the layout and also provide the reason for considering the same the project. We understand that payment for gabion wall required in station shall be paid as per line item mentioned, Please confirm.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
250	Schedule No.4_ PART-C_ CIVIL WORKS			GIS Hall for 132 kV	We understand that 132 kV GIS Hall is PEB structure and upto 3.0 M from FGL will be covered by peripheral brickwork, Please confirm our understanding.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
251	COMMERCIAL_ Pre Bid Queries			Appendix-2	We understand that Advance payment is interest free. Please confirm.	Confirm
252	Bid Security/ Bid Securing Declaration			ITB 21.3	We understand that bid security can be prepared from India and from any scheduled commercial bank, please confirm.	Confirm
253	Applicable rate for liquidated damages: 0.05 % per day of delay. Maximum deduction for liquidated damages: 10%			Section-8, SCC, Cl. No.26.2	From the said clause, we understand 0.05% per day of Liquidated Damages shall be levied on undelivered portion of the contract price. Kindly confirm.	Please refer bid documents.
254	Exchange Rate			Section 3 - Evaluation and Qualification Criteria	We understand the bidder need to fill the form "Form EXP" for bidder qualification. While filling the form, if contract value is in other currency then it should be converted to USD and the exchange rates will be as on date of award of that particular contract. Kindly confirm. If our above understanding is not correct, kindly provide the methodology for considering exchange rates. And also we request to provide the methodology for considering exchange rates for converting annual turnover and current contract commitments to USD.	Please refer bid documents.
255	Land for site office			Land for site office	We understand that land for site office shall be provided by the employer to the contractor free of cost. Kindly confirm.	Contractor shall arrange the office by themselves near the site.
256	Water and electricity for construction works			Water and electricity for construction works	For the water and electricity for construction works, we request you to kindly confirm whether Water and Power for construction can be made available. Further we request you to kindly share the existing rates/tariffs for the same.	Contractor shall arrange the water and power supply by themselves.
257	39.2 Changes Originating from Employer			Cl.no.39.2.5	From the said clause we understand that if there is change of more than +/- 15% in the quantities of any item with respect to tender quantity then unit rates for those items shall be mutually decided between contractor and employer. Kindly confirm.	Please refer bid documents.
258	Taxes and Duties			Cl. No. 14. Taxes and Duties	We request you to confirm the applicable rate of TDS as per the law of Nepal on present day	Please refer Inland Revenue Department
259	Appendix 3 - Insurance Requirements			Insurance Requirements.....	We understand that all the insurances mentioned in the tender clause can be purchased from any reputed insurance company. Kindly Confirm.	Please refer bid documents.
260	Terms and Procedures of Payment			Appendix 1 - Terms and Procedures of Payment	As per the payment procedures Foreign Currency payment shall be made through Letter of Credit (L/C). All the charges for establishment and operations of letter of credit shall be to NEA's account. Please confirm.	Please refer bid documents.
261	General			General	We understand the land for construction is already acquired by NEA and NEA will provide contractor encumbrance free land during award of contract. Any disputes arising against land acquisition of land provided by NEA during construction of works will be taken care by NEA. Kindly confirm.	It is in final process and will be completed before the award of the contract.

