

MATERIAL CODE
EL8349010010



1800-01
Rev. 00

PURCHASE SPECIFICATION FOR 11 KV VCB

ISSUE NO : 06

DOC.NO: SPV-UT-019

REV : 00 JULY 2019

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SPECIFICATION OF VCB PANEL- COMPRISING OF 10 Nos OF VCB'S (6 Incoming & 4 Outgoing) along with BBCT panel

GENERAL : The switchgear and control gear panels confirming to IS 3427 shall be of the fully arc proof metal-clad, free standing, floor mounting, flush fronted, withdraw able type, consisting of separate panels assembled into one or more sections to form a single structure with a common bus bar assembly.

Each compartment should have an exhaust channel to let out over-pressurized hot gases at the top of the switchboard in case of an internal fault

Interlocking

1. Interlocking which prevents racking-in and racking-out of the circuit breaker when closed
2. Interlocking which prevents manual or electrical closing of the circuit breaker in the intermediate positions between connected or isolated
3. Interlocking which prevents either the circuit breaker from being racked in when the relative earthing switch is closed and the earthing switch from being closed with the circuit breaker racked in.

Busbar compartments

1. Shall be provided with 3 single phase copper busbars
2. There shall be terminals for connection to the external station earth bar at the bottom of each cubicle.

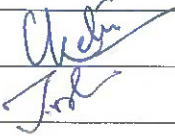
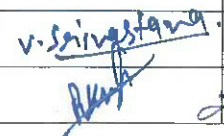
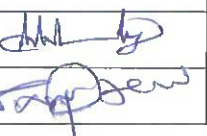
Circuit Breakers

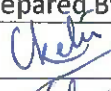
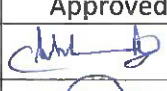
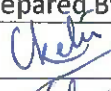
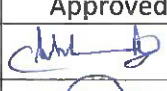
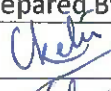
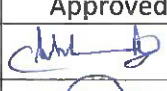
1. Circuit breakers shall be withdrawable and VCB type.
2. A position indicator switch or viewing window must be provided for visual indication of the circuit breaker position
3. The circuit breaker control auxiliaries shall be of the plug and socket type
4. The switchgear shall be provided with facilities for full operation from a remote point
5. Circuit Breakers shall be equipped with a motor wound spring stored energy operating mechanism with opening and closing operations independent of the operator, electric close and trip releases, manual on/off buttons and manual spring charging facilities.
6. Mechanical indication of the spring-charged condition shall be provided
7. Circuit breakers will be provided with at least one spare normally-open and one spare normally-closed contact, each wired out to terminals for the connection of external wiring.

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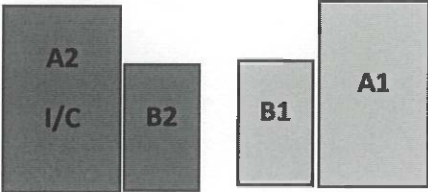
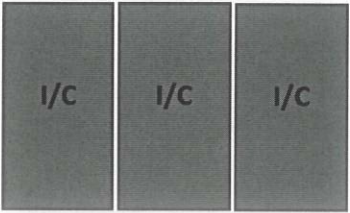
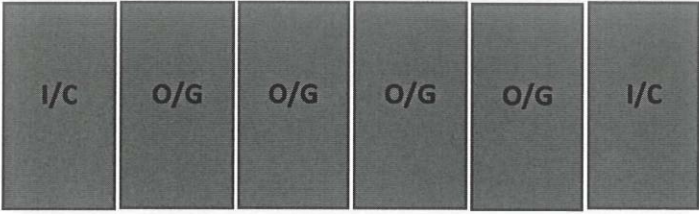
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1 st Issue	SPV GROUP	<i>[Signature]</i>	<i>v.srinastan</i>	<i>[Signature]</i>	02.7.19

