

E-Mail – [tembhumeunit@gmail.com](mailto:tembhumeunit@gmail.com)  
जा.क्र./टेंउसियांवविप/तांशा-४/निविदा/१५१३/२०१६.

Phone – (02164) 271142  
कार्यकारी अभियंता,  
टेंभु उपसा सिंचन यांत्रिकी व विद्युत पथक,  
ओगलेवाडी, कराड यांचे कार्यालय  
दिनांक:- १९ / ०९ / २०१६.

प्रति,  
मा. उपसंचालक (माहिती),  
विभागीय माहिती कार्यालय,  
मध्यवर्ती प्रशासकिय इमारत,  
पुणे स्टेशन, पुणे.

**विषय :- जाहीरात प्रसिध्दीस देणेबाबत.**

महोदय,

सोबत जोडलेली जाहिरात वृत्तपत्रात प्रसिध्द करण्यासाठी पाठविण्यात येत आहे. कृपया ती नेमून दिलेल्या तारखेला किंवा तत्पूर्वी प्रसिध्दीस द्यावी, ही विनंती.

- १) कार्यालयाचे नाव, पत्ता व दुरध्वनी क्रमांक : कार्यकारी अभियंता, टेंभु उपसा सिंचन यांत्रिकी व विद्युत पथक,  
ओगलेवाडी, कराड पिन :- ४१५१०५, फोन नं : (०२१६४) २७११४२.
- २) जाहीरात प्रसिध्द होण्याचा अंतिम दिनांक : दिनांक: २८ / ०९ / २०१६ अथवा तत्पूर्वी
- ३) प्रसिध्दी कोणत्या स्तरावर आवश्यक : जिल्हा स्तरावर (सातारा Region)  
(प्रादेशिक/जिल्हा पातळीवर)
- ४) जाहीरातीचे बील कोणाच्या नावे पाठवावयाचे : कार्यकारी अभियंता, टेंभु उपसा सिंचन  
यांत्रिकी व विद्युत पथक, ओगलेवाडी, कराड
- ५) जाहीरात किती वृत्तपत्रात प्रसिध्द करावयाची : एक “क” वर्ग मराठी दैनिक व एका  
व किती वेळा. साप्ताहिक वृत्तपत्रात एकाचवेळी फक्त एकवेळा.  
(कमीत कमी जागेत.)
- ६) किती वेळा जाहिरात प्रसिध्द करावयाची आहे. : एकवेळा.

आपला विश्वासू

सोबत :- जाहिरातीच्या ४ प्रती.

कार्यकारी अभियंता,  
टेंभु उपसा सिंचन यांत्रिकी व विद्युत पथक,  
ओगलेवाडी, कराड.

प्रत :- मा.अधीक्षक अभियंता, यांत्रिकी मंडळ ,कोल्हापूर यांना माहितीसाठी व वेबसाईट प्रसिध्दीसाठी सविनय सादर.

## जलसंपदा विभाग ( यांत्रिकी )

### अंदाजपत्रकीय दरपत्रके मागविण्यासाठीची दरपत्रके

कार्यकारी अभियंता टेंभू उपसा सिंचन यांत्रिकी व विद्युत पथक, कोयना सायडींग, ओगलेवाडी, कराड, ४१५१०५ (दुरध्वनी क्र.२७११४२) हे खाली दर्शविलेल्या कामाकरिता नोंदणीकृत यांत्रिकी कंत्राटदाराकडून व मुळ साहित्य निर्मात्यांकडून कार्यालयीन कामासाठी सर्व कर समावेशक अंदाजपत्रकीय दरपत्रके मागविण्यात येत आहेत. संबंधितांनी हि जाहिरात प्रसिद्ध झाल्यापासून अंदाजपत्रकीय दरपत्रके दि. २८/०९/२०१६ पासून ०४/१०/२०१६ पर्यंत कार्यालयीन वेळेत सादर करावीत. सदर कामाच्या बाबीचा सविस्तर तपशील [www.mahayantriki.gov.in](http://www.mahayantriki.gov.in) या वेबसाईट वर उपलब्ध आहे.

