

Clarification-I dated 27.07.2022 for Substation Package SS97 for Extension of 400 kV Jamkhambaliya GIS Substation (JKTL) under Transmission Project– Jamnagar Oil Refinery of RIL to connect with Jamkhambaliya ISTS PS Spec. No. 5002002316/SUB-STATION(EXCLUDIN/DOM/A06-CC CS -7

S.No	Tender Specification clause	Description	Query	POWERGRID Reply
Technical specification for GIS (GIS-REV 5A)				
1	2.3	The equipment offered shall be protected against all types of voltage surges and any equipment necessary to satisfy this requirement shall deemed to be included.	We understand that surge arrestors are required to cater the requirement and are of AIS type.	Bidder may provide additional Surge Arrestor, if required for GIS, to meet the requirement stipulated in the referred clause and clause no. 11.2 of Section-GIS (Rev-05A) of TS and the cost of the same is to be built up by bidder under GIS equipment.
2	5.8.	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. The material shall be such that it has no effect of environment as well as from the by-products of SF6 breakdown under arcing condition. This shall be validated with Type Test.	The Value shall be in line with the requirement of IEC 62271-203. Request a concurrence on the same.	Bidder to comply the requirement of Technical specification of bidding documents.
3	5.9	Inspection windows (View Ports) shall be provided for Disconnect Switch and both type of earth switches i.e. Maintenance and fast operating.	Inspection windows shall be provided for Disconnect enclosures . Provision of Observation windows for Earth switches is not envisaged as such.	Bidder to comply the requirement of Technical specification of bidding documents.

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3	5.27	In addition to above suitable portable scissor lift shall be provided for access of distant portion of GIS installation.	We do not envisage this requirement. Walkways if required and portable ladder shall be provided.	Bidder to comply the requirement of Technical specification of bidding documents.
4	5.31	ii) Any other alarm necessary to indicate deterioration of the gas insulating system.	Not Applicable for the offered GIS	Noted
5	5.42. Gas Insulated Bus (GIB) layout :	The horizontal clearance between GIB and GIS building /any other building wall shall be preferably three (3) meters.	The space/area utilization for such a configuration is very high and request customer to accept the standard spacing's between circuits considering the fact that the Bus-ducts are passive and requires almost no maintenance. Request PGCIL to accept the same.	Bidder to comply the requirement of Technical specification of bidding documents.
6	5.39.3	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, cable terminals, surge arrestors, earth switches and at each end of the bus bars. The grounding continuity between each enclosure shall be effectively interconnected externally with Copper /Aluminum bonds of suitable size to bridge the flanges.	The GIS design is such, the proper bonding is ensured by direct metal to metal flange connections and 2 nos. earthing provisions given for grounding.	Bidder to comply the requirement of Technical specification of bidding documents.

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7	6.6.7	Provisions shall be made for attaching an operational analyzer to record travel, speed and making measurement of operating timings etc. after installation at site. The contractor shall supply three set of transducer for each substation covered under the scope.	The supply of transducers is excluded GIS OEM Scope of supply	The contractor shall supply 03 set of transducers under the present contract and the cost of the same is to be built up by bidder under GIS equipment.
8	6.6.8.	Circuit Breaker shall be supplied with auxiliary switch having additional 8 NO(normally open) and 8 NC (normally closed) contacts for future use over and above those required for switchgear interlocking and other control and protection function. These spare NO and NC contacts shall be wired upto the local control cubicle.	Auxiliary switches are of standard design/size suitably designed for the available space. Hence the required additional 8 NO (Normally open) and 8 NC (normally closed) contacts shall be provided to customer through contact multiplication relays at LCC.	Noted
9	6.7.2. Control	The breaker shall normally be operated by remote electrical control. Electrical tripping shall be performed by shunt trip coils. However, provisions shall be made for local electrical control. For this purpose a local/remote selector switch and close and trip control switch/push buttons shall be provided in the breaker control cabinet.	As per our standard practice the Local/Remote switches will be provided in the Local Control Cubicle (LCC).	Noted
10	7.2.5	For motor-operated disconnect switches, the control should be electrically and/or mechanically	Only electrical inter-locks possible between DS & ES. We do not envisage providing any	Bidder to comply the requirement of Technical specification of bidding documents.

