NEPAL ELECTRICITY AUTHOURITY

(Government of Nepal Undertaking)

Project Management Directorate

Project Management Department

Keraun132/33kV Substation Project

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Letter Ref No: 077/78, Ch.: 36

Date: October 1, 2020

To

All Prospective Bidders,

Sub: Issuance of Clarification -3

Ref: Design, Supply, Installation and Commissioning of 132/33kV Air Insulated Substation (AIS) at Keraun, Morang District with Associated 33kV Sub Transmission Line (OCB: PMD/EGMP/KRON/077/78-01)

Dear Sirs/Madams,

In reference to the captioned Bid Published on 10th August, 2020, we are hereby attaching the clarification-3sought by the bidders pursuant to clause 7.1 of the bidding documents.

It is hereby requested to acknowledge the receipt of the same.

With Best Regards,

.....

Darshan Ray Yadav
Project Manager

Invitation for Bids (IFB): PMD/EGMP/KRON/077/78- 01
Design, Supply, Installation and Commissioning of 132/33kV Air Insulated Substation(AIS) at Keraun, Morang District with Associated 33kV Subtransmission Line
Project: Electricity Grid Modernization Project

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<tr><td>1</td><td>Vol-IIB</td><td></td><td>TECHNICAL DATA SHEET
ITEM No.1: 22.5MVA POWER TRANSFORMER
ITEM No.2: POWER TRANSFORMER 63 MVA

<table><tr><td>10</td><td>Temperature Rise</td><td></td><td></td></tr><tr><td>10.1</td><td>Temperature Rise above 45°C ambient
- In Oil by Thermometer
- In Winding By Resistance</td><td>
°C
°C</td><td>
50
55</td></tr><tr><td>10.2</td><td>Hottest Spot Temperature in Winding Limited to</td><td>°C</td><td>55</td></tr></table></td><td>As per IEC 60076-2, Winding hot spot temperature rise is usually higher than the average winding temperature rise by 13°C. However in the TDS, the difference between average winding and hottest spot temperature is 0°C. Please kinldy confirm the bidder could follow the IEC standard.

Table 1 – Temperature rise limits
<table><tr><th>Requirements for</th><th>Temperature rise limits
K</th></tr><tr><td>Top insulating liquid</td><td>60</td></tr><tr><td>Average winding (by winding resistance variation):
– ON.. and OF.. cooling systems
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70</td></tr><tr><td>Hot-spot winding</td><td>78</td></tr></table></td><td>WILL BE AS PER Latest IEC Standard</td></tr>
<tr><td>2</td><td>Vol-IIA

Vol-IIB</td><td></td><td>Technical Specification- Chapter 1: Project Specific requirement
6.0 BASIC REFERENCE DRAWINGS
6.1 Single line diagram and general arrangements are enclosed with the bid documents for reference, which shall be further engineered by the bidder.</td><td>Please indicate if 132/33 kV switchyard layout/Bay section layout could be minor adjusted such as tubalar bus connecting type in accordance with design requirement</td><td>As per BPS or adjusted during engineering Design.</td></tr>
<tr><td>3</td><td>Vol-IIB</td><td></td><td>DRAWINGS
Layout drawing
Control room ground floor plan</td><td>The control building arrangement and size showed are different. Please confirm in which drawing the arrangement shall be followed.
In case there is no indicating in Price schedule, please confirm whether the staff quarter and guard house shown on layout are in the scope or not.</td><td>Drawing of Control Building will be finalized later during details engineering Design and construction of staff quarter and guard house are not in this scope.</td></tr>
</table>