अ.क्र	तपशील	परिमाण	दर	रुपये
१.	टेंभू उपसा सिंचन टप्पा १अ,टेंभू, ता. कराड, जि. सातारा, येथील Ammeter 2 Nos, Voltmeter 2 Nos, Frequency Meter 2 Nos, Pressure Gauge 4 Nos ई.. निर्मिती, पुरवठा, उभारणी करणे कामाबाबत.	१० नग		
२.	टेंभू उपसा सिंचन टप्पा १ब, टेंभू, ता. कराड, जि. सातारा, येथील IVC make HOPD Valve Ø1100 mm करिता Leonardo Hydraulic System यांत्रिकी व विद्युत दुरुस्ती करणे इत्यादी कामाबाबत.	१८ नग		
३.	टेंभू उपसा सिंचन टप्पा क्र. १अ टेंभू, ता. कराड, जि. सातारा, येथील एच टी इनकमर ३२०० अॅम्पीअर Shift करून १ब येथे उभारणी, कार्यान्वितीकरण करणे इत्यादी कामाबाबत.	१ नग		
३.	टेंभू उपसा सिंचन योजना टप्पा क्र. ४ , वेजेगांव ता. खानापूर जि. सांगली येथील ६.६ के.व्ही. एच.टी. पॅनेलची ४ पंपासाठी भाग पुरवठा, उभारणी , कार्यान्वितीकरण पुनर्स्थापना ई. करणे बाबत.	१ नग		
४.	टेंभू उपसा सिंचन योजना टप्पा क्र. ५ , भूड ता. खानापूर जि. सांगली येथील ६.६ के.व्ही. एच.टी. पॅनेलची ५ पंपासाठी भाग पुरवठा,उभारणी , कार्यान्वितीकरण पुनर्स्थापना ई. करणे बाबत.	१ नग		

वरील कामासाठी सादर केलेली कामे अंदाजपत्रकीय कार्यवाहीसाठी असून प्रत्यक्ष कामाच्या आदेशाशी त्याचा काही संबंध नाही.

कार्यकारी अभियंता,  
टेंभू उपसा सिंचन यांत्रिकी व विद्युत पथक,  
ओगलेवाडी, कराड.

To,

M/s 1) \_\_\_\_\_  
2) \_\_\_\_\_  
3) \_\_\_\_\_

Sub: - Regarding Budgetary Offers.

Dear Sirs,

With respect to above subject, you are requested to submit your budgetary offers for the work as per description given below for **Tembhu Lift Irrigation Stage 1B Tq. Karad Dist. Satara**. The rates should be inclusive of all taxes, duties, transportation, etc. The budgetary offers should be submitted to this office within 8 days during working hours.

Sr. No.	Description	Qty	Rate	Amt
1)	To carry out the job work required for Manufacturing, Providing, Supply, Erection etc. of digital Ammeter having Three and Half digit LED display, external C.T. operated, calibrated for 0 to 2500 Amp AC suitable to operate on 500 V AC supply with necessary PVC wire leads and lugs and mounting hardware on 6.6 KV HT Incomer Panel complete with Calibration certificate from Manufacturer at Tembhu LIS st. 1 A.	2 Nos		
2)	To carry out the job work required for Manufacturing, Providing, Supply, Erection etc. of digital Voltmeter having Three and Half digit LED display, calibrated for 0 to 7.2 KV AC suitable to operate on 500 V AC supply with necessary PVC wire leads and lugs and mounting hardware on 6.6 KV HT Incomer Panel complete with Calibration certificate from Manufacturer at Tembhu LIS st. 1 A.	2 Nos		
3)	To carry out the job work required for Manufacturing, Providing, Supply, Erection etc. of digital Frequency Meter of Three digit LED display having 45 to 55 Hz range suitable to operate on 500 V AC supply with necessary PVC wire leads and lugs and mounting hardware on 6.6 KV HT Incomer Panel complete with Calibration certificate from Manufacturer at Tembhu LIS st. 1 A.	2 Nos		
4)	To carry out the job work required for Manufacturing, Providing, Supply and Erecting Pressure Gauge 250 mm dia having range 0 to 10 bar Bourdon's type as IS 3624:1987, Mounting, direct bottom, Stainless Steel body, toughened glass window complete with syphon tube, isolating cock suitable for 12 mm dia G.I pipe. Water Pressure Gauge shall be installed as directed with tapping on Rising Main at site Tembhu LIS st. 1 A.	5 Nos		

Thanking you.

Yours faithfully,

Executive Engineer,  
Tembhu Lift Irrigation Mechanical & Electrical Unit,  
Ogalewadi – Karad.

Copy submitted to the Superintending Engineer, Mechanical Circle (C.P.), Kolhapur, for information & necessary action please. It is requested to upload this offer on official website of department.  
Office Notice Board.

Office of the Executive Engineer,  
Tembhu Lift Irrigation Mech. & Elect. Unit,  
Koyna Siding, Oglewadi,  
Karad. Dist-Satara. Pin- 415 105.  
Date: / /2016

To,

M/s 1) \_\_\_\_\_  
2) \_\_\_\_\_  
3) \_\_\_\_\_

Sub: - Regarding Budgetary Offers.

Dear Sirs,

With respect to above subject, you are requested to submit your budgetary offers for the work as per description given below for **Tembhu Lift Irrigation Stage 1B Tq. Karad Dist. Satara**. The rates should be inclusive of all taxes, duties, transportation, etc. The budgetary offers should be submitted to this office within 8 days during working hours.

