Clarification Queries for:

Design, Supply, Installation, Testing & Commissioning of 230/132 kV and 132/33 kV Substations, on Turnkey Basis, Package 1.1

Contract No. PGCB/KfW/BMZ.2014.67.976/2018/Package-1-1

ICB No. PGCB/KfW/ BMZ.2014.67.976/2018/Package-1-1

Clarification-3

Pre Bid meeting was held on 10th February 2019 at 11:00 o'clock at the PGCB Headquarter

All comments, queries and requests for clarification, regarding the Tender documents, received from prospective Bidders, and relevant replies and clarifications prepared by PGCB, and associated addendums (if any), are part of Tender documents

No.	Volume / Section / Clause / Item / Page	Bidder's comment / Query / Clarification	PGCB's Reply / Clarification	Add. Y/N
1.	Volume 1 of 3 Section 2.7 (Manufacturers/Subcontractors)	As per the Qualification Requirement of **XLPE POWER CABLE AND CABLE TERMINATION,** kindly clarify whether Supply Evidence is required for 110 KV or higher rating XLPE cable for minimum 200 KM **as total or average supply within last 3 years**?	Minimum 200KM over last three years. Please see addendum	
2	Bidding Documents / Volume 1/ Section VIII: SCC/ 23. Test and Inspection / 23.2.a Factory acceptance tests: • Autotransformers 230/132 kV, • Power transformers 132/33 kV, • Gas insulated switchgear (GIS) 230 kV, • Gas insulated switchgear (GIS) 132 kV,	For Following equipments: • Autotransformers 230/132 kV, • Power transformers 132/33 kV, • Gas insulated switchgear (GIS) 230 kV, • Gas insulated switchgear (GIS) 132 kV, Bidder understands that above equipment will not be dispatched in single lot due to large quantity. PGCB representative will attend the FAT for one lot only. Kindly confirm.	No, generally speaking, your understanding is not correct. Please, follow the tender requirements	
3	Bidding Documents / Volume 1/ Section VIII: SCC/ 23. Test and Inspection / 23.2.b Training: 230 kV and above gas insulated switchgear (GIS), OLTC and breakers,	Bidder understands that OLTC is a brought out component for Transformer manufacturer. Training for OLTC is to be provided at Transformer manufacturer factory. Kindly confirm.	No. Training shall be provided by OLTC Manufacturer	

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	substation automation system equipment and protection relays			
4	Bidding Documents / Volume 1/ Section VIII: SCC/ 23. Test and Inspection / 23.2.b Training: 230 kV and above gas insulated switchgear (GIS), OLTC and breakers, substation automation system equipment and protection relays	Bidder understands that Training for substation automation system is given thru Simulator based training. The same can be arranged at any location where the proposed manufacturer has facility for Simulator based training. Kindly confirm.	No. Training shall be provided by Manufacturer at Manufacturer's Training Center	
5	Addendum 1: As per Specification Clause No.-4.12.4 Water Spray System	Water spray system is a solution & will be integrated at site with different products. Bidder understands that the important components of Water spray system like Fire fighting Pump, Motor & Deluge Valve to be supplied from reputed manufacturers of EU/USA/Japan. Other materials like pipe, structural steel, Nut bolt valve fittings flange etc can be supplied locally & erected at site as per approved drawing.	Yes, your understanding is, generally speaking, correct	
6	Clarification Set-1, S.No.-160	As per Customer Specification only Water Spray System is to be provided. But as per clarification Set-1, S.No.-160 it is mention to provide the Hydrant System also.Kindly provide Technical specification for Hydrant system.In absence of the same can we offer as per PGCIL Standard. Kindly confirm	Generally speaking – yes. Please, follow the tender requirements	
7	**Section IX: Contract Forms Appendix 2 - Price Adjustment/Escalation** The following conditions shall apply: e. A price adjustment will be applied only in case the resulting price increase or decrease of any item is more than six (6) percent of the price quoted for this item. However, such payment implication shall not exceed a total ceiling of fifteen (15) percent of the relevant items.	Bidder understand that if price increase or decrease of any item is more than six (6) percent of the price quoted for the item, then price adjustment will be applicable for the entire value. For Example: If there is price increase of 8% of any item, then bidder will be entitled for entire price increase of 8%.	No, your understanding is not correct. Please, follow the tender requirements	

List of Addendum-3 (Package-1.1)

No.	No. of Query	Volume / Section / Clause / Item / Page	Addendum
1	-	Volume-2, Para-1.3.2, Page-17	Last para of 1.3.2 (Adaptation and Configuration of the NLDC) has been modified.
2	1	Volume-1, Section-III, Para 2.7 (10)- XLPE Power cable and cable termination	The word "average" has been deleted from the 2nd bullet of minimum criteria of XLPE Power cable and cable termination

