

POWER GRID COMPANY OF BANGLADESH LIMITED

Construction of 230/132/33kV GIS Substation at Anwara, 230/33kV GIS Substation at Bangabandhu Hi-Tech City (Kaliakoir), 132/33kV GIS Substation at Cox'sbazar & Teknaf and 230kV GIS bay extension at existing Kaliakoir Substation (Package-1)

Under

Southern Chattogram and Kaliakoir Transmission Infrastructure Development Project.

[Bid Identification No.: PGCB/AIB/000308-BGD/SS/Package-1]

CLARIFICATION NO.2

A pre-tender meeting was held on August 16, 2022 as per provision of ITT 7.4, Volume 1 of 3 of the Tender Document. Clarifications to the queries received from the prospective Tenderers regarding the Tender Documents prior to and during the Pre-tender meeting and after the Pre-tender meeting are given below which will form part of the tender document.

No.	Volume / Section / Clause / Item / Page/Reference	Description and Queries of Prospective Tenderers	Reply (PGCB)
Volume 01, 02, 03			
1.	Ref: Volume 01/ Section 3: Evaluation and Qualification Criteria/ 2.7 Subcontractors/Manufacturers/ Capacitor Bank Evidence from end users (at least one) of satisfactory service of similar type equipment with same specification or higher rating for a minimum of three (3) years outside manufacturer's own country or in	As per our understanding, satisfactory end user certification is acceptable for any range of capacitor bank voltages (i, e 11kV to 400kV) with similar or higher MVar rating. Please confirm our understanding is correct/clarify which rating you will consider.	As per tender document, evidence from end users (at least one) of satisfactory service of similar type equipment with same specification or higher rating.

	Bangladesh as on the date of tender opening		
2.	Ref: Volume 01/ Section 3: Evaluation and Qualification Criteria/ 2.7 Subcontractors/Manufacturers /Reactor Evidence from end users (at least one) of satisfactory service of similar type equipment with same specification or higher rating for a minimum of three (3) years outside manufacturer's own country or in Bangladesh as on the date of tender opening.	As per our understanding, satisfactory end user certification will be considered for only voltage level, but not other specification. Please confirm our understating is correct/ Clarify which rating you will consider.	Your understanding is acceptable.
3.	Ref: Volume 01 /Section 3: Evaluation and Qualification Criteria /2.7 Subcontractors/Manufacturers /Reactor Satisfactory Type test reports as per clause 1.3 of section-6 of volume-1 of 3 of the Tender Document for similar rating equipment.	As per our understanding, satisfactory Type Test Report will be considered for only voltage level, but not other specification. Please confirm our understating is correct/ Clarify which rating you will consider.	Your understanding is acceptable.
4.	Approach road for Cox's Bazar Substation	It is understood from the site visit that the existing road is about 2.4m wide only and it goes through a Cemetery gate which is about 3.5m wide. This is insufficient for equipment transportation and the construction of approach road with 6m width is specified in the bidding documents. One plan is to expand the existing	PGCB is responsible for land acquisition (if required).

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		road towards the farmland, dismantle the Cemetery gate and dislocate the existing 11kV concrete poles on the side. Another plan is to construct a new road starting from the Cemetery gate and running through the farmland. In both plans, the permit or approval for occupation of the farmland and the compensation thereof are required. The Tenderer is understanding that PGCB shall be responsible for the land occupation/acquisition and the relevant compensation in the plans or any other reasonable plan and PGCB shall enable the Contractor to possess the Site timely. Please confirm our understanding.	
5.	Volume 1 Section 8: SCC 30. Limitation of Liability 30.1 (b) The multiplier of the Contract Price is: 1.5	In general contract clause of ADB/WB/other multinational financing banks, the limitation of liability shall be 1.	Please follow the tender document.
6.	Volume 1-Section 3: Evaluation and Qualification Criteria 2.7 Subcontractors/Manufacturers 2.7.1 Manufacturers	For the Capacitor Bank, Reactor and Cable, you have mentioned that User's letter: Evidence from end users at least one (1) of satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country. Does it mean the time difference between the operation date and the present date of issuing the end user certificate should be more than three (3) years?	Your understanding is correct.

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Clarification-2_AIIB/000308-BGD/SS/Package-1

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		Please kindly confirm that.	
7.	Volume 2 of 3/ Technical Specifications/ P659 Price Schedule/ Schedule -1	Price Schedule/ schedule-1/ SECTION-IV Cox's Bazar (N) 132/33kV Indoor GIS/4C 145kV GIS included 17 circuit breaker bays, Volume 2 of 3/ Technical Specifications/ P659 Main Single line included 21 circuit breaker bays, please clarify which one shall govern, in addition, please provide the detailed layout drawing or the number of bus duct.	No. of GIS bay supply shall be as per schedule-A (scope of work) and schedule-B (Price schedule). Tender SLD is indicative and the tenderer has to consider the SLD and layout considering the future scope.
8.	Volume 2 of 3/ Technical Specifications/ P660 Price Schedule/ Schedule -1	Price Schedule/ schedule-1/ SECTION-V Teknaf 132/33kV Indoor GIS /5C 145kV GIS included 5 circuit breaker bays, Volume 2 of 3/ Technical Specifications/ P660 Main Single line included 10 circuit breaker bays, please clarify which one shall govern, in addition, please provide the detailed layout drawing or the number of bus duct.	No. of GIS bay supply shall be as per schedule-A (scope of work) and schedule-B (Price schedule). Tender SLD is indicative and the tenderer has to consider the SLD and layout considering the future scope.
9.	Volume 2 of 3/ Technical Specifications/ P658 Price Schedule/ Schedule -1	Price Schedule/ schedule-1/ SECTION-III Anwara 230/132/33kV Indoor GIS /3C 145kV GIS included 7 circuit breaker bays, Volume 2 of 3/ Technical Specifications/ P658 Main Single line included 15 circuit breaker bays, please clarify which one shall govern, in addition, please provide the detailed layout drawing or the number of bus duct.	No. of GIS bay supply shall be as per schedule-A (scope of work) and schedule-B (Price schedule). Tender SLD is indicative and the tenderer has to consider the SLD and layout considering the future scope.

