

MINUTES OF PREBID MEETING FOR PHASE-II PACKAGE B

MINUTES OF PRE-BID MEETING HELD ON:	12.03.2024
NAME OF THE PROJECT	ASSAM INTRA-STATE TRANSMISSION SYSTEM ENHANCEMENT PROJECTS, PHASE-II
FUNDING AGENCY	ASIAN INFRASTRUTURE INVESTMENT BANK (AIIB)
NAME OF THE WORK	Construction of 132/33KV, 2X50 MVA GIS at Titabor and 132/33KV, 2x50MVA AIS at Chabua along with associated Transmission Lines
BID NO. ICB	AEGCL/MD/AIIB/Phase-II/PKG:P-II-B/2023/P-II-B

OPENING REMARKS:

Sri. B. Basumatary, Chief General Manager (PP&D), AEGCL extended a warm welcome to all the prospective bidders and introduced his team.

The Chief General Manager (PP&D), AEGCL briefed on the components included in the concerned Package- P-II-B and explained the project's scope and further requested the prospective bidders to table their most prioritized queries. AEGCL assured the prospective bidders that comprehensive reply/clarifications shall be prepared and uploaded in the AEGCL site as well as e-tender portal in response to their raised queries on the bid document.

NAMES OF TENDER QUERIES FINALIZATION COMMITTEE MEMBERS:

1. FROM EMPLOYER:

- 1.Sri. B. Basumatary, Chief General Manager (PP&D), AEGCL, Paltanbazar, Guwahati-01.
- 2.Smt. Anindita Das, General Manager, EAP, O/o the MD, AEGCL, Paltanbazar, Guwahati-01
- 3.Sri H. Hashmi, Deputy General Manager-II, O/o the MD, AEGCL, Paltanbazar, Guwahati-01
- 4.Sri. H. Gogoi, Deputy General Manager (P&D), AEGCL, Paltanbazar, Guwahati-01.
- 5.Sri David Bathary, Deputy General Manager (Civil), O/o the MD, AEGCL, Paltanbazar, Guwahati-01
- 6.Sri. K. N. Baishya, Deputy General Manager (F&A), AEGCL, Paltanbazar, Guwahati-01.
- 7.Sri. D. Chanda, Assistant General Manager-I, O/o the MD, AEGCL, Paltanbazar, Guwahati-01.
- 8.Sri. Prantik Saikia, Assistant General Manager (P&D), AEGCL, Paltanbazar, Guwahati-01.
- 9.Sri. Dipanku Goswami, Assistant General Manager (P&D), AEGCL, Paltanbazar, Guwahati-01.
- 10.Sri. Neelkamal Sarma, DM (P&D), AEGCL, Paltanbazar, Guwahati-01.

2. FROM PROSPECTIVE BIDDERS:

A. BIDDERS THAT WERE PRESENT AT THE PRE-BID MEETING:

1. Mr. Vikash Tewari,(Manager-Contract)M/s Rays Power Infra Ltd,.

B. Bidders that submitted queries but did not attend the pre-bid meeting:

1. M/s Associated Power Structures (P)Ltd
2. M/s Siemens Ltd.
3. M/s Rays Power Infra Limited
4. M/s Jakson Limited
5. M/s Kanti Prashad Mittal

QUERIES ON BID DOCUMENT (INSTRUCTIONS TO BIDDERS, BDS, GENERAL CONDITIONS, PC ETC.)