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4	Vol-IIB Vol-III		PRICE SCHEDULE -1 1.8 Station supply 1.9 Battery & Battery Charger DRAWING Standard SLD for AC/DC System	In price schedule, it indicated a simple system with single 300kVA 33/0.4kV station transformer for example, The drawing shows a more complex one including redundant 630kVA transformer, 220VDC, 48VDC, 500kV DG for a typical 400kV substation SLD. Since there is no 400kV future reuirement, we just need to consider base on the price schedule. Please confirm if our understanding is correct: One 220V Battery charger, One 220 V maintenance free lead acid sealed type battery complete for Keraun 132kV. One 220V Battery charger, One 220 V maintenance free lead acid sealed type battery complete for Keraun 33kV. However, they can be standby for each other. One 110V Battery charger, One110 V maintenance free lead acid sealed type battery complete for Biratchowk 33kV line bay extension. The 48VDC for Keraun communication equipment power supply shall be redundant. The Battery/Charger capacity, ACDB/DCDB circuit quantity shall estimate feeders for entire present and future bays requirement. None lighting transformer shall be required.	Please quote as per BPS. However, the design of the auxiliary system will be finalized during detail engineering.
5	Vol-IIA		Chapter 4 – General Technical Requirement, LT Switchgears CONSTRUCTIONAL DETAILS OF SWITCHBOARDS AND DISTRIBUTION BOARDS 1.1.1. All boards shall be of metal enclosed, indoor floor mounted, compartmentalised double front construction and freestanding type. 1.1.18. All Circuit breaker boards shall be of Single Front type, with fully drawout circuit breakers, which can be drawn out without having to unscrew any connections.	Since all switchboards are equipped with circuit breaker, we understand the structure shall be front pannel for operator, and back pannel for maintenance.	Asper the specificaton

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6	Vol-IIA Vol-IIB		Technical Specification- Chapter 1: Project Specific requirement The 132, 33, 11 kV bays under present scope at the substation 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 at Siuchatar, Kathmandu). CHAPTER 17: SUBSTATION AUTOMATION SYSTEM Gateway for remote supervisory control (to RLDC), the gateway should be able to communicate with LDC on IEC 60870-5-101 protocol. Protocol converter should be used wherever required to match to existing communication system installed at MCC to be located at Baneshwor Substation. Gateway for remote control via industrial grade hardware through (MCC) on IEC60870-5-104 protocol	Please confirm whether the SCADA integration work shall be taken in Two place (LDC at Siuchatar Substation, MCC at Baneshwor Substation). If so, please also confirm if the information in ANNEXURE-V EXISTING RTU BASED SCADA & ITS DATA ACQUISITION is also applicable for MCC at Baneshwor Substation.	2 Nos. of IEC 60870-5-104 protocol gateways are required for data communication for LDC and ECC (Emergency control center of LDC at Hetauda). Similarly 2 nos. of IEC 60870-5-104 protocol gateways for Master control center of Grid network. The location will be finalised during detail engineering design phase. There is no requirment for integraton with MCC at Baneshwor.
7	Vol-IIA Vol-IIB		Technical Specification- Chapter 1: Project Specific requirement Augmentation and integration work related to Communication System The existing FO communication link including RTU exists between existing Duhabi-Padajungi (Damak) Substations. Data and voice communications from various substations and power houses flow to LDC in the direction of between Duhabi-Padajungi (Damak) Substations – Siuchatar.	Please provide with necessary information of existing Duhabi-Padajungi (Damak) and LDC Kathmandu FO communication link equipment, such as brand/model.	The PDH based equipments are exist at Duhabi and Damak 132 kV substation. The PDH are GE make DXC 5000. Now LDC has been going to install the SDH STM -4 level equipments. The Contractor ABB will be installed ABB make FOX 615 SDH equipments at that regions.
8	Vol-IIB Vol-III		Chapter 21- Technical Data Sheet Schedule of Rates and Prices	Please provide Technical Data Sheet and Price Schedule in MS excel format or any editable, for bid preparation purpose.	Plz write us indivisually email requiesting for editable soft copy.