## NEPAL ELECTRICITY AUTHORITY

## AMLEKHGUNJ 132 KV SUBSTATION CONSTRUCTION PROJECT

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

## CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
	Volume/Section	Page No.	Clause No.	Subject/Description		
262	General			General	If the lockdown is imposed due to any epidemic/pandemic situation in employer's country or contractor's country, in such cases whether contractor is eligible to get (i) a time extension to complete the works and (ii) reimbursement to cost implication incurring due to that?	Based on the situation and decision made by the Government of Nepal shall be decided at the time of pandemic.
263	General			General	Kindly confirm the incoming line availability for commissioning of new substations. Also, if commissioning of substations is delayed due to factors which are not attributable to contractor, kindly confirm whether Taking over (TOC) and DLP can start within next 3 months of completion of facilities.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
264	Defect Liability			Section 8 - SCC, Cl. No. 27. Defect Liability	Request you to reduce the Defect Liability period up-to one (1) years from the date of Operational Acceptance for all equipment. Please confirm.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
265	Clause No. 30. b / GCC			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 request to include cost of repairing or replacing defective equipment within limitation of liability. We also understand that limitation of liability max. up-to 100% of the contract value. Please Confirm.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
266	Domestic Preference			1.3.7 Domestic Preference, (d) In the comparison of Bids, only the CIP price component of each Bid for the Plant and Equipment offered from outside the Employer's country shall be increased by 15%.	Request to delete the clause.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.
267	CHAPTER 1-Project Specification Requirement	5 of 890	2	two sets of 132/66 kV, 100 MVA 3- phase transformers, (along with installation of two sets 66/11 kV, 10 MVA 3- phase transformers supplied from NEA)	As per the mentioned clause, we understand that tertiary 11kV is not applicable for 100MVA power transformer, hence transformer rating will be 100MVA 132/66kV only. Wherever tertiary mentioned in specification/SLD/Data sheets are not to be considered. Kindly confirm our understanding is correct.	Shall be as per bid documents.
268	CHAPTER 1-Project Specification Requirement	14 of 890	5	e) Seismic Requirement for Substations equipment: 0.5g (Horizontal peak acceleration value). Seismic Requirement for Substations civil structure: Minimum value of 0.36g (Horizontal peak acceleration value). The contractor shall provide the justification for use of above value during DDE.	Kindly confirm Seismic requirement for transformer 0.5g or 0.36g.	0.5g
269	Section 6: Employer's Requirements/(GTR) - Transformer & Reactor	789 of 890	3.5.1.2	52 kV and above Hermetically sealed Oil filled condenser type/ RIP bushing with porcelain or composite insulator	We are considering Oil-Air OIP type porcelain bushings for both HV(245kV) and LV(72.5kV) side and Neutral will be 36kV Solid porcelain/ Oil communicating type bushing Kindly confirm.	Shall be as per bid documents and shall be discussed during DDE.
270	Section 6: Employer's Requirements/(GTR) - Transformer & Reactor	805 of 90	5.2.3	Type Tests on fittings: Bushing (Type Test as per IEC: 60137, including snap back/seismic test)	Snap back/Seismic test report will be provided for 400kV and above voltage class bushings. For 145kV and 72.5kV class bushings test reports other than snap back/seismic tests will be provided Kindly confirm.	Shall be as per bid documents.
271	Section 6: Employer's Requirements/(GTR) - Transformer & Reactor	810 of 890	6.0 Technical Parameters	Percent impedance voltage at rated MVA and 75deg C mentioned as 12.5% (percentage impedance shall match with that of existing transformer for Parallel Operation)	Kindly provide existing transformer details like rating plate and impedance values at rated and extreme taps for consideration.	Please visit the site for more details as the detail design is in the scope of the successful contractor.
272	Section 6: Employer's Requirements/(GTR) - Transformer & Reactor	810 of 890	6.0 Technical Parameters	Preferred losses are NLL = 45 KW (MAX), LL = 280 KW (Max) and Aux Loss = 3 Kw	Kindly confirm the losses are fixed or capitalization is applicable as mentioned in appendix 8_Functional guarantees document for evaluation.	As per Appendix-8
273	Power transformer GTP	1	10.2	Hotspot rise in winding mentioned as 55deg C	The mentioned Hotspot rise 55deg C is very less and same as winding rise mentioned, hot spot rise will be 66deg C as per standards. Kindly confirm.	Shall be as per bid documents and shall be discussed during DDE.
274	General	-	-	Bushings and terminations	We have considered Termination for HV and LV side OIL-AIR Bushings- Please confirm	Shall be as per bid documents and shall be discussed during DDE.