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No.	Equipment	Minimum Criteria
		• Type test reports • Technical data sheets, catalogues and other technical documents
9	DFDR	• At least last **ten (10) years** of manufacturing experience of DFDR for high voltage sub-stations • Minimum average delivery over the last 3 years of ten (10) DFDR • Manufacturer's authorization letter • Reference list • Implemented ISO 9001 certificate • Type test reports • Technical data sheets, catalogues and other technical documents
10.	XLPE Power cable and cable termination	• At least last **twenty (20) years** of manufacturing experience of minimum 220 kV or higher rating XLPE Power cable and cable termination. • Minimum delivery over the last 3 years of **two hundred (200) km** of 110 kV or higher rating XLPE Power cable • Manufacturer's authorization letter • Reference list • Implemented ISO 9001 certificate • Type test reports as mentioned in the clause 1.3 of section 6 of volume 1 of 3 of the bidding document for similar or higher rating. • Technical data sheets, drawings, catalogues and other technical documents
11	Electrical Works Subcontractor	• At least last **five (5) years** of experience in installation of high voltage substations, rated voltage 110 kV or higher • At least **one (1)** contract for the installation of a new substation with 110/X kV or higher rated voltage, of minimum five (5) HV bays and two (2) power transformers, in last three (3) years • Subcontractor's reference list • At least one (1) end user's letter • **Note:** Evidence of the above experience shall be submitted in the bid. It shall be on the user's letterhead, indicating address, telephone and fax numbers of the user. It shall include name of the project, name of the Employer, description of the work, commissioning date and contract amount.
12	Civil Works Subcontractor	• At least last **five (5) years** of experience in civil works for installation of high voltage substations with rated voltages of 110 kV or higher • At least one (1) contract for civil works for the installation of new substations of 110/X kV or higher rated voltage, of minimum five (5) HV bays and two (2) power transformers in the last three (3) years • Subcontractor's reference list • At least one (1) end user's letter • **Note:** Evidence of the above experience shall be submitted in the bid. It shall be on the user's letterhead, indicating address, telephone and fax numbers of the user. It shall include name of the project, name of the Employer, description of the work, commissioning date and contract amount.

- **Load Flows, System Voltage and frequency**
  Electrical quantities shall be provided to enable the following measurements
  - Voltage (kV), Frequency (Hz) for Busbar
  - Megawatt (MW), MegaVar (MVAR), Amperes (AMP), Voltage (kV) for Line
  - MW, MVAR, Amperes, kV at both sides, Tap Position Indication (TPI) for Transformer
  - Megavar for Reactor/Capacitor bank

- **Alarms: Digital Input (Single Point):**
  - Remote/ Local Switch for all Circuit Breakers.
  - Bay Fault (DC Fail for Transformer Panel).
  - Breaker Fault (OR gate Spring Charge, SF6 Low).
  - Protection Class-1 (Distance, Differential).
  - Protection Class-2 (Over current, Earth fault).
  - Protection Class-3 (bus bar).
  - Transformer Alarm (Buchholz Alarm, Oil Level Low).
  - Transformer Trip (Buchholz Trip, PRD Trip)
  - Transformer Temperature Alarm (Oil Temp Alarm, Winding Temperature).
  - Transformer Temperature Trip (Oil Temp trip, Winding Temperature trip).
  - Tap Changer Alarm.
  - Tap changer trip.
  - Tap changer high limit.
  - Tap changer low limit.
  - Auto recloses operated
  - DC fail
  - AC fail

- **Controls-Digital Output (Double point)**
  The following facilities shall be controlled from the NLDC
  - Circuit Breaker and Motorized Isolator Open/ Close for Line, Transformer bay & bus coupler,
  - Circuit Breaker Open/ Close for 33kV load shed feeder
  - Tap Changer Raise/ Lower for Transformer

- **Network modelling parameters**
  Line length, line conductor type, short circuit data for zero sequence (%R, %X, % of full charging susceptance), etc.

The SCADA system of the National Load Despatch Centre is based on ALSTOM platform. The communication protocol to be used for data exchange between the NLDC and the substations shall be IEC 60870-5-104.

Adaptation work and configuration of the NLDC will mainly consist of:

- Modelling the new substations and new bays.
- Database update of NLDC.
- Configuration of Existing NLDC SCADA EMS System to display the single line diagrams, statuses, alarms, measurements of the new substations and new bays.
- Database creation / modification & update at respective SCADA/EMS servers at all master station.
- Creation of associate display and modification of existing displays wherever required.
- Point to point test.