Sr. No.	Description				
1)	Main HOPD panel :- Repairs to M/S. Leonardo make HOPD valves of hydraulic system of power pack unit, cylinder, oil refilling, oil seals, pressure gauges etc. with dismantling, assembling & providing necessary spares such as valves, seals, gauges, control system with material, labour charges etc. Complete job of pump no. 1 to 18 at Tembhu stage-1B site. 1) D= 1100 mm, 4) Max. working pressure= 20 bar 2) PN Rating= 1.6 PN 5) Max. rate of flow from valve= 1594 litre/sec. 3) Working pressure= 10 bar				
Sr.No	Description	Qty	Unit	Rate	Amount
1	Contractor 24V/3Ph	1	No.		
2	Convertor 220V to 24V	1	No.		
3	Rectifier plate	1	No.		
4	Diode	1	No.		
5	Capacitor 24V	1	No.		
6	ON/OFF switch	1	No.		
7	Key switch (Remote & auto)	1	No.		
8	Emergency switch	1	No.		
9	Relay	1	No.		
10	Emergency switch ( inside)	1	No.		
11	Push button (open/close)	2	No.		
12	Indicator lamp (panel)	3	No.		
13	ON/OFF switch 415V/3Ph	1	No.		
14	MCB -16 A 415V/3Ph	1	No.		
15	MCB 10 A-1Ph	1	No.		
16	Small diode	1	No.		
17	Solenoid coil 24V	1	No.		
18	Hooter 24V	1	No.		
19	Top indicator lamp	1	No.		
20	Socket board 6V	1	No.		
21	Bulb/Tube set	1	No.		
22	Connector-2.5 sq.mm.	3	No.		
23	Connector-10 sq.mm.	3	No.		
24	Connector-6 sq.mm.	3	No.		
25	Overload relay	1	No.		
26	Pressure gauges	2	No.		
27	Oil filter (Hydraulic)	1	No.		
28	Oil seal & kit	1	No.		

Thanking you.

Yours faithfully,

Executive Engineer,  
Tembhu Lift Irrigation Mechanical & Electrical Unit,  
Oglewadi – Karad.

Copy submitted to the Superintending Engineer, Mechanical Circle (C.P.), Kolhapur, for information & necessary action please. It is requested to upload this offer on official website of department.  
Office Notice Board.

To,

M/s 1) \_\_\_\_\_  
2) \_\_\_\_\_  
3) \_\_\_\_\_

Sub: - Regarding Budgetary Offers.

Dear Sirs,

With respect to above subject, you are requested to submit your budgetary offers for the work as per description given below for **Tembhu Lift Irrigation Stage 1A Tq. Karad Dist. Satara**. The rates should be inclusive of all taxes, duties, transportation, etc. The budgetary offers should be submitted to this office within 8 days during working hours.

Sr. No.	Description	Qty	Rate	Amt
1)	To carry out the job work required for temporary shifting, erection, commissioning etc. complete job of HT incomer 3200 Amp from Tembhu stage 1A to 1B with necessary modification for system matching including material, labour workshop charges, sundry material. etc. Complete adapter panel with fabrication, material, labour etc. required bus bar of 3200 Amp. Required size & length, with required hardware, insulating material. Labour, workshop charges, sundry material, handling charges etc. Complete job for Tembhu LIs stage 1B site Tembhu, Tq-Karad, Dist- Satara.	1 job		

Thanking you.

Yours faithfully,

Executive Engineer,  
Tembhu Lift Irrigation Mechanical & Electrical Unit,  
Oglewadi – Karad.

Copy submitted to the Superintending Engineer, Mechanical Circle (C.P.), Kolhapur, for information & necessary action please. It is requested to upload this offer on official website of department.

Office Notice Board.

To,  
M/s 1) \_\_\_\_\_  
2) \_\_\_\_\_  
3) \_\_\_\_\_

Sub: - Regarding Budgetary Offers.

Dear Sirs,

With respect to above subject, you are requested to submit your budgetary offers for the work as per description given below for **Tembhu L.I.S. stage IV, Vejegaon, Tq.Khanapur, Dist-Sangali**. The rates should be inclusive of all taxes, duties, transportation, etc. The budgetary offers should be submitted to this office within 8 days during working hours.

**Name of Work** – Refurbishment/Supply, Erection, Commissioning & Testing of Dust & Vermin proof sheet steel, Indoor, Floor mounting type H.T. Panel 7.2KV class with sectionalized bus bars and suitable for 630 A, 6.6KV, 3 phase, 50Hz A.C. system confirming to relevant Indian standard with all relays, wiring, necessary related fittings with 1 No. VCB incomer, 5 No outgoing feeder.2 No. transformer VCB feeder etc. complete job for Stage -04 of Tembhu LIS At Vejegaon, Tq.Khanapur, Dist.Sangali.

