

POWER GRID COMPANY OF BANGLADESH LIMITED

Project Name: Design, Supply, Installation, Testing & Commissioning of 400/230kV, 500/750MVA Transformer and associated Switchgear in existing
Meghnaghat 400/230kV AIS Substation
(ICB No.: PGCB/400kVTx/Meghnaghat SS)

RFB No.: 27.21.0000.101.07.427.24.2467; May 06, 2024

CLARIFICATION NO. 3

Issued on: 11 July, 2024

Clarification-2 was issued on 03 July, 2024. Clarifications to the queries received from the prospective Bidders regarding the Bidding Documents after issuing
Clarification-2 are given below which will form part of the bidding document.



Sl. No.	Reference and Queries of Prospective Bidders		Reply (PGCB)	Addendum (Y/N)
1	750 MVA Autotransformer (Technical Data Sheet - 400/235/33kV 500/750 MVA ONAN/ONAF Autotransformer)	Should we follow IEC standard for "continuous overload condition" and "Top oil. Please confirm?"	Please follow the GTP	N
2	750 MVA Autotransformer (Technical Data Sheet - 400/235/33kV 500/750 MVA ONAN/ONAF Autotransformer)	5. Bushing 5.2 Neutral bushing (identical as LV bushing) -kV, -, ≥2000A, rated short circuit current 50kArms, 170kV BIL, -kV SIL, PF 70kV, Suitable Cu wire 5.4 LV bushings 52kV, RIP, ≥2500A, rated short circuit current 25kArms, 170kV BIL, -kV SIL, PF 70kV, Suitable Al wire,	The 5.2 Neutral bushing is said to be identical to the LV bushing. However, there are differences in the specifications of the two bushings. Please confirm which specifications we should follow.	Y
3	750 MVA Autotransformer (Technical Data Sheet - 400/235/33kV 500/750 MVA ONAN/ONAF Autotransformer)	7 Weights and dimensions As per GA.	Please confirm whether the dimensions and weight should match the existing TR design. We would like to ask you to confirm whether the weight also needs to match, or if we can disregard the "As per GA" requirement	N
4	TR BOQ	The Auto transformer 400/235/33kV/500/750 MVA, YN0d01, ONAN/ONAF, with tertiary winding three phase, oil immersed, hermetically closed, with on load tap changer, with single phase current transformers in all bushings (Characteristics of CTs and tap changer are defined in nameplate drawing) D1	1. Please clarify the meaning of "with single phase" in D1 description, TR BOQ file. 2. Existing Transformer used tap changer from "MR". Should we follow the same vendor as MR or can we use Hitachi tap changer as well. Please clarify.	N

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5	TR Spec (Volume 2, Page 72 4.3.1)	Electrical clearances shall not be less than those in the appropriate sections of BS 7354, or as stated in the System Electrical Parameters in Section-1 of Volume 2 of 3, whichever is the greater.	We will apply a larger value compared to the IEC60076-3 standard rather than BS 7354. Please confirm	Larger value are acceptable.	N
6	TR Spec (Volume 2, Page 73 4.3.2)	The overload capability shall be in accordance with IEC 60354.	IEC 60354 is an old standard. We follow the latest IEC60076-7. Please confirm	IEC60076-7 is acceptable.	N
7	TR Spec	4.3.8 Noise The acceptance level of the transformers shall be as stated in the Schedule of Requirements.	We could not find the acceptance noise level of the Transformer. Please provide this data; otherwise, we will use our design value.	< 78dB @2m distance	N
8	TR Spec	4.7 VOLTAGE CONTROL	We will apply "winding internal surge arrester(ZnO)". Please confirm	As recommended by the OLTC manufacturer during execution.	N
9	TR Spec	4.7.2 On-Load Tap Changers Oil Treatment Each tap changer is to be equipped with a stationary on-line oil filter facility, complete with time switch control.	When using a vacuum-type OLTC, an oil filter facility is not required. The existing transformer OLTC is also a vacuum type, so we plan to use vacuum technology. Please confirm.	As recommended by the OLTC manufacturer during execution to match with existing nameplate.	N
10	TR Spec	4.9.4 Mounting of Bushings A flexible pull-through lead suitably sweated to the end of the winding copper shall be provided for the bushing	Depending on the bushing specifications, it may not be possible to provide a flexible pull-through lead (draw lead type). Instead, it can be provided as a bottom connection type (draw road type). Please confirm.	Type tested draw type bushing is also acceptable.	N
11	TR Spec	4.11 TEMPERATURE AND ALARM DEVICES The transformers shall be provided with approved devices of Kilhstrom or equivalent for indicating the top oil temperature and hottest spot winding temperatures.	Please provide us the required data of approved devices of Kilhstrom. We are not clear about this requirement.	Devices shall be capable to sense temperature and perform alarm and trip function.	N






12	TR Spec	4.14 Fiber Optic Based Temperature Sensing System 4.14.7 The HMI for temperature monitoring shall be of modular type and shall be mounted in the RTCC panel of transformer with IP54. However, transformer body mounted module is also acceptable with higher IP (i.e. IP66)	Different Transformer manufacturer follows different design. We would put The monitoring device within the transformer LCP. Please confirm.	As mentioned in the bid document.	N																								
13	TR Spec	4.16 TRANSFORMER MONITORING SYSTEM from EU	We kindly request you to amend this as TRANSFORMER MONITORING SYSTEM from EU/USA/UK/Japan	As mentioned in the bid document.	N																								
14	Volume 3	1.7.1 System Conditions <table><tr><th>Description</th><th>Unit</th><th>Required</th></tr><tr><td>Nominal system voltage between phases</td><td>kV</td><td>230</td></tr><tr><td>System frequency</td><td>Hz</td><td>50</td></tr><tr><td>Rated voltage between phases</td><td>kV</td><td>252</td></tr><tr><td>Rated lightning impulse withstand voltage</td><td>kV</td><td>1425</td></tr><tr><td>Rated switching impulse withstand voltage</td><td>kV</td><td>1050</td></tr><tr><td>Rated power frequency withstand voltage</td><td>kV, 1 min</td><td>464</td></tr><tr><td>Rated symmetrical short-circuit current</td><td>kA, 1 sec</td><td>50</td></tr></table>	Description	Unit	Required	Nominal system voltage between phases	kV	230	System frequency	Hz	50	Rated voltage between phases	kV	252	Rated lightning impulse withstand voltage	kV	1425	Rated switching impulse withstand voltage	kV	1050	Rated power frequency withstand voltage	kV, 1 min	464	Rated symmetrical short-circuit current	kA, 1 sec	50	We would like to ask you to confirm if the rated power frequency withstand voltage value of 33kV, 703, is a typo. we believe 70 is correct. Please confirm	YES, It is 70kV.	N
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15	Volume 3	Regarding DGA, PGCB tender documents mentioned that 3 points in same time for DGA as below. • Measurement method: Spectral Scanning • No. and Kind of Gas element: 9 Gas element to be monitored • Detection Limit: The range of Detection Limit with each 9 Gas element	We have checked that all major vendors for DGA (such as ABB(Hitachi), GE and Qualitrol) are not possible to match the below PGCB condition in the same time. No vendors can match PGCB's tender specification, and the specification needs to be amended. We suggest to amend this as "mentioned 9 Gas element" to be monitored with "DGA vendors measurement method" with "their Detection Limit range"	Please refer to Addendum-3	Y																								

   