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9	Site		Civil work specification or scope which are uncertain	As boundary has been built at site, please confirm whether the earthwork filling shall be all large area within boundary wall, or just current 132/33kV substation area(within fence, road, building area). Please indicate the ground filling elevation requirement. Please provide with any geological report can be refered if availiable.	Filling shall be done within boundary wall i.e as per BPS
10	Vol-IIA		CHAPTER 7: LT TRANSFORMER 10.0 Technical Specification	Some of the Specification are wrong, 33/0.4kV, 11/0.4kV transformer specification are mixed together. Please clarify.	Station Transformer will be 33/0.4kV
11	Vol-IIA Vol-III		Training at Manufacturer's works 1. Control & Protection and Substation Automation System: 5 Days. (4Nos. Trainees) 2. Switchyard Equipments (Circuit Breaker, Isolator CT, CVT & LA):2 Days. (4 Nos Trainees) 3. Telecommunication Equipment (SDH, MUX & NMS (Craft Terminal)) and PLCC: 2 Days. (4Nos. Trainees) 4. Transformers: 2 Days. (4 Nos Trainees) In BPS 4b Training Charges for training to be imparted abroad i) Control & Protection and Substation Automation System : 3 Trainees for 5 days. ii) PLS-CADD & PLS-TOWER: 3 Trainees for 5 days. iii) Telecommunication Equipment (SDH ,MUX & NMS (Craft Terminal)): 3 Trainees for 5 days. iv)Transformer: 3 Trainees for 5 days.	The required training shedule and course are not inconformity, please clarify which one shall be followed.	AS per BPS.

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12	Vol-IIA Vol-III		On Job Training in Nepal 1. Control & Protection 5 Day 2. Substation Automation System including integration aspects of SCADA 5 Day 3. Telecommunication Equipment (SDH, MUX & NMS (Craft Terminal)) 5 Day 4. Power Transformers 3 Day 5. Switchyard Equipments (Circuit Breaker, Isolator, CT, CVT& LA): 3 Day In BPS 4c Training Charges for training to be imparted to Employer's Personnel by Bidder's Instructor in Nepal i) Control & Protection 5 Day ii) ii) Substation Automation System including integration aspect of existing SCADA (of Siemens suppliedSINAUT Spectrum Software) at Load Dispatch Center 5 Day iii) Telecommunication Equipment (SDH ,MUX & NMS (Craft Terminal)) 5 Day iv. TRANSFORMERS 5 Day	The required training shedule and course are not inconformity, please clarify which one shall be followed.	As per BPS
13	General	Schedule No. 4 (a): Installation and Other Services		Taxes and Duties: Please confirm that taxes(VAT & Local Taxes) are exempted or will be reimbursed on Installation Price(Schedule 4).If not then please suggest what kind of other taxes will be applicable on Installation price on schedule 4.	As per rules of Nepal Government. Custom and VAT will be reimbursed at actual.
14				For locally Purchase items for installation & Civil work like cement, concreate and other consumable items, when we will buy these items locally in Nepal that time we have to pay local taxes (VAT & Other taxes) on invoice value, so our concern is that taxes on these items will be exempted or reimbursed. If exempted then will you provide us advance exemption letter. Please confirm.	Your understanding regarding Cutom and VAT are correct. TDS as an advance income tax is applicable as per the taxation rules and regulations of Government of Nepal. Please Refer the following website of Inland Revenue Department of Nepal for the prevailing rates which may be revised time to time:https://ird.gov.np/Content/ContentAttachment/10/IncomeTaxAct2058 1252019125151PM.pdf

