

MAHARASHTRA STATE ELECTRICITY TRANSMISSION COMPANY LTD.



Name of office: 400KV RS Division, MSETCL, Alkud(M).
Office Address :400KV RS, Alkud(M), Tal: Kavathe Mahankal,
Dist: Sangli, Pin:416419
Contact No. :**8411805664 / 02341-299081**
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Ref. No. EE/400KV RS DN ALKUD/T/No. 46

Date: 14.03.2024

E- Enquiry (Budgetary offer)

Sub: - Enquiry for submission of budgetary offer for the Work of Supply, Installation & Commissioning of Controlled Switching Device (CSD) for switching of 125MVAR Bus Reactor at 400KV RS Alkud under 400KV RS DN Alkud (M)

Dear Sir,

At 400KV RS, Alkud, for the switching of 125MVAR Bus Reactor, Controlled Switching Device (CSD), Make – GE, Model – RPH3 is used. This CSD has become faulty and it is in consideration for the urgent replacement of said CSD with new CSD, compatible with Alstom make GL316 circuit breaker.

Hence, the Budgetary offer through e-mail are hereby invited by the undersigned the above work as per schedule-A enclosed. All are requested to quote your best reasonable rates for above work.

The other terms and conditions are as mentioned below.

- 1) The rate quoted should be valid for 60 day (minimum)
- 2) The rate should be quoted on firm quotation basis.
- 3) The rates should be exclusive of all taxes. Taxes should be quoted extra.
- 4) You are requested to submit your best reasonable budgetary offer as per Schedule-A, for above works on E-mail ID: **ee3170@mahatransco.in** up to **17:00 Hrs on dtd. 21.03.2024**
- 5) Detail Technical Requirement for CSD are attached in Annexure 'B'

This budgetary offer is invited only for estimation purpose and same will not be considered for any bidding OR other activity.

Sd/-
(D. V. Bobade)
Executive Engineer (charge)
400 KV R.S. Dn., Alkud(M)

Schedule 'A'					
Work of Supply, Installation & Commissioning of Controlled Switching Device (CSD) for switching of 125MVAR Bus Reactor at 400KV RS Alkud under 400KV RS DN Alkud (M)					
Sr. No.	Particular	Unit	Qty.	Rate per Unit	Amount
	Material Part				
1	Controlled Switching Device (CSD) compatible with Alstom make GL316 Circuit Breaker	No.	1		
	Labour Part				
2	Installation & Commissioning of Controlled Switching Device (CSD)	No.	1		

Above all rates should be exclusive of GST, Labour cess & all other applicable charges should be mentioned separately if applicable. Estimate quantity is tentative & it may vary during the PO. The material will be used at 400KV RS, Alkud(M), hence to be confirm with actual equipment in service.

Sd/-
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Executive Engineer (charge)
400 KV R.S. Dn., Alkud(M)

Annexure 'B'

Technical Requirement for controlled switching device:

- a) The CSD shall be designed to operate correctly and satisfactorily with the excursion of auxiliary A/C & DC voltages and frequency as specified in.
- b) The CSD shall get command to operate the breakers manually. The controller shall be able to analyze the current and voltage waves available through the signals from secondaries of CTs & CVTs for the purpose of calculation of optimum moment of the switching the circuit breaker and issue command to circuit breaker to operate.
- c) The CSD shall also have an adaptive control feature to consider the next operating time of the breaker in calculation of optimum time of issuing the switching command. In calculation of next operating time of the breaker, the CSD must consider all factors that may affect the operating time of the breaker such as, but not limited to control voltage variation etc. The accuracy of the operating time estimation by the controller shall be better than ± 0.5 ms.
- d) The CSD should have display facility at the front for the display of settings and measured values.
- e) The CSD shall be PC compatible for the setting of various parameters and down loading of the settings and measured values, date, time of switching etc.
- f) The controller shall be suitable for current input of 1 ampere from the secondary of the CTs. and 110 V (Ph to Ph) from the CVTs. The CSD shall withstand transient and dynamic state values of the current from the secondary of the CTs and CVTs.**
- g) The CSD shall have time setting resolution of 0.1 ms or better.
- h) The CSD shall have sufficient number of output/input potential free contacts for connecting the monitoring equipment and annunciation system available in the control room. Necessary details shall be worked out during engineering of the scheme.
- i) The CSD shall also record and monitor the switching operations and make adjustments to the switching instants to optimize the switching behavior as necessary.**
- j) The provision for bypassing the Controlled switching device shall be provided so that whenever, the CSD is not healthy due to any reason (including auxiliary supply failure), uncontrolled trip/close command can be extended to the circuit Breaker. Alternatively, in case of any non-operation of the CSD after receiving a close/trip command after a pre-determined time delay, the CSD should automatically be bypassed so as to ensure that the trip and close commands are extended to the Trip/Close coils through subsequent command.**
- k) The CSD shall be provided with a communication port to facilitate online communication of the CSD with Substation automation system directly on IEC 61850 protocols.**

Strategies for Optimum Target:

Switching Load	C/B Operation	Optimum Target
Inductive	Close	Close at peak voltage
Capacitive	Close	Close at voltage zero
Inductive & Capacitive	Open	Open at optimal arcing time

Communication Software details:

- **Compatible with Microsoft® Windows® XP / Windows Vista® / Windows7®/ Windows 8.1®/ Windows 10®/ Windows 11®**
- **Can be accessed serially through front USB port or remotely via Ethernet.**
- **Displays all the Measurements in real-time.**
- **Stores Event Records & Oscillograms.**
- **Records saving feature which can be useful for further remote analysis.**

Sd/-

(D. V. Bobade)

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