	DESCRIPTION	I/C	OG-T	OG-M1	OG-M2	TOTAL
	H.T PANEL - 1 no includes – I/C - 1 no + Trans. feeder- 2nos, MF- 5 nos -total – 8 nos QTY -	1	2	4	1	08
	Sheet steel, Indoor, floor mounting type H.T PANELS 7.2 KV class with sectionalized bus bars of 630 A for pump house stage IV and suitable for 6.6 KV 3 phase 50 Hz, AC system conforming to relevant Indian standards the panel shall comprise of the following.					
01	Incomer Panel – 1 no i) Draw out type vacuum circuit-Breaker suitable for installation on 6.6 KV, 3 phase, 50 Hz. A.C system with an Minimum Rupturing capacity of 250 MVA and rated current of 630 A with motor charged spring closing mechanism and facility for remote operation. The breaker shall be suitable for withstanding current surges caused by 3 Nos. of capacitor banks being used for improving the P.F. of 3 Motors. Qty.-1No. (Make: CGL/EQUIVALENT) ii) Three numbers double core current transformers of ratio 350/1/1A, one core for metering Class-I accuracy, 30 VA burden. The other core for protection Class 5P-20, 25-VA burden. The current Transformers will be with short time current rating of 21.8 KA for one second. Qty.-3Nos. (Make: CGL/SILKANS/EQUIVALENT) iii) Three numbers single core current transformers of rated 350/1/1A. class PS, to be used for differential protection of main transformer. The requirement of knee point voltage will be subject	1  1  3  3	0	0	0	1  1  3  3

to prior approval. The current transformers will be with short time current rating of 21.8 KA for one second. <b>Qty.-3Nos.</b> <b>(Make: CGL/SILKANS/EQUIVALENT)</b>					
iv) Three numbers, Single phase, potential transformers ( P.T.s) to be star/star connected with ratio. (6600 V/1.7321) (110V/1.7321), Class-I accuracy and rated burden 150 VA. <b>Qty.-3Nos.</b> <b>(Make: CGL/JSL/SILKANS/EQUIVALENT)</b>	3				3
v) Spring back type Trip, neutral, close, circuit breaker control switch. <b>Qty.-1No.</b>	1				1
vi) Indicating lamps, Red/Green/Amber for circuit breaker On/Off/Auto trip indication rated for 110 volts D.C. <b>Qty.-3Nos.</b>	3				3
vii) White indicating lamp, for trip circuit healthy indication, suitable for 110 volts D.C with provision of trip coil supervision relay. <b>Qty.-1No.</b>	1				1
viii) Square Ammeter of size 96 mm, scale 0 to 3500 A with 3 way and OFF selector switch. <b>Qty.-1No.</b> <b>(Make: RISHABH/STD)</b>	1				1
ix) Square voltmeter of size 96 mm, scale 0 to 7 KV with 3 way and OFF selector switch. <b>Qty.-1No.</b> <b>(Make: RISHABH/STD)</b>	1				1
x) High speed tripping relay. <b>Qty.-1No. (Make: L&amp;T)</b>	1				1
xi) Static type triple pole, Inverse Definite Minimum Time lag (IDMTL) relay with two elements, one for over current protection, having setting rang 50% to 200% on IDMTL unit: and other element for earth fault protection with setting range 20% to 80% on IDMTL unit: with common instantaneous setting range of 500% to 2000%. <b>Qty.-1No. (Make: L&amp;T)</b>	1				1
xii) Cable termination arrangement with cable entry from bottom side. <b>Qty.-1Set.</b>	1Set				1Set
xiii) D.C. fail relay. <b>Qty.-1No. (Make: L&amp;T)</b>	1				1
xiv) Auxiliary relays, A.C and D.C fuses etc. as required. <b>Qty.-1Set. (Make: CGL/L&amp;T/ABB/STD)</b>	1Set				1Set
xv) Remote/Local selector switch, with locking arrangement. <b>Qty.-1No.</b>	1				1
xvi) Space heaters with inter locks, to ensure that space heater is 'ON' when breaker is open and 'OFF' when breaker is closed. <b>Qty.-1No.</b>	1				1
xvii) Mega Watt Hour meter (MWH-Meter), suitable for 3 phase, 3 wire unbalanced load. <b>Qty.-1No. (Make: RISHABH/STD)</b>	1				1
xviii) Reactive kilo volt ampere Hour (RKVAH) meter suitable for 3 phase 3 wire unbalanced load. <b>Qty.-1No. (Make: RISHABH/STD)</b>	1				1
xix) Frequency Indicator, having range between 45Hz to 55Hz. <b>Qty.-1No.</b>	1				1
xx) Counter, showing numbers of trappings made by breaker. <b>Qty.-1Set.</b>	1Set				1Set