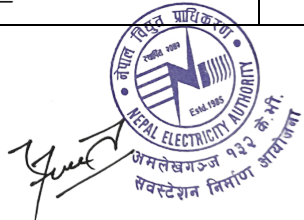
**NEPAL ELECTRICITY AUTHORITY**

**AMLEKHGUNJ 132 KV SUSTATION CONSTRUCTION PROJECT**

ICB NO.: PMD/PTDEEP/ASCP/2079/80-01: Design, Supply, Installation, Testing and Commissioning of Amlekhgunj 132/66/11 kV GIS Substation

**CLARIFICATION-1**

SN	Reference of bidding document				Bidder's Query	NEA Reply																																																						
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275	Manufacturer QR			Must submit the type test report carried out by reputed independent testing laboratory for the identical item in the same rating and construction.	We propose to perform type test on identical item in the same rating and construction at our own test laboratory in presence of reputed independent testing laboratory representative. Please accept.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.																																																						
276	Manufacturer QR			Must have successfully carried out the complete type test including Dynamic Short Circuit (DSC) test as per IEC over last 7 years period as on the originally scheduled date of bid opening in Reputed Independent Testing Laboratory on : - 132 kV voltage class, three phase 100 MVA transformer or higher voltage level or higher rating transformer	Dynamic Short Circuit Test, if manufacturer prove DSC Similarity as per IEC 60076 Part - 5 for offered Transformer with DSC tested transformer, we will not perform DSC Test. Please accept. For Complete Type Test, We propose to perform type test on identical item in the same rating and construction at our own test laboratory in presence of reputed independent testing laboratory representative. Please accept.	Shall be as per bid documents and if there is amendment, will be informed through NEA website.																																																						
277	General	-	-	Transportation	Is their any Transformer overall Dimension limitations & Transport Dimensions or transport weight limitations ? If yes please specify	Please visit the site for more details as the detail design is in the scope of the successful contractor.																																																						
278	General	-	-	NIFPS system	NIFPS system not in scope of supply, kindly confirm.	Confirm																																																						
279	BOQ_GIS	1	2.2.3	Trip coil assembly with resistor as applicable	Trip coil have their own resistance hence no need to consider extra Resistors with Trip Coil. Please Confirm.	Shall be as per bid documents and shall be discussed during DDE.																																																						
280	BOQ_GIS	1	2.2.4	Closing coil assembly with resistor as applicable	Close coil have their own resistance hence no need to consider extra Resistors with Close Coil. Please Confirm.	Shall be as per bid documents and shall be discussed during DDE.																																																						
281	BOQ_GIS	1	2.1.2	SF6 Pressure gauge cum switch OR Density monitors and pressure switch as applicable (1 no. of each type)	Normal SF6 Gas density monitor is considered. Please accept.	Shall be as per bid documents and shall be discussed during DDE.																																																						
282	Technical Specification	31	19 - 14	Reactor current switching test	There is no requirement of any reactor bay in this project hence Reactor current switching test is not applicable or not required.	Shall be as per bid documents and shall be discussed during DDE.																																																						
283	Technical Specification	43	TABLE-3A	<p>REQUIREMENTS FOR 132 kV CURRENT TRANSFORMER</p> <table border="1"> <thead> <tr> <th>No. of cores</th> <th>Core no.</th> <th>Application</th> <th>Current ratio</th> <th>Output Burden (VA)</th> <th>Accuracy Class as per IEC: 44-1</th> <th>Min. Knee pt. Voltage V<sub>k</sub></th> <th>Max. CT Sec. Wdg Resistance (ohm)</th> <th>Max. Excitation current at V<sub>k</sub> (in mA)</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>1</td> <td>BUS DIFF. CHECK</td> <td>800-400/1</td> <td>-</td> <td>-</td> <td>800/400</td> <td>5/4</td> <td>25 on 800/1 50 on 400/1</td> </tr> <tr> <td></td> <td>2</td> <td>BUS DIFF. MAIN</td> <td>800-400/1</td> <td>-</td> <td>-</td> <td>800/400</td> <td>8/4</td> <td>25 on 800/1 50 on 400/1</td> </tr> <tr> <td></td> <td>3</td> <td>METS. RING</td> <td>800-400/1</td> <td>20</td> <td>0.25</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td>4</td> <td>TRAN. BACK UP LINE PRTN.</td> <td>800-400/1</td> <td>-</td> <td>-</td> <td>800/400</td> <td>8/4</td> <td>25 on 800/1 50 on 400/1</td> </tr> <tr> <td></td> <td>5</td> <td>DIFF. LINE PRTN.</td> <td>800-400/1</td> <td>-</td> <td>-</td> <td>800/400</td> <td>8/4</td> <td>25 on 800/1 50 on 400/1</td> </tr> </tbody> </table>	No. of cores	Core no.	Application	Current ratio	Output Burden (VA)	Accuracy Class as per IEC: 44-1	Min. Knee pt. Voltage V <sub>k</sub>	Max. CT Sec. Wdg Resistance (ohm)	Max. Excitation current at V <sub>k</sub> (in mA)	5	1	BUS DIFF. CHECK	800-400/1	-	-	800/400	5/4	25 on 800/1 50 on 400/1		2	BUS DIFF. MAIN	800-400/1	-	-	800/400	8/4	25 on 800/1 50 on 400/1		3	METS. RING	800-400/1	20	0.25	-	-	-		4	TRAN. BACK UP LINE PRTN.	800-400/1	-	-	800/400	8/4	25 on 800/1 50 on 400/1		5	DIFF. LINE PRTN.	800-400/1	-	-	800/400	8/4	25 on 800/1 50 on 400/1	Specifications of CT given in SLD and Ch 19_GIS documents are different. Request you to check and confirm clear CT specifications to be consider.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
No. of cores	Core no.	Application	Current ratio	Output Burden (VA)	Accuracy Class as per IEC: 44-1	Min. Knee pt. Voltage V <sub>k</sub>	Max. CT Sec. Wdg Resistance (ohm)	Max. Excitation current at V <sub>k</sub> (in mA)																																																				
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284	Drawings	2	-	<p>Specifications of CT</p>																																																								