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15		Clarification No.1	Point No.27 -Custom VAT and other taxes -Custom duty:1%, Vat:13% will be reimbersed by NEA.	1) Please confirm that VAT will be applicable or not for Price Schedule 2,3,4. 2) We understand that we need to consider 1% special custom duty in place of item wise custom duties. please confirm. 3) Please provide details of other type taxes ?	1) VAT will applicale for Price schedule4 2) 1% custom duty applicable for Price schedule 1 3) plz refer above. Please note the Custm duty and VAT shall be quoted seperately, shall not be included with the unit prices. But the TDS as applcable shall be included with the unit quoted price.
16	Vol-IIA	Clause No. - 4.3 & Page No. 19 Clause No. - & Page No. 107		In Project Specific Requirement of Vol-IIA ,Pdf Page No-19,Cl.No-4.3, it is mentioned that fault level for 33kV System is 25/31.5kA for 3 sec. But in Technical specification of Vol-IIA, Pdf Page No- 107,Sr.No-5, it is mentioned that fault level for 33kV Outdoor VCB is 25kA. Kindly Clarify.	The Rated short circuit current of 33kV system is 31.5kA.
17	BPS			Indian Standards (IS) are accepatable for Equipment Terminal Connectors, Clamps and all other accessories required sustation works. Kindly Clarfiy	Please refer the technical spesification.
18	BPS	Sr.No-1.4.2		In Bid Price Schedule ,Sr.No-1.4.2 : 30VA Burden is mentioned for 145kV CT. But in Technical Specification of Vol-II A Pdf Page No-137,Table-IIB, 20VA Burden is mentioned for 145kV CT. Kindly Clarify	As per bid price schedule.
19	BPS			Live Tank or Dead Tank Type of Instrument Transformers are required for New Susbtaton & Bay Extension. Kindly Clarify.	As per Bid documets.
20	Vol-IIA	Clause No. - 10.2 & Page No. 375		In Technical Specification of Vol-IIA,Pdf Page No-375,Cl-No-10.2, Bay Marshalling Kisok shall provided for Provided for 132kV System. But in Bid Price Schedule Separate line item is not Provided for Bay Marshalling Kiosk. Kindly Clarify.	Line bar for Bay Marshalling Kisok is not provided Seprately in BPS. The price of such ietm shall be included in in respective equipments.
21	BPS	Sr.No-1.11.1		In Bid Price Schedule (BPS) ,Sr.No-1.11.1, 3 Nos. of 33kV Double Structure & Stay set quantity provided for Outgoing feeders. But as per SLD & BPS,33kV Outgoing Feeders are 5 Nos(without Spare) Kindly Clarify	Quote as per the BPS

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22	BPS	Sr.No-1.11.2		In Bid Price Schedule (BPS) ,Sr.No-1.11.2, 2 Nos. of 11kV Double Structure & Stay set quantity provided for Outgoing feeders. But as per SLD & BPS,11kV Outgoing Feeders are 3 Nos(without Spare). Kindly Clarify	Quote as per the BPS
23	Vol-IIA	Clause No. - 8.3 & Page No. 372		In Technical Specification of Vol-IIA,Pdf Page No-372,Cl-No-8.3, it is mentioned Copper Conductor material shall be used for Subsbation Grounding system. Based on Design calculations, any other material can be used for Susbstation Grounding system. Kindly Clarify.	Copper Conductor material shall be used for Subsbation Grounding system.
24	General			For HT XLPE Cable Round Armored or Flat Armoured is Required. Kindly Clarify	HT XLPE Cable Round Armored
25				ACSR Cardinal conductor specifications/GTP not given in tender documents, Please provide	Conductor technical details shall be submitted for approval during DDE.
26				GTP for Power & Control Cables are not given in technical data sheet, construction details of the Copper cable for the three core HT Cables not specified.	Please provide as per specification. The bidder is required to submit technical detail during DDE.
27				Requirements of 145 kV CTs. As per BOM there are 18 nos. of 145 kV CTs required. From technical specifications we find that there are 4 types of CTs required. However, it is not clear the no. of CT's of each type. Also, the Ratios specified in SLD and in the technical specifications are not matching. Please provide clear ratio for each type.	Please provide as per specification. The bidder is required to submit technical detail during DDE. The ratio and rating can be finalized during DDE.
28				Inputs required for specs of CT & PT, Excel sheet attached separately, please provide the required details.	please refer the technical specification.
29				Hardware Accessories, Connectors specs are not provided, please provide the same.	Technical details shall be submitted for approval during DDE.
30	CHAPTER-15: CONTROL AND RELAY PANELS, 31, Page 15-27		RELAY TEST KIT One relay test kit shall comprise of the following equipment as detailed here under 3 sets Relay tools kits 2 nos. Test plugs for TTB 2 nos. Test plugs for using with modular type relays (if applicable)	Please clarify whether supply of Relay Test Kit is in the present scope or not, as same is not mentioned in tender price schedule.	Quote as per the BPS
31	CHAPTER-15: CONTROL AND RELAY PANELS, 33, Page 15-28		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.	Conventional type is not applicable

