MAHATRANSCO
Maharashtra State Electricity Transmission Co. Ltd.

MAHARASHTRA STATE ELECTRICITY TRANSMISSION CO.LTD.
HVDC IDOD TSC Division, Padgha.

19 JUN 2025

MSETCL/EE/500 kV HVDC IDOD /Dn./PDG/NO 00369 Date: 19.06.2025

E- Enquiry (Budgetary offer)

Sub : - **Extension**--enquiry of design, supply, installation, testing and commissioning of LVAC breaker changeover scheme at HVDC, Padghe.

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Dear Sir

Budgetary offers are invited by the undersigned from the agency of Design, supply, installation, testing and commissioning of LVAC breaker changeover scheme at HVDC, Padghe on or before: 27.06.2025 up to 17:00 Hrs. The other terms and conditions are as mentioned below.

1. Offer should be duly filled in and submitted via sealed envelope to EE,HVDC-ID/OD Dn.,HVDC , Padghe office address as below–EXECUTIVE ENGINEER, HVDC-ID/OD Dn., PADGHE - 421 101 Tal:- Bhiwandi Dist-Thane (Maharashtra, India) Phone No. : 7887776363 , will only be accepted or **email quote**.
2. This enquiry is solely for collection of offer for estimate purpose & not for work allocation.
3. The offer should be submitted as per details mentioned below.
4. Quote rate in prescribed format & Attached Specifications in Annexure-A::

19/06/2025

Executive Engineer
±500 KV HVD ID-OD Padghe.

SECTION-1

INTENT, DESIGN CRITERIA, SYSTEM REQUIREMENT AND SCOPE

1.1 Intent of specification

1.1.1 This specification is intended to cover the following activities and services in respect of all the equipment of the LVAC breaker changeover scheme :

i) Detailed design of all the equipment and equipment system(s).

ii)Complete manufacturing & testing at works.

iii) Providing engineering data, drawings, and O & M manuals as per specified format etc. for Owner's review, approval and records.

iv) Packing and Loading for safe transportation to site.

v) Transportation, unloading, storage & handling at site.

vi) Erection, Testing, Commissioning, carrying out acceptance test and putting into satisfactory operation of all the equipment including successful completion of trial operation.

. 1.1.3 It is not the intent to specify herein all the details of design and manufacture. However, the equipment shall conform in all respect to high standards of design, engineering and workmanship and shall be capable of performing the required duties in a manner acceptable to Purchaser / Owner, who will interpret the meaning of drawings and specifications and shall be entitled to reject any work or material, which in his/their judgment is not in full accordance with the specifications.

1.1.4 The bidder shall be deemed to have understood completely all the tender drawings and documents and quoted accordingly.

1.1.5 The Bidder shall be responsible for providing all material, equipment and services, specified or otherwise which are required to fulfil the intent of ensuring operability, maintainability and the reliability of the complete work covered under this specification.

1.1.6 In case of any deviation, the bidder shall indicate separately the deviations clause wise with respect to the specification in the 'Schedule of Deviation'. Deviations in any other form including clarifications / assumptions / etc. will not be considered and it will not be considered and it will be construed that the bid conforms strictly to the specification.

1.1.7 The system shall be designed to suit the extreme of outside conditions as given in the specification.

1.1.9 The Contract shall be on lump sum basis for the package. Within the scope of the contract, no variation shall be admissible to the Contractor. In case of change in scope after award of the contract, the additions/deletions to the scope shall be settled on agreed mutual rate.

General description of the existing Auto changeover scheme is as follows:

The 415-V busbar has been segregated into essential (AL.WBC1-A/B and AL.WBC2-A/B) and non-essential (AL.WBCI-N and AL.WBC2-N) sections. There are two normal supplies feeding each 415 V busbar, feeding sections A and B independently. Whenever both normal supplies fail, the essential loads are fed by the diesel generator and the nonessential busbar is automatically cut off.

The change-over of supply from AL.WBC1-A to AL.WBC1-B (and correspondingly from AL-WBC2-A to AL.WBC2-B) and vice-versa is automatic in an event of failure of one of the normal supplies. The diesel generator backed busbars are provided with a start-up sequence for each pole. This provides automatic reconnection of different critical loads, such as, fine water pump, transformer cooler fans, etc., in a phased manner. In case of valve cooling, the two valve cooling pumps are each fed from a different section of the main ac board essential busbars.

In continuation we would like to mention that it is observed that the reliability of auto changeover scheme is becoming low due to various circuitry issues due to ageing and sluggish behaviour of various relays and components involved in the scheme.With an objective to eliminate momentary supply interruptions and unwanted alarms due to that, the objective is to develop and implement new logic sheme to facilitate high speed Automatic changeover of LVAC supplies.