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		uncoupled from the drive shaft when the switch is operated manually to prevent coincident power operation of the switch and the drive mechanism(s).	mechanical interlocks. Request customer to kindly accept the same.	
11	7.2.10	Each disconnecter shall be supplied with auxiliary switch having additional 8 NO (Normally Open) and 8 NC (Normally Closed) contacts for future use over and above those required for switchgear interlocking and automation purposes. These spare NO and NC contacts shall be wired up to the local control cabinet.	Auxiliary switches are of standard design/size suitably designed for the available space. Hence the required additional 8 NO (Normally open) and 8 NC (normally closed) contacts shall be provided to customer through contact multiplication relays at LCC.	Noted
12	7.2.13	The disconnectors and safety grounding switches shall have a mechanical and electrical inter-locks to prevent closing of the grounding switches when isolator switches are in the closed position and to prevent closing of the disconnectors when the grounding switch is in the closed position. Integrally mounted lock when provided shall be equipped with a unique key for such three phase group. Master key is not permitted.	The disconnectors and the safety grounding switches are separate modules in GIS design and shall have only electrical inter-locks between them. However the required padlocking facility shall be provided for the manual interlocking for additional protection.	Bidder to comply the requirement of Technical specification of bidding documents.

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13	8.3	Each safety grounding switch shall be electrically interlocked with its associated disconnectors and circuit breaker such that it can only be closed if both the circuit breaker and disconnectors are in open position. Safety grounding switch shall also be mechanically key interlocked with its associated disconnectors.	The disconnectors and the safety grounding switches are separate modules in GIS design and shall have only electrical inter-locks between them. However the required padlocking facility shall be provided for the manual interlocking for additional protection.	Bidder to comply the requirement of Technical specification of bidding documents.
14	8.6	Each ground switch shall be fitted with auxiliary switches having 4 NO (Normally Open) and 4 NC (Normally Closed) contacts for use by others over and above those required for local interlocking and position indication purposes.	Auxiliary switches are of standard design/size suitably designed for the available space. Hence the required additional 4 NO (Normally open) and 4 NC (normally closed) contacts shall be provided to customer through contact multiplication relays at LCC.	Noted
15	11.2.	Insulation co-ordination and selection of surge arrester:	The same shall be excluded from GIS OEM scope of supply.	The bidder shall be fully responsible for insulation co-ordination of GIS as per clause 11.2 of Section-GIS (Rev-05A) of TS.
16	11.3.2	Surge arrester shall be disconnect-link type and be attached to the gas-insulated system in such a manner that they can be readily disconnected from the system while the system is being dielectrically tested.	Noted. However gas works shall be required to do the same. Also we do not foresee any requirement of GIS LA.	refer our reply at S.no.1 above
17	15.2.1	It shall comprise structural frames completely enclosed with specially selected smooth finished, cold rolled sheet steel of thickness not less than 3 mm for weight bearing members of	As per the standard practice, for the weight bearing members a sheet thickness of 2.5 mm is more than sufficient and as a GIS manufacturer we recommended the same and for non weight bearing members the	Bidder to comply the requirement of Technical specification of bidding documents.

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		the panels such as base frame, front sheet and door frames, and 2.0mm for sides, door, top and bottom portions.	same is 2 mm thick. We request customer to kindly confirm the same.	
18	22	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.	VTs being an critical equipment only impact recorders shall be provided for VTs. We request customer to kindly accept the same.	Bidder to comply the requirement of Technical specification of bidding documents.
19	23.9.	Cost of the raised platform for temporary storage is deemed to be included in overall cost. The raised platform needs to be made readybefore arrival of GIS equipment at site. The contractor may use the available storage areas at site with permission of site in charge.	The Cost of any specific requirements with regards to Platform or civil works are excluded from GIS OEM Scope.	Bidder to comply the requirement of Technical specification of bidding documents.

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20	27	<p>TESTING & MAINTENACE EQUIPMENT</p> <ol style="list-style-type: none"> 1. SF6 Gas leakage detector 2. Gas filling and evacuating plant : (Gas Processing unit) 3. SF6 gas analyzer 4. Portable Partial Discharge(PD) monitoring system (Shall generally applicable for 220kV&132 kV) 5. Online Partial Discharge Monitoring System (Applicable for 765kV& 400 kV GIS) 	<p>As per BPS, only (1) SF6 Gas leakage detector & (2) SF6 gas analyzer are in our scope, rests are excluded, please confirm</p>	<p>Bidder to quote as per BPS.</p>
21		<p>Type test for Adapters</p>	<p>We do not envisage performing type test on Adapter module used to connect the existing GIS to present GIS. The performance of the adapter shall be verified using simulation results which we shall share for customer review. Request customer acceptance on the same.</p>	<p>Bidder to meet the Type Test Requirement as per the TS and IEC62271-203.</p>
22		<p>Availabilty of Existing GIS make supervisor + Tools to operated Existing GIS make GIS</p>	<p>We request customer to kindly make available Existing GIS make supervisor at site for entire duration of coupling of present GIS to existing GIS. Also the tools, consumables, required to open existing GIS shall be scope of customer/Existing GIS make. Any charges occuring on account of Existing GIS make supervisor and tools shall be borne by purchaser. Request customer to kindly confirm the same.</p>	<p>For extension of GIS, the supervision of existing GIS manufacturer and all tools and tackles as well as consumables/gaskets, etc. as required, are to be arranged by the bidder/contractor under present scope.</p>