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32	CHAPTER-15: CONTROL AND RELAY PANELS, 33, Page 15-30		LINE PROTECTION PANEL (220kV and 132kV) 9. Cut-out and wiring with TTB for energy meter	We understand that supply of Energy Meters are in the present scope. Please confirm.	Confirm. Shall be provided with the panels & switchgears
33	CHAPTER-15: CONTROL AND RELAY PANELS, 33, Page 15-30		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.	As per bid document. (Backup protection is required)
34	CHAPTER-15: CONTROL AND RELAY PANELS, 33, Page 15-30		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.	As per bid document.
35	CHAPTER-15: CONTROL AND RELAY PANELS, 33, Page 15-33		TRANSFORMER PROTECTION PANEL (132/66kV) 18. Cut-out and wiring with TTB for energy meter	We understand that supply of Energy Meters are in the present scope. Please confirm.	Confirm
36	CHAPTER-15: CONTROL AND RELAY PANELS, 33, Page 15-33		TRANSFORMER PROTECTION PANEL (132/11kV) 8. Cut-out and wiring with TTB for energy meter	We understand that supply of Energy Meters are in the present scope. Please confirm.	Confirm
37	CHAPTER-15: CONTROL AND RELAY PANELS, 33, Page 15-33		33kV Line Protection Panel	There is no specification available for 33kV Line Protection. We understand Directional Over current and Earthfault protection to be offered for 33kV Line Feeder. We understand that over current and earth fault protection as in-built of Bay Control Unit will also be acceptable. Please confirm.	As pet the specification
38	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 2.2, Page 17-6		Typical SAS Architecture Diagram (Page 17-6)	This architecture is not in-line with NEA specification and system requirement. This is also conflicting with the architecture digram provided in page number 7-39. We understand that we need to refer the SAS architecture diagram as provided in page number 7-39 only. Please confirm.	Please refer to the architecture system appliable for new substation

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39	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 2.2, Page 17-6		The SAS shall be bay oriented, i.e.: o Addition of a new feeder or transformer shall be an easy operation from a configuration and manufacturing point of view (copy of an existing model). The system interlocking shall be done by the mean of a topological interlocking, using the topology and expert rules to authorise or inhibit the switchgear operation. All these data will be exchanged between involved IED using the standard IEC61850 GOOSE or equivalent procedures. o Each bay has an autonomous behaviour, i.e. local control and interlocking, sequence of events, etc. It is connected to other bays by logical means for system wide functions, such as interlocking or Busbar protection, but can have a downgraded mode with complete protection and control of the local bay. o Each IED shall have its own integrated Ethernet switch.	Please note that offering Integrated Ethernet Switch as part of IEDs will reduce the network availability as any fault in individual IED will result in non-availability of the complete network. So, request you to consider external Ethernet Switches as per the standard practice of all major utilities. As per the specification clause 4.1.5, One switch shall be provided to connect all IEDs for two bays of 220kV yard to communication infrastructure. Present clause if conflicting with reffered clause. We understadn that we need to refer clause 4.1.5 for Ethernet Switch qty calculation. Please confirm.	1. External switch can be accepted, to be decided during DDE. 2. For 220kV and 132kV system, dedicated switch shall be provided. 3.
40	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 3.3.4, Page 17-18		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.	Please refer above S.No. 5
41	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 3.3.4, Page 7-18		The telecontrol gateway shall interface up to 5 telecontrol centres, each with a possible link redundancy. It maintains a database per control centre.	We understand that the Gateway shall support up to 3 telecontrol centre considering NEA LDC requirements. i.e, Main LDC, Backup LDC and Remote Control Centre. Please confirm.	As per the specification.
42	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 4.1.5, Page 17-20		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 220kV 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 for estimatation of Bay level ethernet switches for 132kV, 33kV and 11kV System. Hence we propose as below. Please confirm. One switch shall be provided to connect all IEDs for every three bays of 132kV and one switch for all the bays of 33kV and one switch for all the bays of 11kV to communication infrastructure.	Provide as per specification and clarification above.

