
 <p>बि एच ई एल CUB BHEL</p>	<p>PURCHASE SPECIFICATION VCB PANEL – 11kV For RMU STATION COMPRISING OF 8 nos of VCBs</p>	Spec. No	EP:PVM:EQS:04
		Rev. No	00
		Page 1 of 5	

**TECHNICAL SPECIFICATION
FOR
VCB PANEL – 11kV For RMU STATION COMPRISING OF 8 nos of
VCBs**

**ELECTROPORCELAINS DIVISION,
BHARAT HEAVY ELECTRICALS LTD.,
IISc POST, BANGALORE, INDIA 560012**

REVISION DETAILS: (00)	PREPARED		DATE 30.11.2015
	APPROVED	ISSUED	

COPYRIGHT AND CONFIDENTIALITY
 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 to the company

	PURCHASE SPECIFICATION VCB PANEL – 11kV For RMU STATION COMPRISING OF 8 nos of VCBs	Spec. No	EP:PVM:EQS:04
		Rev. No	00
		Page 2 of 5	

SPECIFICATION OF VCB PANEL- COMPRISING OF 8 Nos OF VCBS

GENERAL

<p>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.</p>
<p>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</p>

Interlocking

<p>Interlocking which prevents racking-in and racking-out of the circuit breaker when closed</p>
<p>Interlocking which prevents manual or electrical closing of the circuit breaker in the intermediate positions between connected or isolated</p>
<p>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</p>

Busbar compartments


<p>3 single phase copper busbars</p>
<p>There shall be terminals for connection to the external station earth bar at the bottom of each cubicle</p>

Circuit Breakers

<p>Circuit breakers shall be withdraw able and VCB type</p>
<p>A position indicator switch or viewing window must be provided for visual indication of the circuit breaker position</p>
<p>The circuit breaker control auxiliaries shall be of the plug and socket type</p>
<p>The switchgear shall be provided with facilities for full operation from a remote point</p>
<p>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.</p>
<p>Mechanical indication of the spring-charged condition shall be provided</p>
<p>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.</p>

COPYRIGHT 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 to the company

 <p>बि एच ई एल CBU - EPD</p>	<p>PURCHASE SPECIFICATION VCB PANEL – 11kV For RMU STATION COMPRISING OF 8 nos of VCBs</p>	Spec. No	EP:PVM:EQS:04
		Rev. No	00
		Page 3 of 5	

Cable compartment

Current transformer
Voltage transformer

Protection

Over current
Earth Fault
Short circuit

TESTS(Type test certificate)

Short time and peak withstand current test
Temperature rise tests
Dielectric tests
Test of apparatus i.e. circuit breaker and earthing switch

TESTS(Routine test)

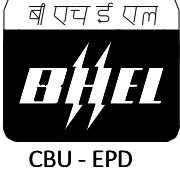
Withstand voltage at power frequency
Withstand voltage on the auxiliary circuits
Operation of functional locks, interlocks, signalling devices and auxiliary devices
Suitability and correct operation of protections, control instruments and electrical connections of the circuit breaker operating mechanism
Verification of wiring
Visual inspection

SCOPE OF WORK

<p>The Scope of Work includes: Manufacture of Panel, integration of VCB's and other components, testing, supply, installation and commissioning at BHEL – EPD. 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. Obtaining necessary work permits and authorization for carrying out the installation & commissioning from relevant authorities likes with the successful vendors.</p>
--

COPYRIGHT 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 to the company

 <p>बि एच ई लि CBU - EPD</p>	PURCHASE SPECIFICATION VCB PANEL – 11kV For RMU STATION COMPRISING OF 8 nos of VCBs	Spec. No	EP:PVM:EQS:04
		Rev. No	00
		Page 4 of 5	

Electrical Data


Vacuum Circuit Breaker – Preferred Make : ABB, Schneider, Merlin-Gerin, GE, Siemens
Rated Voltage 11/12KV
Rated Current 630A
SC Breaking capacity 18-21KA/Sec
No. Of Poles 3
Making Capacity 52.5KA
Impulse Withstand 75KV
Rated Frequency 50Hz
Power frequency withstand Voltage 28KV
Meters (A / V / F / PF / KWH etc.), Preferred Make : RISHAB, L&T, SCHNEIDER,AE,MECO
Control Supply Voltage 230V
Measuring Meter Type (DIGITAL), Preferred Make : Schneider and SEM
Ingress Protection rating : IP 64

TECHNICAL BID DOCUMENTS : The following documents shall be submitted along with the Techno-commercial bids.

Outlay Drawing of VCB Panel
Type test certificate (carried out within last 5 years)
Technical details/specification of all the components and accessories
Reference list of supplies for the similar item in the last 3 years
Time required for supply of material and commissioning of VCB
Identify any approval/clearance to be obtained from BHEL

COPYRIGHT 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 to the company

 <p>बि एच ई एल CUBU - EPD</p>	<p align="center">PURCHASE SPECIFICATION VCB PANEL – 11kV For RMU STATION COMPRISING OF 8 nos of VCBs</p>	Spec. No	EP:PVM:EQS:04
		Rev. No	00
		Page 5 of 5	

Pre-Qualification Criteria:

1. Offer shall be for new equipment and not for any refurbished or used equipment.
2. 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 years in their technical bid.
3. Vendors should have supplied and commissioned 11 KV VCB Panel for minimum of 25 numbers and for a minimum of 5 customers in the past three years (1.12.2012 to 30.11.2015). Relevant Purchase/Work orders issued from their for customers and the performance certificate with details of the time frame taken for the execution and completion of work with relevant commissioning certificates and documents issued by the customer should be submitted along with the techno-commercial bid. BHEL reserves the right of independent verification of the references provided.
4. Vendors should have certificates issued from Electrical Inspectorate/Central Electricity Authority during the last three years for executing the VCB commissioning works of 11 KV or higher ratings.
5. Vendors to have valid necessary contractor, supervisory and wireman permit licenses from Electrical Inspectorate for carrying out the work with validity to carry out the work during the year 2016-17.
6. 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.

COPYRIGHT 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 to the company