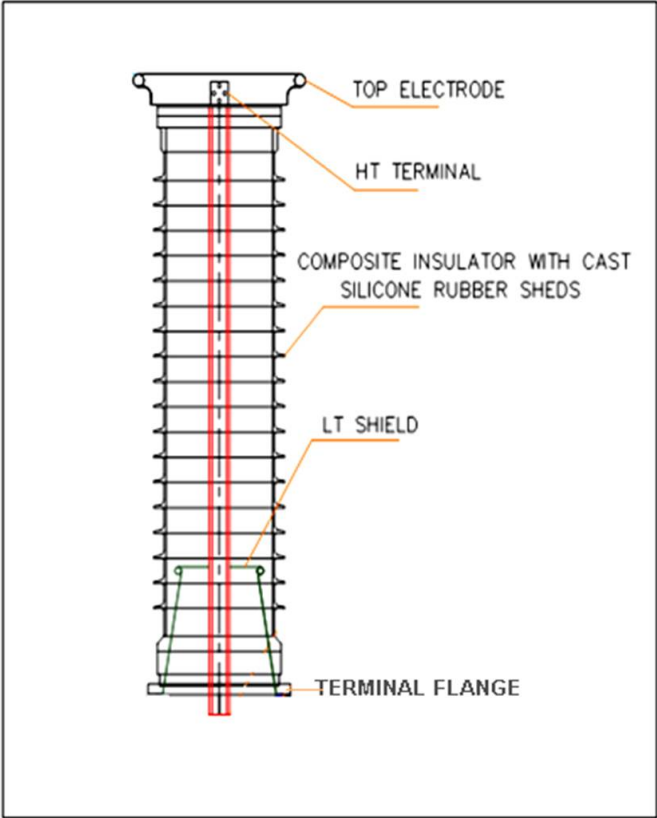


PSGSG	PRODUCT SPECIFICATION		PRODUCT	GIS 245	
13-14 /06			DATE	15.05.13	
REV. 00	SF₆ GAS INSULATED BUSHING		SHEET	1 of 3	
1.0	Purpose:			CONFIRMATION BY VENDOR	COMMENTS / DEVIATIONS
	Gas-to-Air termination bushing for high voltage tests on 245 kV SF6 gas insulated metal clad substation equipment.			YES/NO	
2.0	Scope of Supply:				
	1.One Number of 275kV/ 300 kV, SF6 gas insulated bushing with composite insulator (porcelain not acceptable).			YES/NO	
	2. The bushing shall be complete with internal and external shields. Alternatively stress graded HT conductor or LT end can be offered.			YES/NO	
	3.HT connection shall have provision to connect to gas insulated equipment directly or through insulator.			YES/NO	
3.0	Spare and Services:				
	Three sets of spares (if any recommended) like seals and gaskets etc. shall be included in the offer.			YES/NO	
4.0	Mounting Arrangement:				
	Detailed assembly drawing of bushing confirming the different possible mounting arrangements. Please also specify the maximum permissible angle of mounting w.r.t. support structure.			YES/NO	
5.0	Drawing Approval:				
	Drawings as per Master list of manufacturing drawings shall be submitted for approval prior to commencement of supply, in event of order placed by BHEL.Detailed drawing of the critical components like composite insulator, HT Shield, LT Shield, terminal flange shall also be submitted for information of BHEL along with technical bid.			YES/NO	
6.0	Factory Tests:				
	Detailed type test reports i.e., for both electrical and mechanical test shall be furnished with technical offer. All routine tests have to be carried out on the equipment being offered and test reports to be submitted along with the supply. A sample of test report shall be submitted along with the offer.			YES/NO	
7.0	Qualifying Requirements				
	Original Equipment Manufacturer with bushings manufacturing capacities up to 275kV/ 300 kV are eligible to quote. The manufacturer shall have supplied such equipment. Reference List of customers using this equipment shall be provided with technical offer.			YES/NO	
		Written:	Archana L	15.05.13	
		Chkd :	Archana L	15.05.13	
		Apprvd:	MM RAO	15.05.13	

PSGSG/	PRODUCT SPECIFICATION	PRODUCT	GIS 245	
13-14 /06		DATE	15.05.13	
REV. 00	SF6 GAS INSULATED BUSHING	SHEET	2 of 3	
8.0	Guarantee Certificate		CONFIRMATION BY VENDOR	COMMENTS / DEVIATIONS
	Supplier shall provide Guarantee certificate for the equipment to ensure reliability of the equipment for a period of not less than 18 months from the date of dispatch. In case of doubts in specifications, the supplier shall contact BHEL for clarifications.		YES/NO	
9.0	Technical Specifications			
	1. System Voltage : 245kV (rms)		YES/NO	
	2. System Frequency : 50 Hz.		YES/NO	
	3. Standard Insulation Level:			
	(a). Dry Lightning Impulse Withstand Voltage : .1050 kV 1.2/50 μ s as per IEC Standard		YES/NO	
	(b).Power frequency withstand voltage dry Voltage : .460 kV /60 μ s as per IEC Standard		YES/NO	
	4. Rated Current : 2500 Amps.		YES/NO	
	5. Rated Short Time Current : 50 /3 kA/sec.		YES/NO	
	6. Rated phase to earth voltage : 245/ $\sqrt{3}$ kV		YES/NO	
	7. Service bending load : > 2500N		YES/NO	
	8. Minimum operating pressure : ~0.5Mpa		YES/NO	
	9. Maximum operating pressure :> 0.85 Mpa (abs.)		YES/NO	
	10. Arcing Distance : ~2400mm		YES/NO	
10.0	Standard Specifications			
	1. All other specifications as per IEC 60137, version there of.		YES/NO	
	2. PD level should be in accordance with IEC 60270 for composite gas insulated bushing and shall be specified.		YES/NO	
	3. The resistance of bushing HT conductor should be close to theoretical minimum and shall be specified.		YES/NO	
	4. The test certificates shall be furnished for all type tests.		YES/NO	
	5. Creepage distance of the bushing shall be in the range of 30-35 mm/kV.		YES/NO	
11.0	Gas Connections:			
	For bushings terminated in a conical support insulator , it shall be provided with at least two non-return gas valves (standard DILO) for gas filling and gas pressure monitoring. The detailed drawings of these components shall be provided with the offer.		YES/NO	
12.0	Operating & Maintenance Manuals			
	Supplier shall provide operation and maintenance manual. The user manuals shall have detailed information about frequently maintenance requirements, spare parts and part no.s and addresses for future correspondence etc.		YES/NO	
13.0	Any Other information:			
	Supplier can furnish any other/additional information, considering overall requirements.		YES/NO	
		Written: Archana L	15.05.13	
		Chkd : Archana L	15.05.13	
		Apprvd: MM RAO	15.05.13	

PSGSG	PRODUCT SPECIFICATION	PRODUCT	GIS 245	
13-14 /06		DATE	15.05.13	
REV. 00	SF6 GAS INSULATED BUSHING	SHEET	3 of 3	
14.0	 Figure 1. Schematic Drawing of 275kV/ 300 kV Gas Insulated Bushing.		CONFIRMATION BY VENDOR	COMMENTS / DEVIATIONS
			YES/NO	
	Written: Archana L		15.05.13	
	Chkd : Archana L		15.05.13	
	Apprvd: MM RAO		15.05.13	