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10.	Volume 2 of 3/Technical Specifications/3.4.5.14 Gas Monitors/Page 13 of 78	Whether it need the remote function applied on every separate SF6 gas pressure or only need set up the distributed gas alarm monitor in GIS. Please clarify.	Please follow the tender document. However this issue can be finalized during execution.
11.	Volume 2 of 3/Technical Specifications/MEDIUM & HIGH VOLTAGE POWER CAPACITOR BANKS AND ACCESSORIES	In the specification of the capacitor bank, two kinds of reactors are mentioned, one is three phase harmonic filter which mentioned as Detuned reactor in the technical data schedule, the other one is surge limiting coils which is mentioned as Inrush current limiting reactor in the technical data schedule. Normally, only one kind of reactor will be used along with the capacitor bank. Please clarify.	Please follow the tender document.
12.	Volume 2 of 3/Technical Specifications/medium & high voltage power capacitor banks and accessories.	In the specification, the reactor is mentioned as iron core type with air gap, but in the technical data schedule, the reactor is air core type. Normally for outdoor use, it is air core type. Please clarify.	Your understanding is correct. Please follow the Technical Requirement (GTP). Moreover, the same shall be finalized during execution stage.
13.	Volume 2, Section 4, Clause 4.13.5 Nitrogen Fire Protection System (NIFPS)	In the Specification of Power Transformer, NIFPS is mentioned, yet in Schedules of Rates and Prices - Schedule No. 1. Plant and Mandatory Spare Parts Supplied from Abroad, we didn't see any specific requirement about NIFPS. Please clarify if this is mandatory, if yes, please also let us know where it should be deployed.	Volume 2 of 3 of tender doc. is a general specification. Particular requirement shall be finalized as per Schedule-A (scope of work) and schedule-B (Price schedule).

14.	Volume 2, SEC-TION-17 clause 17.10 Cable Specification	There is no specific requirement about cables' cross section area, please clarify the maximum and minimum cross section area for 132kV and 230kV power cable.	Please follow the price schedule and scope of work for cable cross section area as per tender document.
15.	Volume 2, SEC-TION-17 clause 17.10 Cable Specification	There is no specific requirement about cables' structural configuration, please clarify if the Corrugated aluminium shield for power cables is acceptable.	Please follow the tender document.
16.		The outgoing style for 132kV indoor GIS Circuit Bays and Transformer bays is different in general layout drawings and single line diagram, with GIL termination & SF6 to Air Bushings or with Power Cable?	Please follow the tender document.
17.		Is outgoing style for ALL 132kV indoor GIS Circuit Bays and Transformer bays with Power Cable?	Particular Scope of work for 33kV system has already mentioned in the tender document. Please follow the tender document.
18.	15.1 POWER LINE CARRIER EQUIPMENT 20. Drawing-Communication System Architecture 20. Drawing- Single Line Diagram BOQ	It is shown that the power Line Carrier equipment shall be installed on the 400 kV and 132 kV transmission networks associated with the project. However, no PLC is list in BOQ and the communication drawing, and no line trap is installed at the new-built 132kV line bays in the single line diagram. We understand that no PLC will be considered in this project even though for 132kV power line. If the PLC will be required, kindly specify the	PLC (Power Line Carrier) is not required for the scope of this Contract.

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		coupling mode (phase to phase /phase to earth), voltage level and the specification.	
19.	20. Drawing- Proposed Optical Communication Scheme BOQ-30-Telecommunication System Fibre optic multiplexer equipment for communication and protection	1) The work scope is "Construction of 230/132/33kV GIS Substation at Anwara, 230/33kV GIS Substation at Bangabandhu Hi-Tech City (Kaliakoir), 132/33kV GIS Substation at Cox sbazar & Teknaf and 230kV GIS bay extension at existing Kaliakoir Substation" in the bidding document and the BOQ. 2) The optical communication extension at existing Cox sbazar (old) 132kV substation, Dohazari 132kV substation and Sikabaha 230kV substation is included in the work scope of the communication drawing. Kindly confirm the work scope of the communication.	Scope of work for communication system has already mentioned in the tender document. Please follow the tender document.
20.	20. Drawing- Proposed Optical Communication Scheme BOQ-30-Telecommunication System Fibre optic multiplexer equipment for communication and protection	1) One lot of the fibre optic multiplexer equipment is list in Anwara substation of the BOQ. 2) In the communication drawing, the two separated optical multiplexers and telephones is offered for the 230kV part and 132kV part at the Anwara substation. And the two fibre optic multiplexers is interconnected with the 48-core optical cable. Kindly confirm the requirements of the fibre optic multiplexer equipment.	Yes, two separate Fiber optic multiplexer is required for Anwara substation. Tenderers are requested to follow the communication drawing in addition with the price schedule.