	xxi) Power factor meter showing the power factor of system (0.50 Lag to 0.50 Lead). <b>Qty.-1Set.</b>	1Set				1Set
<b>02</b>	<b>Outgoing Feeders for Motors: ( 4 + 1 Spare = 5 nos)</b> <b>Each feeder</b> to have but not limited to the following: 1)6.6 KV Draw out type vacuum contactor, 400 A suitable for installation on 6.6 KV, 3 phase 50 Hz, A.C. system with H.R.C. fuses of minimum rupturing capacity of 250 MVA with, facility for remote operation. The vacuum contactor shall be suitable for withstanding current surge caused by the capacitor bank being used for improving the P.F. of one motor. <b>Qty.-1No. (Make: CGL/EQUIVALENT)</b> 2)Three numbers, double core, current transformers of suitable primary ratio and secondary's 1/1A. One core for metering class - 1 accuracy 15 VA burden, and the other for protection class-5 P-20 accuracy, 15 VA burden, with a short time current rating of 21.8 KA for 1 second. <b>Qty.-3Nos.</b> <b>(Make: CGL/SILKANS/EQUIVALENT)</b> 3)Three numbers single phase PTs (potential Transformer) with ratio (6600V/1.732)/ (110V/1.7321) Class-I accuracy and 100 VA burden. <b>Qty.-3Nos.</b> <b>(Make: CGL/JSL/SILKANS/EQUIVALENT)</b> 4)Spring back type TRIP, NEUTRAL, CLOSE, Contactor Control Switch. <b>Qty.-1Set</b> 5)Indicating lamps Red/Green/Amber for contactor On/Off/Auto Trip indications, rated for 110 volts D.C. <b>Qty.-3Nos.</b> 6)White indicating lamp for trip circuit healthy indication suitable for 110 volts D.C. with provision of trip coil supervision relay. <b>Qty.-1No.</b> 7)Indications for valve operations for following positions. <b>Qty.-1Set</b> <ol style="list-style-type: none"> <li>1. Valve fully open.</li> <li>2. Valve fully closed.</li> <li>3. Valve partly open.</li> </ol> 8)Square ammeter of size 96 mm of suitable range with suppressed scale & 3 way & OFF selector switch. <b>Qty.-1No.</b> <b>(Make: RISHABH/STD)</b> 9)High speed tripping relay. <b>Qty.-1No. (Make: L&amp;T)</b> 10) Protection relays with flag for following: <ol style="list-style-type: none"> <li>I. Static CTMM English electric or equivalent comprehensive motor protection relay.(relay subject to approval by corporation)</li> <li>II. Static type capacitors earth fault relay.</li> <li>III. Under voltage relay with setting from 60 to 117 volts with time lag setting.</li> <li>IV. Time delay relays.</li> </ol> <b>Qty.-1Set (Make: L&amp;T)</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1</b>	<b>5</b>
				4	1	5
				12	3	15
				12	3	15
				4Sets	1Set	5Sets
				12	3	15
				4	1	5
				4Sets	1Set	5Sets
				4	1	5
				4	1	5
				4Sets	1Set	5Sets