MATERIAL CODE EL8349010010	 1800-01 Rev. 00		PURCHASE SPECIFICATION FOR 11 KV VCB			ISSUE NO : 06
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COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.	Compartmentalized & Compact Design Current transformer Voltage transformer					
	Protection Over current Earth Fault Short circuit					
	TESTS (Type test certificate) 1) Short time and peak withstand current test 2) Temperature rise tests 3) Dielectric tests 4) Test of apparatus i.e. circuit breaker and earthing switch					
	TESTS (Routine test) 1) Withstand voltage at power frequency 2) Withstand voltage on the auxiliary circuits. 3) Operation of functional locks, interlocks, signaling devices and auxiliary devices 4) Suitability and correct operation of protections, control instruments and electrical connections of the circuit breaker operating mechanism. 5) Verification of wiring 6) Visual inspection					
	SCOPE OF WORK 1) The Scope of Work includes: Manufacture of Panel, integration of VCB's and other components, testing, supply, installation and commissioning at BHEL – EPD. 2) The work and supervision to be carried out by skilled person having knowledge and experience in VCB commissioning in RMU station and the documents in this regard to be provided after placement of order and before execution. 3) Obtaining necessary work permits and authorization for carrying out the installation & commissioning from relevant authorities rests with the successful vendors.					
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	Electrical Data & Preferred Makes																							
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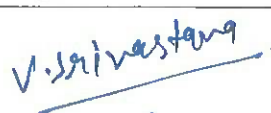
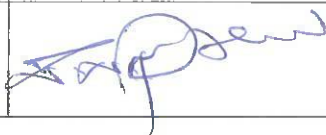
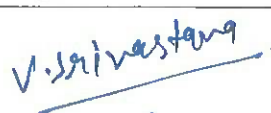
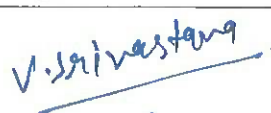
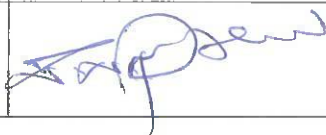
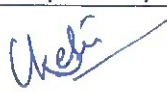
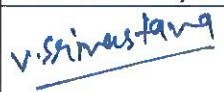
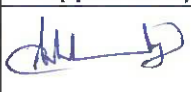
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Layup of VCB Panel at Different Location																										
LOCATION 1																										
																										
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LOCATION 3																										
																										
NOTE:																										
1) A1- Existing Incomer, B1- Existing Bus Bar Cable Termination Panel (BBCT) 2) A2- New Incomer , B2- New Bus Bar Cable Termination Panel (BBCT) 3) Location 2 – 3 Nos of Incomer (I/C), 4) Location 3 – 2 Nos of Incomer & 4 Nos of Outgoing 5) A2 VCB, B2, Location 2 VCB & Location 3 VCB are in the scope of supply. The orientation will be as per the figure shown above and should be installed & commissioned as per the Location provided above. 6) Detail drawing of VCB and BBCT Panel need to be submitted in technical bid for approval.																										
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COPY RIGHT AND CONFIDENTIAL The information on this document is the property of Bharat Heavy Electricals Limited. It must not be used directly or indirectly in anyway detrimental to the interest of the company.	<u>Pre-Qualification Criteria:</u>						
	- Offer shall be for new equipment and not for any refurbished or used equipment. - Vendor should either be an OEM (Original Equipment Manufacturer) or an Authorized Dealers/ Service Provider of the OEM. Authorized Dealers / Service providers to submit the authorization and competency certificate issued from OEM in executing VCB commissioning work of rating 11 KV and above and details of such works executed through OEM's in the last three ^{five} years in their technical bid. - Vendors should have supplied and commissioned 11 KV VCB Panel or above rating for minimum of 25 numbers and for a minimum of 5 customers in the past five years (1.01.2014 to 31.12.2018) and these must be operating satisfactorily. Relevant Purchase/Work orders issued from the customers and the performance certificate to be submitted along with the techno-commercial bid. BHEL reserves the right of independent verification of the references provided. - Vendor should have ISO:9001 certification and to be submitted along with technical bid.						
NOTE: - The Pre-qualification criteria are mandatory requirements and the technical bids will be evaluated only when the Pre-Qualification criteria are met. - Vendor should confirm compliance to all statutory conditions as per factories act and its relevant amendments for the Installation & Commissioning activity within the Premises of BHEL. The workman of vendor should possess ESI, PF for executing the work at BHEL-EPD.							
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DEPARTMENT : SPV & WEX - Projects					
					Ref : PR No. 50003238
					Date:02.07.2019

Sl No.	Item / Description	Unit	Quantity	Rate	Amount	Remarks
1	11 KV, VCB Panel (4 Incoming & 6 Outgoing)	set	1			The 11 KV VCB Panel as per Purchase Specification No. SPV-UT-019 Complete inclusive of the following units / components and not limited to: a. Vacuum Circuit Breaker b. Voltage Transformer c. Current Transformer d. Instrumentation Metering e. Protection relays f. 11KV Bus Bars g. Surge Arrester h. Additional / Associated equipment : Other accessories as required.
2	Installation and Commissioning of the system at BHEL - EPD	Set	1			
3	Training of BHEL Staff on Operation and Maintenance					
4	Technical Documentation, Software and other associated information					
5	Consumables for a period of 2 years	Set	1			Bidder to indicate and provide details
6	Spare Parts package for a period of 2 years	Set	1			Bidder to indicate and provide details