21.	For all new project 1. Anwara 230/132/33kV GIS SS 2. Bangabandhu Hi-tech City 230/33kV GIS SS 3. Coxsbazar 132/33kV GIS SS 4. Teknaf 132/33kV GIS SS	(a) Does the pump house need to be done? If necessary, you need to provide drawings. (b) Whether the dormitory building needs to be done in current period, if necessary, you need to provide drawings. (c) Does the Guard house need to be designed in current period? (d) Does the Sentry post at the four corners need to be designed in current period? (e) Is there any building on the ground of the septic tank? (f) Roof waterproofing material: whether it is 3+3mm SBS modified bitumen waterproofing membrane	For scope of work tenderers are requested to follow the tender document. Necessary drawings have been included in section-20 of volume 2 of the tender document. Other drawings shall be prepared by the Contractor during execution. Roof waterproofing material will be finalized during approval stage in compliance with tender document.
22.	For Kaliakoir 230kV GIS Bay Extension	(a) Do the two Sentry post on the east side need to be done in current period?	Tenderers are requested to follow Scope of works mentioned in Schedule-A and the Price schedule.
23.	For all substations	Please provide (a) Geological survey report (b) Hydrological survey data (Contains flood level information) (c) Scope of land acquisition (including coordinates) (d) Site elevation point information (e) Location of access road	PGCB is responsible for land acquisition (if required) under this contract. Tenderers are requested to visit the site and to collect mentioned information which may necessary to prepare tender proposal.
24.	For Kaliakoir 230kV GIS Bay Extension	Please clarify the scope of civil engineering of this site, whether the existing right side wall of the factory needs to be removed, whether the construction of the new factory yard, earthwork,	Tenderers are requested to prepare their tender proposal by visiting the site and in compliance with the tender document. Moreover, please go through the item no. 2M3 of Schedule-A of volume 3 of 3 of the tender documents for further

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		road, wall and 2 guard towers are included in the scope of this project	clarifications.
25.		Is land acquisition for all the substations completed? If not, when will land acquisition be completed and what time will the Contractor possess the Site?	PGCB is responsible for land acquisition (if required) under this contract. Please follow the tender document.
26.	Price Schedule-1, Section-I: Hi-Tech Substation, 1D4&1D6. SECTION-III, Anwara 230/132/33kV Indoor GIS, 3D.8	No GTP of 33kV CT and IVT found, please provide GTP including number of core, ratio, class & burden	Please follow the same format (higher voltage GTP) for CT & IVT in compliance with 33kV CT/IVT requirement mentioned in SLD & Schedule-A of the tender document.
27.	After we review the GTP of 132 and 230 kV cable, they were specified the insulation thickness the same at 23-25 mm.	Please confirm above insulation thickness.	Insulation thickness for 230kV and 132kV XLPE cable shall be as mentioned below: For 132kv: >= 17mm For 230kv >= 21mm
28.	We Check the technical requirements of the capacitor bank, there are several questions need to be clarified:	In the GTP, it requires 15MVar output at 33kV, but how to understand 7.85MVar rated output?	36kV capacitor Bank is not in the scope of work under this Contract.
29.	Volume 3 of 3/230kV AIS Switchgear/Circuit Breaker/1.2.17.10	26NO+26NC is too much, normally 10NO+10NC, same proposal as per previous PGCB approved project, please confirm.	Please follow the tender document.

30.	Volume 3 of 3/230kV AIS Switchgear/Circuit Breaker/1.2.17.13	Water-tight corrosion-resistant housing material requirements are AL, but we recommend better material stainless steel, it's same proposal as per previous PGCGB approved project, please confirm.	Please follow the tender document.
31.	Volume 3 of 3/GTP/Circuit Breaker 33kV/1.9	Design requires Double breaking, it's applicable for 500kV CB, for 33kV only single breaking, please confirm.	Single breaking is acceptable for 33kV CB.
32.	Volume 3 of 3/GTP/Circuit Breaker 33kV/2.10	First-pole-to-clear factor requires 1.3, but according to IEC for non-effectively earthed system shall be 1.5, please confirm	Please follow the tender document.
33.	Volume 3 of 3/GTP/36kV Disconnect/2.18	Electrical endurance requires E2, it's applicable for short circuit making and breaking, like Circuit breaker, not for DS, it shall be N/A, please confirm.	Confirm.
34.	Volume 3 of 3/GTP/Circuit Breaker 33kV/ (Page Schedule-E_107-108)	As per price schedule, for 36kV CB, it requires current of 3000A, however, for 36kV VCB, maximum rating 2500A, 31.5KA. Please clarify. Also, in the price schedule it is mentioned that the duration of short circuit is 1 second but it is GTP it is 3 second. Please clarify.	Current rating shall be 3000A. Isolating and quenching medium may be SF6 gas or vacuum. Short circuit duration shall be 3 sec for 36kV CB.
35.	Volume 3 of 3/GTP/Energy Meter	There are two Energy Meter GTP (Page: Schedule-E_173) and (Page: Schedule-E_222). Confirm which one to follow.	Tenderers are requested to follow the GTP format for Energy meter (Tariff meter) mentioned in Page: Schedule-E_222.
36.	Volume 3 of 3/GTP/REACTOR/ (Page Schedule-E_237)	For the capacity of reactor, in the technical data schedule for 145kV reactor, it is mentioned the inductance per phase (0.2%), please specify the meaning of 0.2%, is it 0.2% of capacity of each	As Per clause 4.2.6 of Specification for Medium & High Voltage Power Capacitor Banks and Accessories,