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AMLEKHGUNJ 132 KV SUSTATION CONSTRUCTION PROJECT

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CLARIFICATION-1

SN	Reference of bidding document				Bidder's Query	NEA Reply
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285	Technical Specification	46	TABLE-4A		Specifications of VT given in SLD and Ch 19_GIS documents are different. Request you to check and confirm clear VT specifications to be consider.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
286	Drawings	2	-	<p>Specifications of VT</p>		
287	GTP_GIS_132kV_66kV	4	1g: GENERAL-28	Enclosure Protection required is IP55W	Requirement for subject project is for indoor application. IP 55 is used for outdoor installation requirement. By considering Indoor application we recommend to use IP 43 protection class. Please confirm.	shall be decided during DDE.
288	GTP_GIS_132kV_66kV	1	ITEM No.1 : 132kV GIS ( 132kV CIRCUIT BREAKER ) - 19 Operating Mechanism		In technical datasheet, three phase autorecloser is given. Whereas in Annexure 1, single & three phase autoreclosing is given. There is no specific clause of this point in PSR which clarify exact requirement. So request to clarify which one should we follow for subject tender.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
289	Technical Specification	39	Annexure 1- 16			
290	Drawings	1	-		From given SLD it seems all terminations are through SF6 to Air Bushing whereas in Layout some terminations are through cable and some terminations are through SF6 to Air Bushings. Request you to confirm bay wise termination details to be consider.	The detail design is in the scope of the successful contractor and shall be decided during DDE.
291	Drawings	2	-			
292	Technical Specification	20	8. Instrument Transformer	Standard for CT & VT : IEC 60044-1 Current transformers IEC 60044-2 Voltage transformers	Latest reference standard for Instrument Transformers are IEC 61869-2 Current transformers IEC 61869-3 Voltage transformers Please accept.	The detail design is in the scope of the successful contractor and shall be decided during DDE.