TABLE-1(A): VOLUME-1: No Queries

TABLE-1(B): QUERIES ON TECHNICAL SPECIFICATIONS (BOQ & VOLUME-2)

SL No	Clause No./ Section/ Page No.	Description	Queries	Response	Reference to Sl. No. of Addendum [Table 2] wherever applicable
1	BOQ-1 - 11.10	145kV, 3150A, 40 kA for 3 sec, 3- phase SF6 to air bushings along with termination module & support structure for outdoor connections to connect GIS with 145kV side of Power transformer and overhead lines	The Quantity of SF6/Air bushings mentioned in the BOQ is 4 Nos., however for 4 Nos. of GIS bays the Quantity required will be 12 Nos. (Single phase) kindly confirm the exact requirements.	Please refer updated BoQ	
2	CHAPTER 2: INFORMATION TO BIDDERS (ITB) , 145kV Gas Insulated Switchgear	3-phase (isolated) SF6 ducts inside GIS hall (up to the outer edge of the wall of GIS Hall)	The busduct for 145kV GIS shall be 3 phase encapsulated type	Confirmed	
3	CHAPTER 2: INFORMATION TO BIDDERS (ITB) , 145kV Gas Insulated Switchgear	Three (3) numbers 1-phase Potential Transformers with Isolating Link	Kindly note that the circuit already incorporates a busbar disconnecter thus provision of additional Isolating link for the Busbar Potential transformers is not envisaged.	Confirmed	
4	CHAPTER 2: INFORMATION TO BIDDERS (ITB) , 145kV Gas Insulated Switchgear	Local Control Cubicle. (Standalone)	Considering the compactness of the GIS offered we request an acceptance of bay mounted Local control cubicles.	Not accepted. Shall be as per bid.	
5	CHAPTER 3: DRAWINGS AND DOCUMENTS - C - i & ii	1-phase SF6/ air bushings along with terminal connectors	Terminal connector is excluded from GIS OEM scope of supply.	Shall be in the scope of GIS OEM / BIDDER SCOPE	
6	CHAPTER 3: DRAWINGS AND DOCUMENTS - D	Testing and Maintenance Equipment as per BPS	Testing and Maintenance Equipment are excluded from GIS OEM scope of supply	Shall be in the scope of GIS OEM / BIDDER SCOPE	

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7	CHAPTER 7: GENERAL TECHNICAL CLAUSES FOR DESIGN ;7.21 TESTING AND INSPECTION 7.21.1 General Conditions of Type Test.	19. Seismic test	For the offered 145kV GIS, Siesmic calculations shall be submitted during detail engineering; submission of Type tests is not envisaged.	As per detailed engineering	
/	CHAPTER 15: SUBSTATION AUTOMATION SYSTEM	In GIS Sub Stations, all the gas tight chambers are required to be monitored individually phase wise for their SF6 gas density status by the bay control unit in a bay	BCU shall be provided in the CRP, The LCC panels shall be conventional type and shall not house the BCU and are excluded from GIS manufacturers scope.	Confirmed	
9	16.4.3	The switchgear, which shall be of modular design, shall have complete phase isolation.	Offered 145kV GIS shall be three phase encapsulated	Confirmed	
10		The GIS assembly shall consist of separate modular compartments e.g. Circuit Breaker compartment, Bus bar compartment filled with SF6 Gas and separated by gas tight partitions so as to minimize risk to human life, allow ease of maintenance and limit the effects of gas leaks failures & internal arcs etc.	For the offered 145kV GIS, the Circuit breaker and CT shall be incorporated in the same gas compartment as per the type tested design accepted by various utilities in India and abroad. Also note that Busbar and busbar disconnectors shall be housed in the same gas compartment for 145kV GIS.	Type tested design shall be accepted	
11	16.3 REFERENCE STANDARDS	The housings are made of cast aluminium alloy or high-grade steel of adequate thickness to withstand internal arc test (burn through test) for minimum 300ms	The values shall be in line with IEC 62271-203	As per bid.	
12	16.4.6	Disconnecter and Earth switch module shall not be combined with bus bar module in same gas zone.	For the offered 145kV GIS, the Disconnectors and earth swithces are three position type and included in the same gas zone. This is a standard type tested design and accepted by various utilities in India and abroad. Request an acceptance on the same.	Type tested design shall be accepted	