		phase of capacitor bank? We need to know the inductance value to determine the rated power of reactor or please provide the rated power of reactor, so we can calculate the inductance.	4.2.6 <u>Rating of Series reactor and/or de-tuning reactor:</u> Two types of reactor requirement & their size shall be studied to propose optimized rating. Following the study report during execution, the rated reactive power and reactor value (in mH) shall be finalized during execution to meet the requirement of tender document.
37.	Volume 3 of 3/GTP/Neutral Current Transformer 132 kV, 2/1-1A/ (Page Schedule-E_240)	For 132kV NCT, 10/1-1A, It is very difficult to make this low primary current CT and achieve the short circuit current 40kA/1sec. Please advise.	Primarily this is employer's requirement. During execution, if any shortcoming from the manufacturers is found to meet the requirement, the same shall be considered upon satisfactory technical grounds with design calculation using reference from IEC/ IEEE.
38.	Volume 3 of 3/GTP/Neutral Current Transformer 33 kV, 2/1-1A/ (Page Schedule-E_247)	For 33kV NCT, 2/1-1A, It is very difficult to make this low primary current CT and achieve the short circuit current 31.5kA/1sec. Please advise.	Primarily this is employer's requirement. During execution, if any shortcoming from the manufacturers is found to meet the requirement, the same shall be considered upon satisfactory technical grounds with design calculation using reference from IEC/ IEEE.
39.	Price Schedule-1, Section-II: Kaliakoir 230kV AIS Bay extension, 2B1-2B5	In 230kV CT & CVT GTP, "Number, ratio & rating of CT cores shall be as per BoQ & SLD", but we can not get information as per BOQ and SLD, please provide.	Please carefully go through the tender SLD (in section- 20 volume 2 of 3) and schedule-A of volume 3 of 3 of tender doc.
40.	Price Schedule-1, Section-II: Kaliakoir 230kV AIS Bay extension, 2B1-2B5	As per BOQ, "1425kVp BIL" is applicable for 420kV equipment, it shall be same as GTP "Rated lightning impulse withstand voltage 1050kV", please correct the BOQ	BIL for 230kV shall be 1050kV.

41.	Price schedule	There are documents for the 36kV capacitor bank including technical schedules, but in the BOQ, the quantity of 36 kV capacitor bank is zero. Please clarify.	36kV capacitor Bank is not under this project scope of work.
42.	Price schedule/ Section-III: Anwara 230/132/33kV Indoor GIS/ 3D: 36kV Switchgear & connection/ Current transformer 36 kV, single-phase, 3-core, multi ratio, 10/1A, 800-1250/1-1A, 31.5kA/1sec, 50 Hz, 170/70 kV BIL, post type current transformer for auxiliary transformer feeder	For 33kV CT, 10/1A, it is very difficult to make this low primary current CT and achieve the short circuit current 31.5kA/1sec. Please advise.	This is post type current transformer, hence, please follow the tender document.
43.	Vol. 3 Schedule A Introduction & Preamble to the Price & Technical Schedules 2H1: The lot of complete equipment shall be designed, supplied, delivered, in-stalled, tested and commissioned of 2000 mm2 (least), 245 kV, 2,000A, 50kA/1 sec, 50Hz, 1,050/460kV BIL, single phase XLPE cable. The quantity of length shall be quoted in 'meter for single phase cable. 2H5: The lot of complete equipment shall be designed, supplied, delivered, in-stalled, tested and commissioned of 36kV, 800mm2, 31.5kA/1 sec, 50Hz, 170/70 kV BIL, single phase XLPE cable. The quantity of length shall be quoted in 'meter for single	Based on the cable laying conditions and the actually required carrying capacities of the cables, it is calculated that the cross-sectional areas of the HV XLPE cables are less than those given in the mentioned sub clauses. The Bidder are wondering whether or not the cross-sectional area of 245kV cable MUST be at least 2000 mm2; the cross-sectional area of 145kV cable MUST be at least 2000 mm2; the cross-sectional area of 36kV cable MUST be at least 800 mm2. Please clarify.	Please follow the tender document.