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43	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 4.2.1, Page 17-21		Technical Parameters of BCU: 2. Protocol Capabilities: Ethernet based communication: Dual on ¬Board with dual I.P. addresses on IEC-61850 & upgradeable in future.	As per specification clause 2.2, the redundant connectivity between IEDs and Ethernet switches is not required. Hence the requirement of dual on board with dual IP address mentioned in this clause will not be applicable for this project. This is also in-line earlier supplies to NEA. Please confirm.	Provide as per specification.
44	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 4.2.1, Page 17-21		Technical Parameters of BCU: 10. Event Logging : Storage of events up to 2000 in ROM.	As per specification clause 3.1.1.1., BCU should support data storage for at least 200 events. We understand that "2000 events" mentioned in this clause is a typographical error and same should be read as "200 events". Please confirm. Our Bay Control Unit supports up to 1000 events storage. This is also in-line earlier supplies to NEA. Please confirm your acceptance for the same.	Provide as per specification.
45	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 4.2.1, Page 17-22		Technical Parameters of BCU: 16. Internal Ethernet : 4 X 10/100 Base T (RJ-45) ports+2X10/100 Base Switches Fx (optical) ports for redundant Ethernet network.	Please note that offering Integrated Ethernet Switch as part of IEDs will reduce the network availability as any fault in individual IED will result in non-availability of the complete network. So, request you to consider external Ethernet Switches as per the standard practice of all major utilities. As per the specification clause 4.1.5, One switch shall be provided to connect all IEDs for two bays of 220kV yard to communication infrastructure. This is also in-line with previous supplies to NEA. Present clause is conflicting with above reffered clause. Hence we will be offering clause 4.1.5. Please confirm your acceptance for the same.	1. External switch can be accepted, to be decided during DDE. 2. For 132kV system, dedicated switch shall be provided.
46	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 4.2.1, Page 17-22		Technical Parameters of BCU: 17. Additional ports : 1 X RS232 and 3 X RS485 can support IEC 103 Modbus, should be s/w configurable.	As per other parts of specification and technical requirements of a Bay Control Unit, there is no requirement of so many serial ports supporting legacy protocols like IEC103 and Modbus. We shall offer Bay control unit with one rear FO port on IEC61850 for remote communication. This is also in-line with earlier supplies to NEA. Please confirm your acceptance for the same.	Provide as per specification.