	<p>11) Interlock for contactor operation with valve suitable for starting/stopping of pumps. <b>Qty.-1Set</b></p> <p>LOGIC:</p> <p>I) The valve shall start opening, only when respective pump motor has reached its full speed in starting sequence. While stopping the motors the respective valve, shall close first and then the motor ( This sequence may be suitably modified to suit the pump characteristics)</p> <p>II) The contactor controlling main motor can not be switched. 'ON' unless prelubrication to the line shaft bearings is achieved for pre set time.</p> <p>III) The contactor controlling main motor should get tripped, if even after motor's attaining full speed, the valve does not start opening.</p> <p>12) Cable termination arrangement suitable for terminating Aluminum 'XLPE' cables required size for motor and capacitor. <b>Qty.-1Set</b></p> <p>13) Remote/local, selector switch with locking arrangement. <b>Qty.-1No.</b></p> <p>14) Auxiliary relays, timers, terminals A.C. and D.C. fuses etc. as required. <b>Qty.-1Set (Make: CGL/L&amp;T/ABB/STD)</b></p> <p>15) Hour meter one on each motor panel and spare panel operating on 230/110 V.A.C. Supply. <b>Qty.-1No. (Make: KAYCEE/STD)</b></p> <p>16) Bearing lubrication water start/stop switches with indicating lamp. <b>Qty.-1Set</b></p>			4Sets	1Set	5Sets
				4Sets	1Set	5Sets
				4	1	5
				4Sets	1Set	5Sets
				4	1	5
				4Sets	1Set	5Sets
03	<p><b>Transformer Feeder for 100KVA Transformers – Qty 2 nos.</b></p> <p><b>Each feeder</b> to have but not limited to the following:</p> <p>1) Draw out type vacuum circuit breaker, 630A suitable for installation on 6.6KV, 3 phase 50 Hz, A.C. system with 250MVA minimum rupturing capacity with, Motor charged spring closing mechanism and facility for remote operation. <b>Qty.-1No. (Make: CGL/EQUIVALENT)</b></p> <p>2) Three numbers, single core current Transformers ( C.T.s.) of ratio, 10/1 A for metering with class -1 accuracy 20 VA burden. <b>Qty.-3Nos. (Make: CGL/SILKANS/EQUIVALENT)</b></p> <p>3) Three numbers of single core current Transformer ( C.T. s.) of ratio, 10/1 A for protection, with 5p-20 accuracy and 15VA burden. <b>Qty.-3Nos. (Make: CGL/SILKANS/EQUIVALENT)</b></p> <p>4) Spring back type TRIP, NEUTRAL, CLOSE, circuit breaker control switch. <b>Qty.-1Set</b></p> <p>5) Indicating lamps Red/Green/Amber for circuit breaker On/Off/Auto Trip indications, rated for 110 volts D.C. <b>Qty.-3Nos.</b></p> <p>6) One indicating lamp for trip circuit healthy indication suitable for 110volts D.C. <b>Qty.-1No.</b></p> <p>7) Indication lamps for over current/Earth fault ( O/C, E/F) Relay operation and Buchholtz relay operation. <b>Qty.-1Set</b></p>	0	2	0	0	2
			2			2
			6			6
			6			6
			2Sets			2Sets
			6			6
			2			2
			2Sets			2Sets

	8) Square ammeter of size 96mm, having scale 0 to 20 A, with 3 way & 'OFF' selector switch. <b>Qty.-1No.</b> <b>(Make: RISHABH/STD)</b>		2			2
	9) High speed tripping relay. <b>Qty.-1No. (Make: L&amp;T)</b>		2			2
	10) Static type Triple pole IDMTL relay with two elements one for over current protection having setting range of 50% to 200% on IDMTL unit & the other element earth fault protection with setting range 20% to 80% on IDMTL unit. <b>Qty.-1No.</b> <b>(Make: L&amp;T)</b>		2			2
	11) Cable termination arrangement, suitable for terminating one number 3core suitable 'XLPE' cables. <b>Qty.-1Set</b>		2Sets			2Sets
	12) Auxiliary relays, terminals, A.C. and D.C. fuses, etc. as required. <b>Qty.-1Set (Make: CGL/STD)</b>		2Sets			2Sets
	13) Remote/local, control switch. <b>Qty.-1No.</b>		2			2
<b>04</b>	<b>Annunciation:</b> 1) 1 No. buzzer suitable for operation on 110volts D.C. 2) 1 No. Bell suitable for operation on 230volts A.C. <b>Qty.-1Set (Make: MINILEC/EQUIVALENT)</b>					

### TECHNICAL SPECIFICATIONS

#### (A) SYSTEM PARAMETERS

1.	RATED VOLTAGE	6600V
2.	RATED FREQUENCY	50HZ
3.	SYSTEM NEUTRAL	EFFECTIVELY EARTHED
4.	FAULT LEVEL	26.3 KA
5	DEGREE OF PROTECTION AS PER IS 3427:1969	IP4X FOR EXTERNAL ENCLOSURE

#### (B) CONTROL SUPPLY VOLTAGES

1.	CLOSING COIL	110V DC
2.	TRIPPING COIL	110V DC
3.	INDICATION CKT.	110V DC
4.	PANEL SPACE HEATER	230V AC
5.	SPR CHARGE MOTOR	110V DC

#### (C) GENERAL NOTES

1.	Inter panel wires shall be supplied with the panel, to be connected at site.
2.	All doors will be earthed by flexible copper braid.
3.	Panel shall be painted inside and outside with shade 631 of IS-5.
4.	Neoprene gaskets shall be provided at opening door.
5.	Electrical & mechanical interlock shall be provided between line capacitor feeder and it's respective motor feeder such that when only line capacitor is on, it's motor should not be made on independently.
6.	230V AC & 110V DC control supply shall be received at incomers & same shall be distributed by bus wiring to other panels.
7.	Mech. operated emergency stop push button shall be provided for VCB panels only.
8.	The outer ms sheet body is available at site. Only the all internal components should be replaced with new one as per this bill of material.