	phase cable. 3H2: The lot of complete equipment shall be designed, supplied, delivered, in-stalled, tested and commissioned of 2000 mm ² (least), 145 kV, 2,000A, 40kA/ 1 sec, 50Hz, 650/275kVBL, single phase XLPE cable. The quantity of length shall be quoted in 'meter for singlephase cable.		
44.	BOQ-Batteries, chargers & DC distribution	Besides 2 sets of 48V/DC power supply system including 2 sets of 48V chargers, a set of DCDB and 2 sets of Ni-Cad batteries in Bangabandhu Hi-Tech substation, only one set of 48V/DC power supply is list in Anwara, Teknaf and Cox's Bazar (N) respectively. And no DC/DC 48V panel is list in 110V/DC system. Kindly confirm the communication equipment in Anwara, Teknaf and Cox's Bazar (N) substation will be dual-powered by the same 48V/DC power supply.	Your understandings are not correct. Please follow the scope of work mentioned in Schedule-A.
45.	Schedules of Rates and Prices - Schedule No. 1. Plant and Mandatory Spare Parts Supplied from Abroad	In Item 3C7, 4C8, 5C6 of prices schedule, Surge Arrester should be provided as 198kV rated voltage, 158kV (rms), however, in Scope of Work of Volume 1/3, Surge arrester of 145kV AIS should be 120kV rated voltage, 96kV (rms). Please confirm which is correct.	145kV AIS surge arrester shall be 120kV rated voltage. In addition, Rating and specifications of all types of LA shall be as per schedule-E (GTP).
46.	Schedule-E_235 GTP of capacitor bank and equipment 132kV	According to GTP of capacitor bank and equipment 132kV, The 132kV reactive power output capacity is 50MVar, and the rated reactive power output of the device is 60.33MVar. The 60.33MVar should be the device capacity without	Please refer to item no 18 of addendum-1 for clarifications. Moreover, As Per clause 4.2.6 of Specification for Medium & High Voltage Power Capacitor Banks and Accessories,

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		the reactor (the reactance rate should be 0). Please clarify whether to configure a reactor, and if so, what is the reactance ratio of the configuration?	4.2.6 <u>Rating of Series reactor and/or de-tuning reactor.</u> Two types of reactor requirement & their size shall be studied to propose optimized rating. Following the study report during execution, the rated reactive power and reactor value (in mH) shall be finalized during execution to meet the requirement of tender document.
47.		Please clarify whether the VT on the line side can be provided as a manual isolation type of VT is widely used and can satisfy the function of site HV test without disassembly.	As per tender i.e., schedule- A & B of V-3 of bid doc., single phase Voltage Transformer with externally operable Disconnecter and earth switch shall be supplied.
48.		Please clarify whether the Local Control Cubicle (LCC) can be provided as integrated type (IOS), assembled together GIS bay, not stand alone on floor(GOS).It can help to save the space of GIS room.	Integrated local control cubical is acceptable for 145KV GIS subject to the condition that the operators shall have access to the LCC.

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49.		BGD PGCB technical specification In Volume 3/3, Schedule A: Scope of Work requirements are as follows: "Each busbar FES should be equipped with LCC." It's technical not necessary to provide a separate LCC for busbar FES. Busbar FES can be sharing a common LCC with busbar VT bay or bus coupler bay. Please clarify whether the Siemens standard solution is acceptable.	Please follow the requirement as per bid doc.
50.		BGD PGCB technical specification In Volume 3/3, GTP & Requirement Form: GIS Switchgear 230kV Indoor requirements are as follows: "7.6 Type of disconnecter: Three pole, three position (close/open/earthed)" The disconnecter switches of 230kV GIS SHVS provided are all 2-position switch. Please clarify whether the Siemens standard solution is acceptable.	Please follow the requirement as per bid doc.
51.		BGD PGCB Coxs Bazar-I-DBB-132 kV GIS station Please clarify whether the sequences of	Considerable. But, the final sequencing of bays shall be finalized during execution stage based on the line, transformer & other Bays orientation.

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		bays must be 6 designed as offer specific layout. Is it possible to adjust some further bays to the outermost part of the station, so as to save the expansion power outages time on-site and existing station cost.	
52.	Item 8.4. In GTP 230/132/33kV, 250/350MVA, 3-Phase Auto Transformer.	1200A is requested for OLTC rated current. However, as per our calculation, the maximum rated current for HV winding of transformer with tap changer in extreme minus position is approx. 976.2A (350000/230/0.9/Sqrt3). So, we propose 1000A instead of 1200A for OLTC rated current. Please confirm.	Please follow the requirement as per bid doc.
53.	Item 5.1.5 & 5.2.5 & 5.3.5 & 5.4.5 In GTP 230/132/33kV, 250/350MVA, 3-Phase Auto Transformer.	2000A is requested for Bushing rated current. The requested value is too big. As per our calculation, it is enough that the rated current for bushing is 1000A for HV bushing and NV bushing, 1700A for MV bushing, and 1400A for LV bushing. So, we propose the calculated value by us for bushing rated current. Please confirm.	Please follow the requirement as per bid doc.
54.	Item 8.4. In GTP 230/33kV, 120/140MVA, 3-Phase Transformer.	800A is requested for OLTC rated current. However, as per our calculation, the maximum rated current for HV winding of transformer with tap changer in extreme minus position is approx. 225.4A (140000/230/0.9/3). So, we propose 300A instead of 800A for OLTC rated current. Please confirm.	Please follow the requirement as per bid doc.