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13	16.4.6	Cable termination module shall be in separate gas zone.	For the offered 145kV GIS, the Cable disconnectors and termination modules are included in the same gas zone. This is a standard type tested design and accepted by various utilities in India and abroad. Request an acceptance on the same.	Type tested design shall be accepted	
14	16.4.7	100 micro-meter or smaller sintered stainless-steel particle filtered disc shall be provided in gas filling port.	Gas filling shall be done using particle filter, hence we do not envisage such filter. However separate filter unit can be used with supplied filling ports during gas handling in future.	Confirmed. 100 micrometer or smaller sintered stainless steel particle filtered disc shall be provided in the gas filling kit	
15	16.4.9	The devices shall provide continuous and online monitoring (Display at SAS) of the density of the gas.	Kindly confirm whether an output of 6-20mA from the Gas density monitors will be required for the monitoring requirement . These are excluded from GIS manufacturers' scope of supply.	Yes, required. However the output shall be of 4-20mA.	
16	16.4.11	As minimum flexibility in the layout arrangement, it shall be possible to remove the circuit breaker with both bus bar remaining in service	We infer the requirement calls for withdrawal of CB Interrupters during repair and maintenance, and not the circuit breaker enclosure as it is not subject to any faults	As per bid.	
17	16.4.12	The material and thickness of the enclosures shall be such as to withstand an internal flash over without burns through for a period of 300 ms at rated short time withstand current.	This value shall be in line with IEC 62271-203	As per bid.	
18	16.4.14	Equipment. Inspection windows (View Ports) shall be provided for Disconnect Switch and both type of earth switches i.e. Maintenance and fast operating. Stroboscopic port shall also be provided.	View ports for DS & ES shall be provided. No stroboscopic port is available in market for GIS.	Confirmed	

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19	16.4.17	In case the leakage under the specified conditions is found to be greater than 0.5% after one year of commissioning, the manufacturer will have to supply free of cost, the total gas requirement for subsequent ten (10) years, based on actual leakage observed during the first year of operation after commissioning.	We infer that an additional 10% extra gas shall be required to be supplied as spare to meet out any contingency requirements	As per bid.	
20	16.4.19	The switchgear when installed and operating under the ambient conditions shall perform satisfactorily and safely under all normal and fault conditions. Even repeated operations up to the permissible servicing intervals under 100% rated and fault conditions, shall not diminish the performance or significantly shorten the useful life of the switchgear.	The switchgear is equipped with all necessary arrangements for protection from any internal and external faults without deteriorating its performance below recommended level. However, it is requested to inform the manufacturer in the event of any abnormal condition during its operation, so that suitable solution can be given.	As per bid.	
21	16.4.35	In addition to above suitable portable scissor lift shall be provided for access of distant portion of GIS installation.	All portions of supplied GIS shall be accessible using walkway and portable ladder, thus provision of portable scissor lift is not envisaged	As per bid.	
22	3.1 GAS INSULATING SYSTEM:	ii) Any other alarm necessary to indicate deterioration of the gas insulating system.	Not applicable for offered GIS	As per bid.	
23	16.4.43.2	The contractor shall supply the entire material for grounding bus of GIS viz conductor, clamps, joints, operating and safety platforms etc. The contractor is also required to supply all the earthing conductors and associated hardware material for connecting all GIS equipment, bus ducts, enclosures, control cabinets, supporting structure, GIS surge arrestor etc. to the ground bus of GIS.	Excluded from GIS OEM scope of supply	Shall be in the scope of GIS OEM / BIDDER SCOPE	