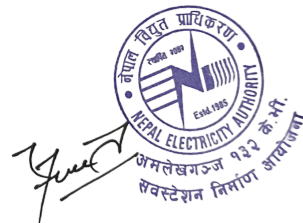
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293	Technical Specification	4	3.9	These compartments shall be such that maintenance on one feeder may be performed without de-energising the adjacent feeders.	By keeping in view the criticality of the substation, For 72.5kV & 145 kV GIS, during busbar disconnector maintenance, only adjacent two feeders shall be out of service. Request customer to kindly confirm the same.	Shall be as per bid documents and shall be discussed during DDE.							
294	Technical Specification	4	3.11	Due to safety requirement for working on this pressurized equipment, whenever the pressure of the adjacent gas compartment is reduced during maintenance, this compartment shall be designed so that it shall remain in service to perform its intended duty.	Due to safety requirements, if the gas pressure of a compartment is reduced, the same part can not be kept in service as the gas density in the stated compartment shall not be sufficient to withstand the electrical stress.	Shall be as per bid documents and shall be discussed during DDE.							
295	Technical Specification	4	3.12	The material and thickness of the enclosures shall be such as to withstand an internal flash over without burn through for a period of 300 ms at rated short time withstand current. The material shall be such that it has no effect of environment as well as from the by-products of SF6 breakdown under arcing condition.	The burn through shall be as per IEC 62271-203. Table enclosed for reference <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2">:40 kA r.m.s.</td> <td>1</td> <td>0,1 s</td> <td>No external effect other than the operation of suitable pressure relief devices.</td> </tr> <tr> <td>2</td> <td>50,3 s</td> <td>No fragmentation (burn-through is acceptable)</td> </tr> </table>	:40 kA r.m.s.	1	0,1 s	No external effect other than the operation of suitable pressure relief devices.	2	50,3 s	No fragmentation (burn-through is acceptable)	Shall be as per bid documents and shall be discussed during DDE.
:40 kA r.m.s.	1	0,1 s	No external effect other than the operation of suitable pressure relief devices.										
	2	50,3 s	No fragmentation (burn-through is acceptable)										
296	Technical Specification	5	3.20.	The switchgear shall be of the free standing, self-supporting with easy accessibility to all the parts during installation & maintenance with all high-voltage equipment installed inside gas-insulated metallic and earthed enclosures, suitably sub-divided into individual arc and gas-proof compartments preferably for:	The compartments of GIS shall be as per manufacturer's design. By following our design, we can still maintain service continuity requirements the specifications ask for. Moreover, this design is accepted and supplied to many utilities worldwide	Shall be as per bid documents and shall be discussed during DDE.							
297	Technical Specification	6	3.26	Manufacturer shall submit the study report of VFTO generated for GIS installation.	As per IEC 62271-203, VFTO studies are not applicable for 220 kV and 145 kV voltage levels. Therefore this studies are not required and shall be excluded from OEM scope.	Shall be as per bid documents and shall be discussed during DDE.							
298	Technical Specification	7	3.32.	The ladders and walkways shall be provided wherever necessary for access to the equipment.	We envisage provision of Mobile Ladders for access to operating mechanisms and no walkways are necessary for proposed Layout. Please accept.	Shall be as per bid documents and shall be discussed during DDE.							
299	Technical Specification	7	3.37	However, for design purposes, ambient temperature should be considered as 50 degree-C	The design ambient temperature shall be 40 deg C. Temperature rise shall be as per IEC 62271-1	Shall be as per bid documents and shall be discussed during DDE.							
300	Technical Specification	7	3.38	Temperature rise of all current carrying parts and enclosures shall be limited to the values stipulated in IEC-62271-1, under rated current and the climatic conditions as specified. The temperature rise for accessible enclosure shall not exceed 20 degree C above the ambient temperature of 50 degree C.	As per IEC -62271-1, The temperature rise for accessible enclosure shall not exceed 20 degree C above the ambient temperature of 50 degree C. In the case of enclosures, which are accessible but need not be touched during normal operation, the temperature rise limit may be permitted up to 30 degree C above the ambient of 50 degree C. The offered GIS is type tested to meet this IEC standard. Please Confirm.	Shall be as per bid documents and shall be discussed during DDE.							
301	Technical Specification	8	3.43.	Grounding:	The earthing proposal shall be provided during the detailed engineering stage. However supply of any earthing material shall be excluded from OEM scope of supply.	Shall be as per bid documents and shall be discussed during DDE.							