(D) MAIN HORIZONTAL BUSBARS

1.	RATED CURRENT	630A
2.	SHORT TIME RATING	26.3 KA FOR 3 SEC
3.	MATERIAL OF BUSBARS	ELECTROLYTIC ALUMINIUM
4.	INSULATION OF BUSBARS	FULLY INSULATED WITH HEAT SHRINKABLE PVC SLEEVES

(E) EARTH BAR

1.	MAERIAL OF EARTH BUS	COPPER
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(F) WIRING

1. All control wiring shall be of adequate capacity & all outgoing circuits shall be wired upto terminal blocks, for external connections.
2. Wires shall be properly colour coded & ferruled, to distinguish different circuits.
3. They shall be neatly routed through PVC channels of adequate size.
4. All control wiring shall be carried out with 1.1KV, grade, 2.5sq.mm., PVC insulated, copper wires.

(G) PANELS

1. The panels shall be indoor, free standing type, fully compartmentalized and properly ventilated.
2. It shall be totally enclosed dust and vermin proof.
3. Fixed main disconnect contacts in Panel housing shall be provided with automatic safety shutters, to cover the high voltage circuit. Means shall be provided to operate shutters by a handle or knob, on the front of the panel.
4. It shall be made out of at least 10 SWG sheet steel, suitably reinforced to provide flat level surface, resistant to vibration, rigid, during transportation and installation.
5. Doors & removable covers may be of 14 SWG sheet.
6. All panel surfaces to be painted shall be first chemically treated to remove all rust, scale and then two coats of Zinc primer shall applied.
7. The colour of all panels shall be light Gray to shade no. 631 of IS-5.

(H) TESTS

1. The switch gear assembly and all other components; like vacuum contactor, circuit breaker, C.T.P.T., Relays, etc. shall be tested for all type and routine tests, as per latest editions of relevant Indian Standard/ International standards.
2. In case, type test reports on similar equipment are available.
3. All routine tests as per relevant standards shall be conducted on the assembly and the various components.
4. Heat run test for temperature range & time for incomer VCB.

Thanking you.

Yours faithfully,

Executive Engineer,  
Tembhu Lift Irrigation Mechanical & Electrical Unit,  
Ogalewadi – Karad.

Copy submitted to the Superintending Engineer, Mechanical Circle (C.P.), Kolhapur, for information & necessary action please. It is requested to upload this offer on official website of department.  
Office Notice Board.

To,  
M/s 1) \_\_\_\_\_  
2) \_\_\_\_\_  
3) \_\_\_\_\_

Sub: - Regarding Budgetary Offers.

Dear Sirs,

With respect to above subject, you are requested to submit your budgetary offers for the work as per description given below for **Tembhu L.I.S. stage V, Bhud, Tq. Khanapur, Dist-Sangali**. The rates should be inclusive of all taxes, duties, transportation, etc. The budgetary offers should be submitted to this office within 10 days during working hours.

**Name of Work** – Refurbishment/Supply, Erection, Commissioning & Testing of Dust & Vermin proof sheet steel, Indoor, Floor mounting type H.T. Panel 7.2KV class with sectionalized bus bars and suitable for 630 Amp 6.6KV, 3 phase, 50Hz A.C. system confirming to relevant Indian standard with all relays, wiring, necessary related fittings with 1 No. VCB incomer, 6 No outgoing feeder, 2 No transformer VCB feeder etc. complete job etc. for Stage -05 of Tembhu LIS At Bhud, Tq.Khanapur, Dist.Sangali.

DESCRIPTION		I/C	OG-T	OG-M1	OG-M2	TOTAL
	<b>H.T PANEL - 1 no includes</b> – I/C - 1 no + Trans. feeder- 2nos, MF- 6 nos -total – 9 nos QTY -	1	2	5	1	09
	<b>Sheet steel, Indoor, floor mounting type H.T PANELS 7.2 KV class with sectionalized bus bars of 630 A for pump house stage V and suitable for 6.6 KV 3 phase 50 Hz, AC system conforming to relevant Indian standards the panel shall comprise of the following.</b>					
<b>01</b>	<b>Incomer Panel – 1 no</b> i) Draw out type vacuum circuit-breaker suitable for installation on 6.6 KV, 3 phase, 50 Hz. A.C system with an Minimum Rupturing capacity of 250 MVA and rated current of 630 A with motor charged spring closing mechanism and facility for remote operation. The breaker shall be suitable for withstanding current surges caused by 3 Nos. of capacitor banks being used for improving the P.F. of 3 Motors. <b>Qty.-1No.</b> <b>(Make: CGL/EQUIVALENT)</b> ii) Three numbers double core current transformers of ratio 350/1/1A, one core for metering Class-I accuracy, 30 VA burden. The other core for protection Class 5P-20, 25-VA burden. The current Transformers will be with short time current rating of 21.8 KA for one second. <b>Qty.-3Nos.</b> <b>(Make: CGL/SILKANS/EQUIVALENT)</b> iii) Three numbers single core current transformers of rated 350/1/1A. class PS, to be used for differential protection of main transformer. The requirement of knee point voltage will be subject	1  1  3  3	0	0	0	1  1  3  3