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24	16.4.43.3	The enclosure of the GIS may be grounded at several points so that there shall be grounded cage around all the live parts. A minimum of two nos. of grounding connections should be provided for each of circuit breaker, current transformers, voltage transformers, cable terminals, surge arrestors, earth switches and at each end of the bus bars.	GIS shall meet earthing requirements as per relevant IEEE publication.	As per bid.	
25	16.4.43.6 -c	Equipotential Earthmat: (below the GIS)	Excluded from GIS OEM scope of supply	Shall be in the scope of EPC	
26	16.4.43.6 - c	EARTHING CONDUCTOR SHALL BE OF COPPER AND SIZE MAY VARY AS PER EARTHING CALCULATION AND THE SAME WILL BE DECIDED DURING DETAILED ENGINEERING.	Both copper and steel earthing conductor shall be proposed. During execution suitable material shall be selected.	As per bid.	
27	16.4.49	Maximum weight of gas in a gas tight section of GIB shall not exceed 400 Kg (for 400 kV)/ 250 Kg (for 220 kV & 132 kV).	The Gas quantities shall be in line with manufacturer standard type tested design suitable form GIS operation at site	As per bid.	
28	16.4.46.1	The arrangement of gas sections or compartments shall be such as to facilitate future extension of any make without any drilling, cutting or welding on the existing equipment. To add equipment, it shall not be necessary to move or dislocate the existing switchgearbays.	We confirm the provision for future extension is available in the offered 400kV/220kV GIS meeting functional requirement of service continuity. We understand that any requirement of design and supply of interface module along with the associated hardware etc. as per tender shall be part of OEM performing future extension. Thus, any interface module supply is excluded from GIS OEM scope.	For Future Extension, The Future Extension Module with Isolating Link complete in all respects shall be provided to support Extension of any Bus Configuration of Other GIS OEM. Complete details of future extension module shall be provided as per requirement of AEGCL during detailed engineering.	

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29	16.4.52 vi.	DOCUMENTATION : vi. GIS Component Drawings	Being intellectual property, manufacturing drawings can not be shared.	To understand the link/bend arrangement inside the GIS and external component location like PD sensors, PRD port, stroboscopic port, gas density monitor probe connection etc., the GA of GIS components is required.	
30	16.4.52 xxiii.	Capacity calculation of EOT crane for GIS hall considering a factor of safety of 5	excluded from GIS OEM scope	Shall be in the scope of EOT OEM	
31	16.5.1.7.4	The breaker should be able to withstand all dielectric stresses imposed on it in open condition at lockout pressure continuously (i.e. 2 p.u. power frequency voltage across the breaker continuously)	The breaker should be able to withstand all dielectric stresses imposed on it in open condition at lockout pressure continuously (i.e. 2 p.u. power frequency voltage across the breaker for a specified period of time)	Confirmed	
32	16.5.1.10	After completion of site pre-commissioning test, 03 nos. travel transducer shall be handed over to AEGCL.	Excluded from GIS OEM scope of supply	Shall be in the scope of GIS OEM / BIDDER SCOPE	
33	16.5.1.14.2.19	DISCONNECTORS (ISOLATORS) The mechanical endurance class shall be M2 as per IEC for 400kV, 220 kV and 132kV disconnectors. Electrical endurance class shall be E2.	Mechanical endurance class shall be M2. however, electrical endurance class E2 is not applicable for disconnector switch and also not mentioned in GTP.	As per bid.	
34	16.5.1.14.2.22	The degree of protection for the Drive Mechanism box of disconnect or shall be IP55.	Considering Indoor requirement, IP4X class shall be sufficient. Please accept the same.	As per bid.	
35	16.5.1.15.10	The safety grounding switches shall conform to the requirements of IEC- 62271- 102 and shall have electrical endurance class: E2 & shall have mechanical endurance class M2 for 400 kV/220/132 kV voltage level..	Mechanical endurance class shall be M2. however, electrical endurance class shall be E0 for maintenance earth switch in line with IEC and type test report.	As per bid.	