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302	Technical Specification	9	3.44.	Contractor shall provide adequate number of UHF sensors in the offered GIS for detection of Partial discharge (of 5 pC and above) as per IEC 60270 through Partial Discharge (PD) monitoring system and the number and location of these sensors shall be subject to approval of the employer/consultant. Further UHF sensors shall necessarily be provided in close proximity to VT compartments However adequacy of number of sensors and their location shall be verified at site by the contractor as per recommendations of CIGRE task force TF 15/33.03.05 (Task force on Partial discharge detection system for GIS: Sensitivity verification for the UHF method and the acoustic method). In case during site testing additional UHF sensors are required, the same shall also be supplied & installed to complete the technical requirement.	Number of UHF sensors & the location of UHF sensors shall be as per manufactureres' recommendations. Please note that the locations of sensors shall be decided during detailed engineering itself to achieve the desired sensitivity & the same will be reflected on the drawings which will be submitted for approval. No change on the same recommended at site. please accept.	Shall be as per bid documents and shall be discussed during DDE.
303	Technical Specification	16	4.9.2	Routine Tests Functional tests are to be carried out on circuit breaker along with Control Switching device (CSD). DCRM (Dynamic Contact Resistance Measurement) to be carried out for all CBs during routine test.	Applicability of CSD is depend on point number 15 & 16 of this clarification sheet. Request you to confirm whether CSD is required for subject tender. The DCRM test is not performed on the CB as part of FAT test. However, we shall submit the routine test reports of DCRM test.	Shall be as per bid documents and shall be discussed during DDE.
304	Technical Specification	17	5.2.12	The disconnectors and safety grounding switches shall have a mechanical and electrical inter-locks to prevent closing of the grounding switches when isolator switches are in the closed position and to prevent closing of the disconnectors when the grounding switch is in the closed position. Integrally mounted lock when provided shall be equipped with a unique key for such three phase group. Master key is not permitted.	When there is a three position switch (a module having both the switches in it-disconnect switch and earth switch) a mechanical interlock shall be provided, but when the mentioned switches are different modules, practically it can not be made possible to introduce the stated mechanical interlock. The product types that we are considering for the project under discussion have been supplied to and installed at numerous substations in India and abroad.	Shall be as per bid documents and shall be discussed during DDE.
305	Technical Specification	18	6.2	Each safety grounding switch shall be electrically interlocked with its associated disconnectors and circuit breaker such that it can only be closed if both the circuit breaker and disconnectors are in open position. Safety grounding switch shall also be mechanically key interlocked with its associated disconnectors.	In case of 145kV GIS, we have two types of DS module. 1. Two position DS- In this design we can not provide mechanical interlock. So there will be only electrical inter-locks between DS & separate ES. 2. Three position DS (DS+ES)- In this design we can provide mechanical interlock.	Shall be as per bid documents and shall be discussed during DDE.
306	Technical Specification	19	6.13	Continuous current rating of the grounding switches (not less than 100A) shall be specified by the manufacturer, which can be safely injected for Bay/ Bus equipment testing.	The same shall be in line with IEC 62271-102.	Shall be as per bid documents and shall be discussed during DDE.
307	Technical Specification	27	13.2.1	It shall comprise structural frames completely enclosed with specially selected smooth finished, cold rolled sheet steel of thickness not less than 2mm for weight bearing members of the panels such as base frame, front sheet and door frames and 2.0mm for sides, door, top and bottom portions.	As per the standard practice, for the weight bearing members a sheet thickness of 2.5 mm is more than sufficient and as a GIS manufacturer we recommended the same and for non weight bearing members the same is 2 mm thick. We request customer to kindly confirm the same.	Shall be as per bid documents and shall be discussed during DDE.



