

Sno	Heading	Description of Clause	Bidder Clarification	GETCO Reply
1	Tender Drawings STATCOM	Building Drawings_Civil Drawings	We understand that the proposed building drawings are to be referred as guideline for designing the OEM's STATCOM Civil Drawings. Kindly confirm our understanding.	The Drawings are provided for reference
2	II_Design Loads	TENTATIVE GROUND FLOOR /FIRST FLOOR PLAN FLOORING DETAIL & PLINTH PROTECTION DETAIL OF STATCOM CONTROL ROOM BUILDING AT 220KV SUB-STATION	We understand that all the civil construction shall be done considering the Zone-5 seismic parameters. Please kindly confirm.	Confirm
3	Getco List of approved Contractors		Please provide us the list of approved civil contractors and vendors of GETCO.	Will be approved based on profile submitted for subletting civil work as per tender conditions.
4	Voltage Ratings for the STATCOM Yard Equipments		We wish to clarify that the BIL level for STATCOM Station shall correspond to 72.5kV equipments in most of the cases. In this regard, we shall follow the specifications for the same as per the IEC Standard. Please kindly confirm.	As per Tech. Specification
5	Annexure-2	Power System Characteristics	We wish to clarify that although some parameters are available in regards to the Short Ckt levels, however, same needs to be benchmarked against the PSS/ E files for designing the STATCOM. Further, a preliminary Harmonic study also needs to be conducted by the OEM before finalizing the ratings in the pre-bid stage. We request GETCO, to please provide the PSS/E to avoid any major commercial impact after the project award stage.	GETCO will provide, (i) PSS/E software file for All India Network model file as Load Flow model, (ii) Credible Contingencies of GETCO Network: important / critical transmission elements in the Gujarat network considered. Bidder may also have considered Credible Contingency based on CEA planning Criteria, 2023, (iii) Dynamic file (.dyr) file or data available with GETCO, (iv) if dynamic data is not available for any transmission element, generic data shall be considered based on CEA planning Criteria 2023.
6	Transformers for STATCOM Station		We understand that HVVSS Sytem needs to be provided with the couplign transformer. Kindly confirm.	NIPPS System as per GETCO Procedure
7	Cl6.6_Loss Requirements	Loss Limits	We wish to clarify that for the complete dynamic solution, as per the latest amendementsn from CEA, 1.5% is the loss limit for the complete dyanmic solution. We request you to amend the same.	The respective clause has been amended. Kindly refer to Amendment.
8	Cl 8.1_MV Bus Voltage		As per the latest CEA Amendments, we wish to clarify that the value of the MV Bus voltage is left upon the OEM. We request you to please amend the same, so that we can propose our best possible optimized solution.	It is very well specified in Technical specification that MV voltage level (xx kV) of the MV Switchgear can be chosen by the bidder to optimize the offered solution which meets functional requirement of Technical Specification and overall performance requirement of STATCOM Station.
9	Document Name : "Timbdi bus voltage"		We request GETCO to please provide us clarification whether the provided document needs to be referred for the design of STATCOM. In this case, do we need to install the STATCOM at Timbdi?	Kindly note that the specified document is not part of the tender package.
11	TYPICAL SCADA ARCHITECTURE FOR AUTOMATION OF 220KV THARAD SUB-STATION FOR STATCOM BAY		We wish to clarify that OEM's Scada Design shall be a little bit different from the proposed drawing. However, we can consider this document as a guideline. Please clarify the same.	It shall meet all the technical and functional requirement as per specifications / provided typical SAS Architecture.
12	Insulators		We wish to clarify that for the Insulators of the Valve Structure, it is our standard design and we shall submit the approval for the same at the order award stage.	It shall be finalized during detailed engineering.
13	Connection of the existing civil facilities with Civil facilities of STATCOM Station		We understand that all the trenches, roads, FF system, shall be connected with those of main substation. In this regard, approach road of the substation shall be till the gate of the STATCOM Station.	As per tendet Layout Paln.
14	TECHNICAL SPECIFICATIONS FOR FIBER OPTIC CABLE		We wish to clarify that the attached FOC Specification may be applicable for SCADA/SAS application but the same shall not be applicable for the FO cable to be connected between STATCOM Valves and the Controller panel.	It is OK.
15	Overall Substation Layout		We request you to please share the overall substation of the layout for both Substations ot understand the location of the STATCOM yard in the station.	220KV Tharad Full Layout attached in tender & 220KV Sagapara SS Layout Plan is attached herewith
16	Cl 6.4.1 Radio Interference-STATCOM Specification.	With the STATCOM Station operating at any load up to rated value and within the design range of firing angle, the radio interference level from electromagnetic or electrostatic inductions generated by the STATCOM station shall not exceed 100 micro-volts/m, under fair weather conditions, at any point outside the station fence.	As per the latest CEA Amendment, the clause has been revised as below : <u>With the STATCOM Station operating at any load up to rated value and within the design range of firing angle, the radio interference level from electromagnetic or electrostatic inductions generated by the STATCOM station shall not exceed 100 micro-volts/m, under fair weather conditions, at any point on the substation boundary or 500mtr away from the statcom station fence, whichever is higher.</u>	The respective clause has been amended. Kindly refer to Amendment.
17	Cl 8.1.5.h - valve cooling system	Each cooling system shall be provided with independent/dedicated UMD supply however common battery for both UMD power supply may be accepted. A UMD system will provide an extended capability of the STATCOM Station to deliver reactive power without any interruption, adding a buffer against the system faults or during events such as delayed voltage recovery or TOV.	We understand that both UPS or UMD can be supplied with the valve cooling skid. Please kindly confirm.	UPS/UMD is very well specified in mentioned clause. However, cooling system shall be as per OEM design but it shall meet all the technical and functional requirement as per specifications
18	Cl 8.11_STATCOM Station Auxiliary Power Supply	With the exception of the cooling system, all other essential loads shall also be connected to the dc system of the STATCOM Station.	We wish to clarify that some of the essential loads like HVAC cannot be connected to the DC supply due to the nature of their rating. Please accept our clarification.	It shall be finalized during detailed engineering.
19	Cl 5.1d)_STATCOM Station Ratings	The STATCOM Station should continue to generate reactive power during temporary under voltage down to 33kV (0.15pu) for the duration 5 sec .	We wish to clarify that as per the latest CEA Amendment following has been introduced : <u>It is essential that the STATCOM Station operates in a robust manner when transmission system under voltages appears. In case of single phase or three phase faults, the STATCOM units must operate unrestricted, producing its rated capacitive current for transmission system voltages down to 0.15 p.u. In case of two phase fault, STATCOM shall be capable to produce rated capacitive current atleast down to 0.3 p.u, however, it shall be designed to operate upto 0.15 p.u.</u> Please kindly note that this was introduced considering that due to the design of converter topography the STATCOM Can deliver rated reactive current but not rated reactive power in case of an asymmetrical fault.	The respective clause has been amended. Kindly refer to Amendment.

20	CI 8.11_STATCOM Station Auxiliary Power Supply	<p>The auxiliary AC supply system of each STATCOM Station shall consist of two main incomers and one emergency incomer from DG set. The two main incomers shall be required to be paired to act redundantly to help ensure a certain degree of reliability and availability.</p>	<p>We understand that both the incomer AC Feeders shall be provided by M/s GETCO.</p> <p>In this regard, OEM doesnot need to consider Auxillary Transformer, corresponding bay as well as cable in our scope.</p> <p>We shall only supply distribution boards in this case.</p> <p>Please clarify.</p>	<p>Scope of work shall be as per price schedule.</p>
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