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55.	Item 5.1.5 & 5.2.5 & 5.3.5 In GTP 230/33kV, 120/140MVA, 3-Phase Transformer.	Rated current 2000A is requested for HV Bushing and 3150A is for NV and LV bushing. The requested value is too big. As per our calculation, it is enough that the rated current for bushing is 400A for HV bushing and 2500A for LV bushing and NV bushing. So, we propose the calculated value by us for bushing rated current. Please confirm.	Please follow the requirement as per bid doc.
56.	Item 8.4. In GTP 132/33kV, 80/120MVA, 3-Phase Transformer.	800A is requested for OLTC rated current. However, as per our calculation, the maximum rated current for HV winding of transformer with tap changer in extreme minus position is approx. 336.8A (120000/132/0.9/3). So, we propose 400A instead of 800A for OLTC rated current. Please confirm.	Please follow the requirement as per bid doc.
57.	Item 5.1.5 In GTP 132/33kV, 80/120MVA, 3-Phase Transformer.	1600A is requested for HV Bushing. The requested value is too big. As per our calculation, it is enough that the rated current for bushing is 600A for HV bushing. So, we propose the calculated value by us for bushing rated current. Please confirm.	Please follow the requirement as per bid doc.
58.	Cross section of 132kV and 230kV power cable	According to the GTP, the nominal current for both 132kV and 230kV cable are $\geq 2000A$, please provide the detailed laying conditions for the cable laying so that we can calculate and confirm the cross section of above cable.	This will be finalized during contract execution stage.

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59.	Price Schedule for AII B P1.xlsx Schedule -1, Schedule -2, Schedule - 4. 36KV capacitor bank and equipment	Different voltage and capacity of capacitor bank requirement in two different documents, please clarify which is correct?	36KV capacitor bank is not under scope of this contract.
60.	Volume-3-Schedule B: Bid Prices & Schedules 6.9.17-6.9.22 Shunt Reactor Volume -1 2.7 Subcontractors 10. Reactor	There is no qty for shunt reactor and related equipment. Why in 2.7 PGCB asks for qualification documents for reactor?	Please refer to item no 20 of addendum-1 for clarifications.
61.	Volume-3-Schedule B: Bid Prices & Schedules Volume-1-ITT 1.1	In the ITT 1.1, The name of the international open competitive Tender (IOCT) is: Construction of 230/132/33kV GIS Substation at Anwara, 230/33kV GIS Substation at Bangabandhu Hi- Tech City (Kaliakoir), 132/33kV GIS Substation at Cox'sbazar & Teknaf and 230KV GIS bay extension at existing Kaliakoir Substation (Package-1). In the Bid Prices & Schedules There is 230KV AIS bay extension at existing Kaliakoir Substation. Please confirm that there is 230KV GIS bay extension or 230KV AIS bay extension at existing Kaliakoir Substation.	Bay extension at existing Kaliakoir substation shall be 230KV AIS type.
62.	Volume-3 -Schedule E Technical Particulars and Guarantees Volume-3 -Schedule B Bid Prices & Schedules	Schedule E contains the GTP of 132kV neutral current transformer, but there is no quantity in Bid Prices & Schedules, please confirm whether the 132kV neutral point current transformer needs a quotation, and if so, please provide the quantity requirement.	Scope of work under this tender is for design supply and installation type. The contractor is responsible for ensuring that all and/or any item(s) of work required for the safe, efficient and satisfactory completion and functioning of the works, are included in the Bid Price whether they be described

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			in the specification, schedule or not.
63.	We Check the technical requirements of the capacitor bank, there are several questions need to be clarified:	In the Price Schedule, I also find 132kV 50Mvar capacitor bank. Does that also need to be quoted? Is there any detail rating for this capacitor bank?	Please refer to item no 20 of addendum-1 and capacitor bank GTP (in schedule-E of V-3 of 3 of bid doc.) for clarifications.
64.		We understand that the advance on supply, design and service is interest free, kindly confirm.	As per terms and conditions of the tender document
65.		Kindly confirm whether complete foreign and local portion be funded by AIB or shall PGCB or government of Bangladesh shall finance some portion of the contract.	Please follow the terms and conditions of the tender document.
66.		Kindly confirm, whether changes in taxes and duties or imposition of new taxes in suppliers country from which suppliers are intended for the subject Contract be claimed under Change in Law clause or not.	As per terms and conditions of the tender document.

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67.		We understand that all the new substation land is already acquired and therefore land acquisition and compensation is not in our scope.	PGCB is responsible for land acquisition (if required) under this contract.
68.		As per appendix 2: price adjustment is only applicable for Power transformer, therefore we request you to please include following equipment under price adjustment as per IEEEMA, LME and any Internationally recognized Indices (Power Transformer, Circuit Breaker, Surge Arrestor, CVT, Cable, Conductor, Substation Structure AND Labour indices including Installation and civil works as per WPI	Please follow the terms and conditions of the tender document.
69.		As per the special condition of the tender, employer will pay all custom duty, VAT, AIT (Advance Income Tax) and other taxes applicable for price schedule 1 items. There are two types of AIT one is deductible under income tax act whereas another AIT was deducted under VAT Act. There is also AIT @3% is applicable on import (similar to VAT withholding). Please confirm whether this AIT will be payable by the employer or Bidder?	As per SCC clause 14.2: "Any material import from abroad under price schedule No.1 shall be considered as the direct import of the Employer and Employer shall bear and promptly pay all relevant customs and import duties as well as other local taxes, e.g., a value added tax (VAT), advance income tax (AIT) and other charges, which imposed by the law of the country, that are to be incorporated into the facilities."