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47	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, Page 7-39		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 aslo be acceptable. Please confirm.	Refer above. Shall be provided as per specification
48	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 2.2.2, Page 7-43		2.2.2 Communication Standard IEC 61850 is based on Ethernet 100 Mbps. The communication between bays shall use fibre optic. The architecture shall be a redundant loop so that the damage on one fibre will not affect the SAS. The switching time from one loop to the other shall be less than 1 ms in order to keep the peer-to-peer exchanges performances in case of a network failure. There shall be one switch per bay so that the failure of one switch will not affect more than one bay. The switch shall preferably be a board integrated within the protection and control devices. The switch must have at least 1 spare port reserve for future enhancement at the bay level and temporary HMI connection.	As per the specification clause 4.1.5, One switch shall be provided to connect all IEDs for two bays of 220kV yard to communication infrastructure. Present clause if conflicting with reffered clause. We understadn that we need to refer clause 4.1.5 for Ethernet Switch qty calculation. Please confirm.	Refer above.
49	CHAPTER 17: SUBSTATION AUTOMATION SYSTEM, 2.3.1, Page 7-44		The Tele-protection interfaces are project specific. Sufficient Ethernet ports shall be required to communicate with the following: a) Main/Backup Smart Grid Control Centres b) Main/Backup SLDC/ALDC	We understand that the Gateway shall support up to 3 telecontrol centre considering NEA LDC requirements. i.e, Main LDC, Backup LDC and Remote Control Centre. Please confirm.	Shall be as per the specification.
50	CHAPTER 1- Project Specification Requirement, 11.0, SPECIFIC REQUIREMENT		q. Separate protection relay (IED) shall be provided for 132 kV Class Transformer directional over current and earth fault relay (for both HV & LV side). Inbuilt function in any other protection IED/BCU is not acceptable.	As per Chapter 15, Clause 21 Over current and earth fault protection as part of Group I/II Protection relays will be acceptable. We understand that over current and earth fault relay as in-built function of Group I/II Protection relays will also be acceptable. Please confirm	Refer above
51	BOQ Price Schedule - Spares		Indicating Lamps and Color Caps of each color for indicating lamps	We understand that these spare components are not applicable, as there is no requirement of conventional type control panels in the present scope. Please confirm.	Please quote as per BPS.
52	Chapter 18. – Technical Specification for Fibre Optic Based Communication Equipment	2.2 General Network Characteristics: Page 18.4-17	The fibre optic network shall be based on the Synchronous Digital Hierarchy (SDH) having bit rate of STM-4 (upto 3 MSP protected directions)	As per specification upto 3 MSP protected directions is mentioned where as per BOQ 4 MSP protected directions is asked. Kindly specify the exact requirement	At least 4 MSP protection direction is mandatory. Quote as per the BPS

Invitation for Bids (IFB): PMD/EGMP/KRON/077/78- 01
Design, Supply, Installation and Commissioning of 132/33kV Air Insulated Substation(AIS) at Keraun, Morang District with Associated 33kV Subtransmission Line
Project: Electricity Grid Modernization Project

Clarification-3

S.No	Volume / Section	Clause No.	Text as per Bid document	Prebid Query	Reply from NEA
53	Chapter 18. – Technical Specification for Fibre Optic Based Communication Equipment	2.3 Fibre Optic Transmission System : Page 18.4-21	SDH equipment should have 1 nos. of minimum 16 port E1 interface(G.703) card,	As per specification '1 nos. of minimum 16 port E1 interface(G.703) card' is required, where as per BOQ E1 Interface card (Min.8 interfaces per card) is asked. Kindly specify the exact requirement of E1 port	As per BOQ min. 8 interfaces will be sufficient for E1 interface card.
54	BOQ for FOTE 132/33KV Keraun AIS SS		Digital Protection coupler - 4 Nos	Kindly specifiy the distribution of 4 nos protection coupler along with link distance.	The TL is single ckt. So Digital protction coupler will be installed each at Damak and Duhabi s/s. And 2 nos. will be installed at Keraun s/s. for the transmission line segment Damak - Keraun 132 kV line and Keraun - Duhabi 132 kV line.
55	Chapter 1, Clause no. 2(a)		Scope of works under Project Specific Requirement:	It is mentioned in the document that " Supply, Installation, testing & commissioning of communication equipment's (Fibre Optic based) for Keraun Substation, Duhabi substation, Padajungi Substation and Anarmani Substation under Keraun 132/33 kV Substation Project, as per Technical specification for Fibre Optic Based Communication Equipment included in the present scope of work". It seems that the Bidder has to supply 4 SDH Equipment. However, in Appendix - A Bill of Quantities and in Price Schedule the required Qty. is 1 no. only for Keraun 132/33 kV Substation. Kindly clarify the required no. of SDH	Quote as per the BPS
56	Chapter 5,	CLAUSE NO: 1.1.3 Battery and Battery Charger		For calculation of 110V DC system Battery sizing, Duty cycle found missing in specification. Kindly request you to provide Load, duration and types of load details as provided in 220V and 48V System.	Plese refer clarification-1
57				As per Technical Specification, Cooling base is Two ONAN/ONAF (51.5MVA/63MVA) , however as per Technical Data Sheet (TDS) Cooling base is three ONAN/ONAF1/ONAF2 (40/51.5/63MVA). Please clarify.	As per TS
58				As per Technical Specification, vector group is Ynyn0. As per TDS, Vector Group Ynyn0d11. Please confirm whether Tertiary is required or not?	If tertiary is provided vector group shall be YNyn0D11.
59				132/11kV Power Transformer: In Technical Specification, vector group is Ynyn0. In TDS Vector Group Ynyn0d11. Please confirm Tertiary required or not.	If tertiary is provided vector group shall be YNyn0D11.

