

POWER GRID COMPANY OF BANGLADESH LIMITED (PGCB)

Design, Supply, Installation and Commissioning of Power Transformers and Capacitor Banks with associated switchgears on turnkey basis under Capacity Enhancement of Existing Grid Substations and Transmission Lines Project. (Package-2, Lot-1)

OCB No.: PGCB/CEEGSTL/SS/Package-2/Lot-1
IFB Ref. No.: 27.21.0000.101.07.417.21.5934, October 25, 2022

Addendum No.: 01
(Date: 01.12.2022)

Following revisions/changes are made in the Bid Document which will form part of the Bid Document.

Volume 1 of 3

1) SEC 3 : Evaluation and Qualification Criteria, 2.7: Manufacturers: Gas Insulated Switchgear (GIS)

The text

"The bidder shall visit the existing substation site and accordingly shall propose same manufacturer with same country of make."

Shall be replaced by-

"The bidder shall visit the existing substation site and accordingly shall propose same manufacturer."

2) SEC 9: Contract Forms, Appendix 1- Terms & Procedures of Payment

The text

"Sixty Five percent (65%) of the measured value of work performed by the Contractor, as identified in the said Program of Performance, during the preceding month, as evidenced by the Employer's authorization of the Contractor's application, will be made quarterly within forty-five (45) days after receipt of invoice."

Shall be replaced by-

"Sixty Five percent (65%) of the measured value of work performed by the Contractor, as identified in the said Program of Performance, during the preceding month, as evidenced by the Employer's authorization of the Contractor's application, will be made monthly within forty-five (45) days after receipt of invoice."

Volume 2 of 3

1) SEC 03: HV Switchgear and Outdoor Equipment, Vol.2, Page No. 3/19, Clause 3.1.12.1.8:

The text "Insulation creepage distances shall not be less than 25 mm per kV of rated voltage between phases." is replaced by "Insulation creepage distances shall not be less than **31 mm per kV** of rated voltage between phases."

2) SEC 04: Power Transformers, Vol.2, Page No. 4-38, Clause No. 4.7.2.1.1:

The line "Load-tap changing equipment shall provide plus and minus 10% in-phase regulation of the high voltage winding in 17 steps of approximately 5/8% each. All voltages listed on the nameplate shall reflect the actual design voltages, rounded to the nearest 10 volts." is replaced by "Load-tap changing equipment shall provide plus and minus 10% in-phase regulation of the high voltage winding in 17 steps of approximately **1.25%** each. All voltages listed on the nameplate shall reflect the actual design voltages, rounded to the nearest 10 volts."

3) SEC 04: Power Transformers, Vol.2, Page No. 4-87, Clause No. 4.19.1.1 Type Tests:

The text "The following type tests shall be conducted on the first power transformer in a single FAT schedule" is replaced by "The following type tests shall be conducted on one set of 230/132/33kV, 350/450 MVA (ONAN/ONAF), three phase outdoor type auto transformer."

4) SEC 04: Power Transformers, Vol.2, Page No. 4-90, Clause No. 4.19.2.8:

- A) The text "Temperature tests shall be performed on each transformer." is replaced by "Temperature tests shall be conducted on one set of 230/132/33kV, 350/450 MVA (ONAN/ONAF), three phase outdoor type auto transformer."
- B) The text "Sound level tests shall be performed on each transformer and shall be in accordance with NEMA Publication TR1 and IEC Std 60076-10." is replaced by "Sound level tests shall be conducted on one set of 230/132/33kV, 350/450 MVA (ONAN/ONAF), three phase outdoor type auto transformer and shall be in accordance with NEMA Publication TR1 and IEC Std 60076-10."

Volume 3 of 3

1) Schedule A: INTRODUCTION & PREAMBLE TO THE PRICE & TECHNICAL SCHEDULES:

- A) **Item 9B1, 10B1, 11B1, 12B1, 13B1, and 14B1**
33kV Circuit Breaker type for all 33kV capacitor bank bays shall be of SF6 type instead of vacuum type.
- B) **Item 1.7, Training and Inspection:**
(b) International Witnessing: The FAT schedule table is replaced by the following table

SL	Description	No. of Engineers per visit	Duration (Minimum Working Days excluding travel time) per visit	No. of Trip/ Visit
1.	Transformers	02	10	3 visits: 01 for 230/132/33kV 450MVA Transformer, 01 for 230/132/33kV 300MVA Transformer, & 01 for 132/33kV 120MVA Transformer.