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70.		Further it also mentioned that "if any VAT is applicable for any or all of the items under this contract, the Employer shall bear and deposit the same to the govt. exchequer as per prevailing law of the Employer's Country". It means that applicable VAT for total contract is payable by Employer only. Is this understanding being correct?	Your understanding is correct, applicable VAT for total contract is payable by the Employer within the Employers country. However, The Contractor shall be entirely responsible for payment of all taxes including sales tax or VAT, stamp duties, license fees and other such levies imposed outside the Employer's country.
71.		There is nothing mentioned in the contract for exemption of VAT of sub-contractors. Whether the VAT is also exempted for sub-contractors? If yes, then whether employer will arrange such exemption letter from the revenue authority?	Please follow the terms and conditions of the tender document.
72.		As per the clause in special condition, "While making payment to the Contractor or instructing the respective bank to effect the payment to the Contractor, the Employer is entitled to deduct advance income tax (AIT) at source at applicable rate(s), which is required as per law of the Employer's country." Please clarify from the employer whether any withholding will be made from price schedule 1 items? if yes, what is the rate of withholding tax ?	Please follow the terms and conditions of the GCC & SCC clause 14 of the tender document.

73.	Bid Clarifications Points – 132/33kV Indoor GIS at Cox'sbazar	1. As per our understanding from SLD, i. CSD for 132kV CB is required for 2(two) numbers of Capacitor Bank Bays (CBB) only. ii. 4 numbers of 132kV Future Bays are not in our present Scope. Please confirm whether our understanding is correct?	Confirm.
74.		2. As per our understanding, feeders for ACDB and DCDB will be consider for our present scope only i.e 132kV and 33kV Bays, not for 220kV Bays. Please confirm whether our understanding is correct?	As per tender. Moreover, 20% spare feeders shall be considered for future use.
75.		Please confirm Diesel Generator (DG) capacity will be consider for our present scope i.e 132kV and 33kV Bays, or for Future scope also.	Please follow the item no. 4Q of schedule-A & B of V-3 of 3 of bid doc.

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76.		1. As per our understanding from Layout, there is no need for NIFPS system for 132/33kV Transformers. Only Hydrant spray system is considered for Fire protection. Please confirm whether our understanding is correct? Also confirm Pump house and Water storage tank capacity will be consider for our present scope i.e., 132kV and 33kV Bays, or for Future scope also.	Particular requirement for transformer firefighting system under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule). Pump house and Water storage tank capacity shall be finalized in compliance with tender requirement during project execution stage.
77.		1. Kindly provide the following details for cost estimation and better understanding of Scope of work: i. 132kV Power cable trench Section drawing	Necessary drawings are attached in section-20 of volume-2 of bid document. Other drawings shall be finalized during project execution stage.
78.	Bid Clarifications Points – 132/33kV Indoor GIS at Teknaf	1. As per our understanding from SLD, 4 numbers of 132kV Future Line Bays and 1 number of Future Transformer Bay are not in our present Scope. Please confirm whether our understanding is correct?	The Tender SLDs are comprehensive with future implications. Particular requirement under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule).

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79.		2. As per our understanding from Layout, please confirm whether Hydrant spray system is required along NIFPS system for 132/33kV Transformers.	The Tender Layouts are tentative and comprehensive with future implications. Particular requirement under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule).
80.	Bid Clarifications Points – 230/33kV Indoor GIS at Bangabandhu Hi-Tech city	1. As per our understanding from Layout, 2 numbers of 230kV Future Line Bays are not in our present Scope. Please confirm whether our understanding is correct?	The Tender Layouts are tentative and comprehensive with future implications. Particular requirement under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule).
81.		2. Discrepancy found in 230kV ICT Bays. As per SLD, 2 number of 230kV ICT Bays is shown in SLD; whereas as per Layout, three number of 220kV ICT are shown in Layout. Please confirm total number of 220kV ICT Bays to be considered in our present Scope.	The Tender Layouts are tentative and comprehensive with future implications. Particular requirement under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule).

82.		3. As per our understanding from Layout, please confirm whether Hydrant spray system is required along NIFPS system for 230/33kV Transformers. Also confirm Pump house and Water storage tank capacity will be consider for our present scope i.e., 230kV and 33kV Bays, or for Future scope also.	Particular requirement for transformer firefighting system under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule). Pump house and Water storage tank capacity shall be finalized in compliance with tender requirement during project execution stage.
83.		4. As per our understanding, feeders for ACDB and DCDB will be consider for our present scope only i.e 230kV and 33kV Bays, not for Future Bays. Please confirm whether our understanding is correct?	As per tender. Moreover, 20% spare feeders shall be considered for future use.
84.	Bid Clarifications Points – 230/132/33kV Indoor GIS at Anwara	1. Discrepancy found in 132kV Bus Sectionalized and Bus Coupler Bays. As per Layout, 2 number of 132kV Bus Sectionalized and 2 number of 132kV Bus Coupler Bays are shown in Layout ; whereas as per SLD ,no Bus Sectionalized and only 1 number of 132kV Bus Coupler Bays is shown in SLD. Please confirm total number of 132kV Bus	The Tender Layouts are tentative and comprehensive with future implications. Particular requirement under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule).