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Clarification-3

S.No	Volume / Section	Clause No.	Text as per Bid document	Prebid Query	Reply from NEA
60	Chapter 17	Clause 1.2	SAS (Substation Automation System) should have following main functional Parts:	As per specification, Gateway for remote supervisory control (to RLDC), the gateway should be able to communicate with LDC on IEC 60870-5-101 protocol. Protocol converter should be used wherever required to match to existing communication system installed at MCC to be located at Baneshwor Substation. Whether Baneshwor Substation is also under the scope? Please clarify whether it is under the scope of this bid or not?	Refer clarification above
61	Chapter 17,	Clause 2.3.1:		As per specification it includes Construction of Master Control Center at Baneshwor Substation. Kindly clarify whether Baneshwor substation is under the scope of this bid or not? If yes, kindly provide the BOQ of the same.	Baneshwor is not in the scope
62	Chapter 18	Clause 1.3.2	Contractor's Responsibilities and Obligations:	Sub-clause 13 requires support of the equipment through final acceptance, and maintenance on all new equipment throughout the warranty period and for a period of six (6) years after warranty period. Need for clarity on terms and conditions on extended warranty. Kindly clarify defect liability period and equipment warranty period.	Extended defect liability period of 3 years for GIS, Power/Autotransformers, Substation Automation System (SAS) shall be excluding the defect liability period from Operational Acceptance
63	Chapter 18,	Clause 2.6		Telecommunication Management Network / Network Management System. This clause states that "The Contractor shall provide a Telecommunications Management Network System (TMN) for operational support to the FOTS and associated Termination equipment subsystems" where as in the Appendix - A Bill of Quantities and in price Schedule this scope is excluded. Kindly clarify.	If required the Contract has to supply the same as specified in the specification without any additional cost to NEA. Bidder has to consider the price of the same in the respective item of communication equipment
64	Chapter 18,	Clause 2.9		Craft Terminal system: The system is mentioned in specification, however it is not included in both Appendix-A and Bill of quantity (BOQ). Kindly clarify whether we have to consider this system.	If required the Contract has to supply the same as specified in the specification without any additional cost to NEA. Bidder has to consider the price of the same in the respective item of communication equipment
65	Chapter 19 & 23	Clause NO: 9 & Item No.6: 4.a) & 7.1		As per specification and TDS the Busbar and Incomer Breaker Rating is 2500A, however as per BOQ the Incomer Rating is 2000A. Kindly confirm the Incomer Breaker & Busbar rating for us to consider during preparation.	Please refer as per BPS
66	SL NO. [ITB(23.1(B)] of section-II of Vol-I: Bid data sheet.		If Bidders shal have the option of submitting their bids electronically, the electronic bidding submission procedures shall be: Not Applicable	Referring to the recent Pandemic situation due to Covid-19, we request you to reassess your decision and give us the chance to submit the bid electronically, or by means of any e-tender platform.	There is only hard copy submitting, no any facility for e-bids or other-etender platform

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Clarification-3

S.No	**Volume / Section**	**Clause No.**	**Text as per Bid document**	**Prebid Query**	**Reply from NEA**
67	General Query		General Query regarding Vehicle	**Please conform** whether we will be allowed to send vehicles from India to the Site along with other Tools and Plants for our daily operation during execution. If allowed, please confirm whether any charge/Tax/duties will be imposed on us.	As per government rules and regulation.