SL	Description	No. of Engineers per visit	Duration (Minimum Working Days excluding travel time) per visit	No. of Trip/ Visit
2.	AIS Capacitor Bank	02	07	1 visit: 01 for 36kV Capacitor Bank

C) Item 1.7, Training and Inspection:

(b) International Witnessing: The following texts are deleted-

"For GIS, at-least one from Each type of bay, such as Bus Coupler bay, transformer bay, line bay, cable bay, Bus PT bay shall be tested."

"For CB at least 10% of the supplied quantity shall face witness of Employers Engineers."

"For CRP, at-least one from Each type of relay, such as Busbar protection relay, transformer protection relay, line protection relay, cable protection relay (if any) shall be tested."

"For SAS, point-to-point communication, Relay communication protocol (PRP, HSR, RSTP etc. as applicable) test, inter-operability test (if applicable) shall be performed."

"For Surge Arrester, relevant IEC standard shall be followed."

"For XLPE Power Cable, relevant IEC standard shall be followed."

D) Item 1.7, Training and Inspection:

The text "For other Equipment (DS, IT set, Capacitor Bank, CT, VT, battery & charger) 10% the Supplied quantity shall face witness of Employers Engineers." is replaced by "For Capacitor Bank at least 10% of the supplied quantity shall face witness of Employers Engineers."

2) Schedule B, (PRICE SCHEDULES)

A) Item 4H3 (i) and 5G2 (i) under Schedule B1, B2 and B4: The text "33kV XLPE, 1Cx800sqmm (1 run for each phase) XLPE Cu cables" is replaced by "33kV XLPE, 3x1Cx800sqmm (3 run for each phase) XLPE Cu cables".

3) Schedule C, Bar Chart Program of Key Activities - Delivery & Completion Time Schedule, Pages: 68

A) The text "Completion time for the scope of work under this project is **900 Days**. Construction Schedule exceeding **900 Days** shall be rejected." is replaced by "Completion time for the scope of work under this project is **720 Days**. Construction Schedule exceeding **720 Days** shall be rejected."

4) Schedule E, item 5.2.3.2: Circuit Breaker 33 kV (For capacitor bank), Pages: 164

A) Specification no. 1.7: Isolating and quenching medium shall be SF6 instead of Vacuum

5) Schedule E: Technical Particulars and Guarantees, 5.2.4 Transformers, 5.2.4.1 400/138/33 kV 250/325 MVA Autotransformer, 230/133/33kV 350/450 MVA ONAN/ONAF Autotransformer, 5.2.4.3 230/138/34.5 kV 225/300 MVA ONAN/ONAF Autotransformer and 5.2.4.4 132/33 kV 80/120 MVA ONAN/ONAF Power transformer









In the Guaranteed Technical Particulars (GTP) for 400/138/33 kV 250/325 MVA Autotransformer, 230/133/33 kV 350/450 MVA ONAN/ONAF Autotransformer, 230/138/34.5 kV 225/300 MVA ONAN/ONAF Autotransformer and 132/33 kV 80/120 MVA ONAN/ONAF Power transformer the following texts

On-load losses at 75°C with tap changer in nominal tap position at rated voltage and rated frequency	kW	Insert	
On-load losses at 75°C with tap changer in plus (+) extreme tap position at 110 % rated voltage, at rated frequency	kW	Insert	
On-load losses at 75°C with tap changer in minus (-) extreme tap position at 90 % rated voltage, at rated frequency	kW	Insert	
Average of the above & On-load Loss for Loss capitalization [This value will be evaluated]	kW	Insert	

are revised as given below:

On-load losses at 75°C, with tap changer in nominal tap position and at rated current of that tap position	kW	Insert	
On-load losses at 75°C, with tap changer in plus (+) extreme tap position and at rated current of that tap position	kW	Insert	
On-load losses at 75°C, with tap changer in minus (-) extreme tap position and at rated current of that tap position	kW	Insert	
Average of the above & On-load Loss for Loss capitalization [This value will be evaluated]	kW	Insert	

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