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	Sectionalized and Bus Coupler Bays.	
85.	2. As per our understanding from Layout, there is no need for NIFPS system for 220/132kV and 132/33kV Transformers. Only Hydrant spray system is considered for Fire protection. Please confirm whether our understanding is correct?	Particular requirement for transformer firefighting system under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule).
86.	3. As per our understanding, feeders for ACDB and DCDB will be consider for our present scope only, not for Future Scope. Please confirm whether our understanding is correct?	As per tender. Moreover, 20% spare feeders shall be considered for future use.
87.	3. Please confirm Diesel Generator (DG) capacity will be consider for our present, or for Future scope also.	Please follow the item no. 3Q of schedule-A & B of V-3 of 3 of bid doc.

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88.		4. Kindly provide the following details for cost estimation and better understanding of Scope of work: i. 132kV Power cable trench Section drawing	Necessary drawings are attached in section-20 of volume-2 of bid document. Other drawings shall be finalized during project execution stage.
89.	Bid Clarifications Points –230kV Bay Extension at Kaliakor	1. For AC and DC power supply for Bay Extension work at 230kV, we can use spare feeders available in existing ACDB and DCDB. Please confirm our understanding is correct.	Please follow the item no. 2K and 2L of schedule-A & B of V-3 of 3 of bid doc.
90.		2. As per our understanding from Layout, only vacant area is to be provided for construction of our 230kV Line Bays. Also land development for our Line Bays to be developed by owner and leveled land will be handover to us for Bay construction. Please confirm our understanding is correct. i. As per our understanding from Layout, we understand construction of 230kV cable trench along with 230kV Cable	2. Particular requirement for transformer firefighting system under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule). Please follow the item no. 2M of schedule-A & B of V-3 of 3 of bid doc. i. Particular requirement for transformer firefighting system under this project scope shall be as per Schedule-A (scope of work) and Schedule-B (price schedule). ii. As per tender.

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		from Hitech City 2 CSE to from Hitech City 1 CSE is in the present scope of work. ii. Existing 230KV Local Control House 1 and 2 having enough space to accommodate Control and Relay panels for our two numbers of Line bays including Tie Bays. Please confirm our understanding is correct.	
91.		3. Kindly provide the following details for cost estimation and better understanding of Scope of work: i. Section Layout, showing the FGL level of Switchyard, of existing 230KV Line Bays. ii. Foundation and Earthing Layout of existing 230KV Line Bays. iii. 230KV Cable trench section drawing iv. 230KV Busbar protection system v. 765KV Visual monitoring system (VMS) drawing	Necessary drawings are attached in section-20 of volume-2 of bid document. Other drawings shall be finalized during project execution stage. For Land development please follow the item 19 of addendum-1. Soil investigation and site surveying is in the bidder's scope. Moreover, for collecting any data/information for the existing substation apart from the data/ drawing provided in the bid doc., bidder may visit the site and furnish whatever is required.

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		vi. LT SLD (ACDB and DCDB drawings. vii. Equipment/Panel arrangement drawing of 230kV Local Control House 1 and 2.	
92.	CIVIL Query:	1. Clause 10A.1.4 Site Survey Drawings For each site, the Bidder shall prepare a survey at 1:200 scale showing existing ground levels on a maximum 10 meter grid and details of all features above and below the ground within the site boundary and up to 15 meters beyond it by the key date stated in the programme. Levels shall be related to benchmarks clearly indicated on the plan. The plan shall be submitted to approval by the Engineer and the approved substation building plinth levels shall be given on site plan. The Bidder shall propose the building floor level to the Engineer. The Final Ground/formation Level (FGL) of the site will be 500mm above the crown of the nearest public road or 500mm above the Highest Flood Level (HFL) whichever is greater. If the site is located within/adjacent to an existing switchyard/substation of the	For collecting any existing data/information regarding the existing substation area apart from the data/ drawing provided in the bid doc., bidder may visit the site or contact project office and furnish whatever is required.

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		employer/other organization, then FGL of the site should be determined same as mentioned above but should not be less than the FGL of existing switchyard/substation. For bay extension within an existing switchyard, FGL of new bay shall be same as the FGL of existing bay. All building plinth level will be 600mm above the FGL. Kindly Provide HFL Data.	
93.		2. Clause 10A.1.11 Designs and Drawings The Bidder shall obtain the Engineer's approval for the use of all design codes and standards before design work starts. The Bidder shall supply one copy of all of codes for employer's Engineer. If non-English equivalent National codes are adopted, the Bidder shall supply English translations of these Codes to the Engineer – Please Confirm BIS Code.	The same shall be finalized during project execution stage.
94.		3. Clause 10A.3.2 Ground Conditions, Foundations and Site Investigation – Information To Decide Whether The Site Will Be "Fill Sites" Or "Unfilled Sites" Shall Be Made Available.	Please follow the item M for each substation of schedule-A & B of V-3 of 3 of bid doc for clarifications.



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95.		4. Clause 10A.3.23 Blast Walls The minimum thickness of blast walls shall be 200mm. The blast wall constructed with Class A reinforced concrete with all exposed edges chamfered, Surface of wall will fare faced concrete and painted as the colour of transformer. – Kindly Consider 350mm Brick Wall Instead Of 200mm Blast Wall.	Considerable. The minimum thickness of blast walls shall be 200mm. Exact value shall be finalized during project execution stage.
96.		5. Please refer Schedule-B, Price-Schedule, Schedule 1 and 4 most of the items are in LOT, we hereby request you to kindly release the payment for said LOT items against certified billing breakup submitted by Bidder for smooth execution of the project.	Please follow the related tender requirement as mentioned in the tender document.

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