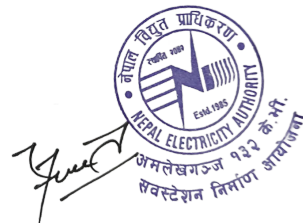
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308	Technical Specification	32	21	All transport packages containing critical units viz Circuit breakers and Voltage transformers shall be provided with sufficient number of electronic impact recorders (on returnable basis) during transportation to measure the magnitude and duration of the impact in all three directions. The acceptance criteria and limits of impact in all three directions which can be withstood by the equipment during transportation and handling shall be submitted by the contractor during detailed engineering. The recording shall commence in the factory and must continue till the units reach site. The data of electronic impact recorders shall be downloaded at site and a soft copy of it shall be handed over to Engineer – in –charge. Further, contractor shall communicate the interpretation of the data within three weeks.	Shock indicators shall be provided only for VTs being a sensitive equipments. No electronic impact recorders are necessary for Circuit Breaker. Please accept the same.	Shall be as per bid documents and shall be discussed during DDE.
309				Related to Submission of Bid Document		Bidders are requested to submit the scan copy of all the documents in any kind of storage device at the time of bid submission enclosed along with the hard copy.



## CHAPTER 23: EHV XLPE POWER CABLE

### 1 CABLE CONSTRUCTION DETAILS

- 1.1 The XLPE insulated EHV cable shall conform to the requirements of IEC 60502-2 (applicable clauses only) for construction and IEC 60840/IEC 62067 (as applicable) for testing. The terminating accessories shall conform to IEC 60840/ IEC 62067 (as applicable). The offered cables and its terminating accessories shall be compatible with each other.
- 1.2 The EHV grade cable shall be single core, unarmoured, stranded, compacted **Aluminium/Copper (as specified in BPS)** conductor, core screening by a layer of semiconducting tape followed by a layer of semiconducting compound, cross linked polyethylene (XLPE) dry cured insulation, insulation screening with semiconducting compound extruded directly over the insulation, longitudinal sealing by a layer of non-woven tape with water swellable absorbent over insulation screen, followed by radial sealing (**Metal sheath of extruded corrugated aluminum**), **metallic screening by concentric layer of plain copper wire (if required)** to meet short time current requirement, followed by an open helix of copper & overall HDPE sheathed & graphite coated and conforming to the technical particulars of specification. Bidder may offer necessary layers such as separation tape, binder tapes etc additionally as per their manufacturing practices for meeting required performance of the offered cable.
- 1.3 The cable shall be suitable for laying under the climate conditions (as specified in Section-Project) and underground buried installation with uncontrolled back fill and chances of flooding by water.
- 1.4 Cable shall be designed to withstand all mechanical, electrical and thermal stresses under steady state and transient operating conditions.
- 1.5 Progressive sequential marking of the cable length (in metres), at every one metre, shall be provided on the outer sheath of the cable.
- 1.6 Repaired cables shall not be accepted.
- 1.7 Allowable tolerance on the overall diameter of the cables shall be  $\pm 2$  mm.

### 1.8 CONDUCTOR

The conductor shall be of **Copper/Aluminium** wires as specified in the Bid Price Schedule (**BPS**). The shape of conductor shall be compacted segmental having high compactness and smooth surface finish.

### 1.9 CONDUCTOR SCREEN

The conductor screen shall consist of extruded semi-conducting XLPE. Semi-conducting separator tapes may be applied between conductor and the extruded semi-conductor XLPE. The conductors screen (non-metallic semi-conductive) shall be extruded in a single one-time process to ensure homogeneity and absence of voids.

### 1.10 INSULATION

The extruded XLPE insulation shall be applied over the conductor screen to the desired thickness in a void free manner.

### 1.11 INSULATION SCREEN

The insulation screen shall consist of extruded semi-conducting XLPE. Suitable bedding tapes shall be applied over the extruded semi-conducting XLPE.

### 1.12 MOISTURE BARRIER

#### **Longitudinal water barrier:**

The longitudinal water barrier shall be applied over insulation screen by a layer of non woven synthetic tape with suitable water swellable absorbent.

#### **Radial Moisture Barrier:**

This shall be of extruded **corrugated aluminum** sheath.

### 1.13 METALLIC SCREEN:

The metal sheath shall consist of a tube of corrugated aluminium of at least 99.5% purity. The thickness of the corrugated aluminium sheath shall be designed to meet the requirement of the system short circuit rating as specified in **the bidding documents**.