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36	16.5.1.15.15	The degree of protection of the Drive Mechanism box of maintenance earth switch shall be IP55.	Considering Indoor requirement, IP4X class shall be sufficient. Please accept the same.	As per bid.	
37	16.5.1.13	HIGH SPEED MAKE PROOF GROUNDING SWITCHES These shall confirm to class F and electrical endurance class E2 and mechanical endurance class M2.	Electrical endurance class shall be E1 and mechanical endurance class M1 for high speed earth switch in line with IEC and type test report which is in line with tender GTP.	As per bid.	
38	16.5.1.17.2	VOLTAGE TRANSFORMERS PT shall be provided with isolating link through external operation for the purpose of high voltage testing of GIS.	Please note, we are offering VT with manual IID. Request to accept the same.	Confirmed	
39	16.5.1.15	Insulation co-ordination and selection of surge arrester	Shall be in the scope of GIS OEM / BIDDER SCOPE	Shall be in the scope of GIS OEM / BIDDER SCOPE	
40	16.5.1.22.2.1	Local Control cubicle shall be free standing, floor mounting type (Standalone). Bay mounted LCCs are not accepted.	Considering the overall compactness of the offering the 220kV GIS LCC shall be bay mounted type	Not accepted. Shall be as per bid.	
41	16.5.1.22.2.1	Minimum degree of protection of enclosure of LCC shall be IP55	Considering Indoor requirement, IP4X class shall be sufficient. Please accept the same.	Not accepted. Shall be as per bid.	
42	16.5.1.23.1	The core insulation and outer sheath of cable shall be of halogen-free special polymer.	Request to accept FRLS cables for cabling of LCC panel and GIS equipments.	Confirmed	
43	16.11.9	Cost of the raised platform for temporary storage is deemed to be included in overall cost. The raised platform needs to be made ready before arrival of GIS equipment at site. The contractor may use the available storage areas at site with permission of site in charge.	Shall be in the Civil contractor scope, Not in GIS OEM scope	Accepted. However, The storage area for GIS shall be as per GIS OEM recommendation	

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44	16.10	All transport packages containing critical units viz Circuit breakers and Voltage transformers shall be provided with sufficient number of impact recorders (on returnable basis) during transportation to measure the magnitude and duration of the impact in all three directions. In case of electronic impact recorder, the recording shall commence in the factory and must continue till the units reach site. The data of electronic impact recorders shall be downloaded at site and a soft copy of it shall be handed over to Engineer	GIS modules are rigidly build and does not gets affected by transportation vibrations. Large modules are shipped by splitting into small parts to reduce mechanical stress during transport. However, mechanical type shock indicators shall be provided for critical items like CB, CT, VT. Request your acceptance on same.	As per bid.	
45	16.13	Power frequency tests for the completed GIS at site shall be possible without removing the voltage transformers. The power frequency test voltage at site shall be 80% of the factory test voltage for 1 min at 100Hz.	Please note, during HV test at site voltage transformers shall be disconnected.	As per bid.	
46	16.16.7	Special Tools	Special tools shall be quoted as per BOQ.	As per BoQ	
47	16.16.7	16.16 TESTING & MAINTENACE EQUIPMENT	Excluded from GIS OEM scope of supply	Shall be in the scope of GIS OEM / BIDDER SCOPE	
48	32.2	220kV GIS MANADATORY SPARES	Spares have been given in PRICE SCHEDULE. Mandatory Spares are different than spares given in clause number 32.2 of technical specifications. Kindly confirm which one should we follow.	As per BoQ	

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49		Training	Site Training shall be given by site engineer during ETC activity. No factory training is envisaged. Any expenses like food, lodging, boarding, travel of trainees etc are excluded from GIS OEM scope.	Training shall be as per the BID Clause. Factory Training shall be considered as per BID Clause. ALL the expenses including travel, food, lodging shall be under the scope of the OEM/EPC as per their agreement and shall be quoted in the relevant Line Item of the BoQ.	
50	-	VT parameter	Kind share complete VT parameters for 145kV GIS	Please refer addendum	Table 2, sl no. 3
END					