The new scheme may involve use of Bay Control Units in LVAC switchgear design. The BCU's and overall scheme needs to be engineered, configured and extensively tested to ensure perfect functionality of High-Speed Auto Change Overs in LVAC board. Utilizing the capabilities of modern IED's to build large numbers of user defined logic and implementing these in innovative new ways may produced new unique LVAC changeover scheme that enhance functionality and reliability by eliminating discreet components and circuitry whilst maximizing overall efficiency by reducing supply interruptions and unwarranted alarms during supply changeover.

Scope of Supply & Services

The requirements mentioned under this clause are indicative and minimum for the system. Any other item/ service required to complete the work for safe and sound operation of system shall be provided and installed by the bidder at no extra cost to the purchaser. The bidder may bring out such requirement(s) suitably. Bidders shall consider reputed makes for various equipment involved in the system, which shall be subjected to Owner's approval during design Engg. Stage.

Scope of Supply

A. Main Item
B. The scope covers supply of 415V LT circuit breaker Ten (10) nos. (6 nos. 3200A & 4 nos 2000A for both the poles) at specified site conditions.

Each of the Ten LT circuit breakers shall have the following accessories:

1] Over current relay(inverse)
2] Earth fault relay(inverse)
3] Over current relay(inverse)
4]Control relay
5]Trip circuit supervision relay
6]Tripping relay
7]Instantaneous under voltage relay
8]Under voltage relay
9]Control relay
10]Timer
11]Auxillary contactor
12]OC/EF relay

Following remote control/Status shall be provided through SCADA

1. Starting and stopping of the LVAC circuit breaker
2. Indication of the circuit breaker under operation
3. Indication of the circuit breaker under trouble Bidder shall provide suitable NO/NC potential free contacts for remote status/control as mentioned above.

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HVDC ID-OD TSC Division, Padgha.

Annexure-A

Subject: **Extension**-- Enquiry of Design, supply, installation, testing and commissioning of LVAC breaker changeover scheme at HVDC, Padghe.

Sr. No.	Particulars	Quantity	Rate in Rs.
1	Supply, installation, testing and commissioning of LVAC circuit breaker equivalent to existing Rack out type 415V,2000A ELECTRICALLY OPERATED WITHOUT DN RELEASE, SHUNT RELEASE 220 V DC, MOTOR- 240 V AC.DRAWOUT VERSION, AUX CONTACTS 6 NO +6 NC. Short circuit breaking capacity-55KA Short circuit withstand capacity for 1sec:55KA STD:IS 2516,IEC 157-1 BS 4752 -Modification of existing Bus bar arrangement if required - Control & protection wiring	4 Nos	
2	Supply, installation, testing and commissioning of LVAC circuit breaker equivalent to existing 415V,3200A ELECTRICALLY OPERATED WITHOUT DN RELEASE, SHUNT RELEASE 220 V DC, MOTOR- 240 V AC.DRAWOUT VERSION, AUX CONTACTS 6 NO +6 NC	6 Nos	

	Short circuit breaking capacity-70KA Short circuit withstand capacity for 1sec:70KA STD:IS 2516,IEC 157-1 BS 4752 . -Modification of existing Bus bar arrangement if required - Control & protection wiring		
3	Supply, installation, testing and commissioning of Relays compatible with existing setup Type: Over current relay(inverse) 2] Earth fault relay(inverse) 3] Over current relay(inverse) 4]Control relay 5]Trip circuit supervision relay 6]Tripping relay 7]Instantaneous under voltage relay 8]Under voltage relay 9]Control relay 10]OC/EF relay	10 sets	
4	Supply, installation, testing and commissioning of auxiliary contactor compatible with existing setup Type: Coil voltage - 220 V DC, 4 NO + 3 NC. Coil voltage - 220 V DC, 2 NO + 2 NC. Coil voltage - 220 V DC, 2 NO + 2 NC.	70nos	
5	Supply, installation, testing and commissioning of timer compatible with existing setup Type: 0.1 - 240 SEC , 2 C/O	20nos	
7	Design,Erection, Testing & Commissioning of LVAC circuit breaker scheme	2 Nos	
8	Supply, installation, testing and commissioning of CT compatible with existing	60 Nos	

	setup 2500/5-5Amp(9 NOS) & 1600/5-5Amp(6 NOS)		
9	Supply, installation, testing and commissioning of PT compatible with existing setup 50VA, RATIO -((415/√3)/(110/√3)) V	18 Nos	
10	Supply, installation, testing and commissioning of Control Fuse with base compatible with existing setup type: 2A,4A,6A,10A,16 A BASE	1 lot	
11	Supply, installation, testing and commissioning of Control Selector Switch compatible with existing setup Type : Ammeter Selector Switch Voltmeter Selector Switch Breaker Control switch Local/Remote selector switch	30Nos	

Note: Details schematic of HVDC LVAC breaker change over scheme is attached.

Note:- Above all rates should be exclusive of GST & all other applicable charges, should be mentions separately if applicable. Estimated quantity is tentative it may vary during the PO. This material will be used for the HVDC terminal Padghe hence to be confirm with as actual equipment in service.

19/06/2025

Executive Engineer
±500 KV HVDC ID/OD Padghe.