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23		Section view	Please support with the AutoCAD copy of section view and plan view	The available detail of existing system is already provided in the bidding document. Any additional detail in available format (.pdf etc.) shall be provided to successful bidder during detailed engineering stage. However, bidder is advised to visit the site as per Cl. No. 2.d of the section project.
24		Shutdown	A shutdown plan of the existing substation is mandatory and is required for a maximum of 3 times. A detailed schedule can be furnished during the time of project execution.	The optimum shutdown plan of the extension of substation shall be decided during site execution work.
25		Responsibility	Siemens will not be held responsible for any failure of the existing switchgear while the mentioned activities are in progress, nor after the installation of the adaptors including the new bays is over, whatsoever.	Bidders to take note that in case of failure of existing module(s)/switchgear where the new contractor has performed the extension or any other activity, the responsibility of failure of same shall be of the new contractor.
26		GIS extension module	We understand that GIS extension module is required on one side only	GIS Extension Module are required to be supplied for Main Buses (one side) and Future ICT Bus Duct.
27		Drawings of existing GIS	Please support with drawings of existing GIS and interface drawings.	The available details/drawings shall be provided to successful bidder during detailed engineering stage. However, it is the responsibility of bidder to successfully extend the existing GIS. In addition to available details of existing GIS, necessary site measurement, gas work, any consumable etc required shall be in the scope of bidder. Necessary shutdown for

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				same, if required, shall be arranged by POWERGRID.
28		PIR	We understand as per the BPS PIR is not required please confirm	Confirmed
29		Bus bar connection between 2 GIS by bus duct	As existing GIS and new GIS has separate GIS hall, we understand that the bus duct required for connection of bus-bars (main-1 and main-2) will be paid at actuals as per BPS - bus duct line item please confirm	Refer Clause 7-IV, Section Project
30		Layout of Jamkhambaliya	We need dimension in the layout for our drawing preparation request you to support the same as the provided layout does not have any space for the present scope GIS installation. Request you to check the same and we understand that the present GIS will be installed separate GIS hall marked in future scope area.	For Present scope of GIS bays, Separate GIS Hall is envisaged. However any detail of existing GIS hall shall be provided to the successful bidder in case of award.
31		GIS hall & Control room size	We understand that GIS hall and CRP room to be constructed considering present scope only. Please confirm	Confirmed
32		Earth mat Layout : The existing main earthmat shall be extended by the contractor for the area under present scope of work	As per section project. Existing earth mat to be extended further, please furnish the present earth mat layout	The requisite details/drawings shall be provided to successful bidder during detailed engineering stage. However, bidder is advised to visit the site as per Cl. No. 2.d of the section project.

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33		AHU room size	We understand that the size of AHU is as per layout given. Please confirm	Ventilation System for Separate GIS Hall shall be provided as per TS. Bidder to quote as per the provisions of bidding document.
34		Civil - site clearing	As per site visit, it is found that the location where present GIS hall is given in layout has lot of bid stones, dabbies etc, we understand that PGCIL will handover clear site with removal all these waste materials. Please confirm	Removal and satisfactory disposal of unsuitable materials necessary for achieving desired formation levels as a part of site levelling work is in scope of bidder.
35	Section Project Part B Civil works	Sr Bo. B.1 c iii): All foundation surfaces, cable trenches, RCC drains etc. touching with soil shall be painted with bituminous or silica-fluoride coatings as per IS:456. The cost of painting/coating shall be deemed to be included in the corresponding item of BPS	As per section project, all foundations etc shall be painted with bituminous / silica-fluoride coatings. However, as per site visit, existing foundations does not have any paints. Please reconfirm the requirement of this activity.	Provisions of technical specifications shall prevail. Bidder may quote accordingly
36	Section Project Part B Civil works	Sr Bo. B.1 d i) : The corrosion resistant steel (CRS) shall be used	As per section project, CRS reinforcement steel shall be used, while as per site visit , in existing foundation, normal reinforcement steel is being used. Please reconfirm the requirement	Provisions of technical specifications shall prevail. Bidder may quote accordingly
37		Civil - site leveling	We understand the levelled site will be provided to us and FGL is same as existing switchyard. This confirmation is required for connection of busbar by using bus duct from existing Hyosung GIS to present GIS	Site Levelling is in scope of bidder.

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38	Civil - site details	Please furnish soil report	Soil investigation in line with technical specifications is in scope of bidder.
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