The sheath shall be continuously extruded, of uniform thickness and homogeneous construction, close fitting, seamless and free from defects.

A thin layer of bitumen or other suitable anti-corrosion compound shall be applied over the aluminum sheath.

### 1.14 OUTER SHEATH

The outer sheath shall consist of extruded black coloured HDPE with graphite coating. The outer sheath shall be suitably designed by the addition of chemicals in the outer sheath for protection against termite and rodent attack and shall be coated with graphite.

### 1.15 RATING

The contractor/ manufacturer shall declare current rating of cable for maximum conductor temperature of 90 degree C under continuous operation and 250 degree C during short-circuit condition. The contractor/ manufacturer shall also declare over load curve with duration for conductor temperature of 105 Deg C. A complete set of calculation made in arriving at the current rating shall be furnished, for laying condition envisaged under the project, during detailed engineering for Employer/Employer's reference.

### 1.16 CABLE JOINTING ACCESSORIES

4.16.2 The cable jointing accessories shall include all the straight through joints, Cross bonding, earth continuity cables, Link boxes, Sheath Voltage Limiters (SVLs) etc as required for entire cable route. Bidder shall arrange all special tools and tackles required for making these joints at his own cost. **Unless specified separately in BPS, cable end terminating kits** shall be deemed included as part of cable jointing accessories.

4.16.3 The straight through joint shall preferably be built up from the same material as the main cable and shall have electrical and mechanical withstand capabilities same as or better than the main cable. The joints shall be suitable for tropical conditions as specified in **Section-Project**.

- 4.16.4 The straight through joints and cable end terminations shall be of proven design and should have been type tested as per relevant IEC. A list of supply of cable jointing accessories which are in successful operation in projects, shall be furnished.
- 4.16.5 The detailed description on jointing procedure shall be furnished during detailed engineering.
- 4.16.6 The cable end terminations shall be of anti-fog type and shall be of Polymer type/Porcelain type suitable for withstanding the climatic conditions with required Creepage distance as specified in **bidding documents**. The cable end terminals for terminating the cables shall be complete with accessories & fully compatible with the cables to be supplied. The terminations shall also be capable to withstand mechanical forces during normal and short circuit operations.
- 4.16.7 The cable end terminations envisaged for **mounting on Transmission Line (T/L) Towers** shall necessarily be of Composite Polymer type to reduce the weight on T/L towers. The cable end terminations envisaged for **GIS interface**, shall comply to IEC 60840. It will be the responsibility of the contractor to ensure smooth interface with GIS equipment.

## 2 CABLE DRUMS

- 2.1 Cables shall be supplied in returnable steel drums of heavy construction of suitable size and packed conforming to applicable standards.
- 2.2 Standard drum lengths for manufacturing shall be finalised during detailed engineering. Each drum shall carry the manufacturer's name, the employer's name, address and contract number and type, size and length of the cable, net and gross weight stencilled on both sides of drum. A tag containing the same information shall be attached to the leading end of the cable. An arrow and suitable accompanying wording shall be marked on one end of the reel indicating the direction in which it should be rolled.
- 2.3 Packing shall be sturdy and adequate to protect the cables from any injury due to mishandling or other conditions encountered during transportation, handling and storage. Both cable ends shall be sealed with PE/Rubber caps so as to eliminate ingress of water during transportation and erection.

## 3 TESTS ON CABLES

All XLPE insulated EHV cables shall conform to all Type, Routine and Acceptance tests listed in the relevant IEC & shall submit the type test reports for Employer's approval. If specified in Section-Project, Type tests shall be carried out on the EHV cable as per relevant standard.

## 4 TESTS ON ACCESSORIES

Contractor shall submit type test reports for accessories, as per IEC 60840:1999/ IEC 62067 for Employer's acceptance. Contractor shall submit type test reports as per clause no. 9.2 of Technical Specification, Section: GTR for Employer's acceptance.

## 5 TESTS AFTER INSTALLATION

All tests on cable system as prescribed in IEC 60840:1999/IEC 62067 (as applicable) shall be performed after installation.