to prior approval. The current transformers will be with short time current rating of 21.8 KA for one second. <b>Qty.-3Nos.</b> <b>(Make: CGL/SILKANS/EQUIVALENT)</b>					
iv) Three numbers, Single phase, potential transformers ( P.T.s) to be star/star connected with ratio. (6600 V/1.7321) (110V/1.7321), Class-I accuracy and rated burden 150 VA. <b>Qty.-3Nos.</b> <b>(Make: CGL/JSL/SILKANS/EQUIVALENT)</b>	3				3
v) Spring back type Trip, neutral, close, circuit breaker control switch. <b>Qty.-1No.</b>	1				1
vi) Indicating lamps, Red/Green/Amber for circuit breaker On/Off/Auto trip indication rated for 110 volts D.C. <b>Qty.-3Nos.</b>	3				3
vii) White indicating lamp, for trip circuit healthy indication, suitable for 110 volts D.C with provision of trip coil supervision relay. <b>Qty.-1No.</b>	1				1
viii) Square Ammeter of size 96 mm, scale 0 to 3500 A with 3 way and OFF selector switch. <b>Qty.-1No.</b> <b>(Make: RISHABH/STD)</b>	1				1
ix) Square voltmeter of size 96 mm, scale 0 to 7 KV with 3 way and OFF selector switch. <b>Qty.-1No.</b> <b>(Make: RISHABH/STD)</b>	1				1
x) High speed tripping relay. <b>Qty.-1No. (Make: L&amp;T)</b>	1				1
xi) Static type triple pole, Inverse Definite Minimum Time lag (IDMTL) relay with two elements, one for over current protection, having setting rang 50% to 200% on IDMTL unit: and other element for earth fault protection with setting range 20% to 80% on IDMTL unit: with common instantaneous setting range of 500% to 2000%. <b>Qty.-1No. (Make: L&amp;T)</b>	1				1
xii) Cable termination arrangement with cable entry from bottom side. <b>Qty.-1Set.</b>	1Set				1Set
xiii) D.C. fail relay. <b>Qty.-1No. (Make: L&amp;T)</b>	1				1
xiv) Auxiliary relays, A.C and D.C fuses etc. as required. <b>Qty.-1Set. (Make: CGL/L&amp;T/ABB/STD)</b>	1Set				1Set
xv) Remote/Local selector switch, with locking arrangement. <b>Qty.-1No.</b>	1				1
xvi) Space heaters with inter locks, to ensure that space heater is 'ON' when breaker is open and 'OFF' when breaker is closed. <b>Qty.-1No.</b>	1				1
xvii) Mega Watt Hour meter (MWH-Meter), suitable for 3 phase, 3 wire unbalanced load. <b>Qty.-1No. (Make: RISHABH/STD)</b>	1				1
xviii) Reactive kilo volt ampere Hour (RKVAH) meter suitable for 3 phase 3 wire unbalanced load. <b>Qty.-1No. (Make: RISHABH/STD)</b>	1				1
xix) Frequency Indicator, having range between 45Hz to 55Hz. <b>Qty.-1No.</b>	1				1
xx) Counter, showing numbers of trappings made by breaker. <b>Qty.-1Set.</b>	1Set				1Set

	xxi) Power factor meter showing the power factor of system (0.50 Lag to 0.50 Lead). <b>Qty.-1Set.</b>	1Set				1Set
<b>02</b>	<b>Outgoing Feeders for Motors: ( 5 + 1 Spare = 6 nos)</b> <b>Each feeder</b> to have but not limited to the following: 1)6.6 KV Draw out type vacuum contactor, 400 A suitable for installation on 6.6 KV, 3 phase 50 Hz, A.C. system with H.R.C. fuses of minimum rupturing capacity of 250 MVA with, facility for remote operation. The vacuum contactor shall be suitable for withstanding current surge caused by the capacitor bank being used for improving the P.F. of one motor. <b>Qty.-1No. (Make: CGL/EQUIVALENT)</b> 2)Three numbers, double core, current transformers of suitable primary ratio and secondary's 1/1A. One core for metering class - 1 accuracy 15 VA burden, and the other for protection class-5 P-20 accuracy, 15 VA burden, with a short time current rating of 21.8 KA for 1 second. <b>Qty.-3Nos.</b> <b>(Make: CGL/SILKANS/EQUIVALENT)</b> 3)Three numbers single phase PTs (potential Transformer) with ratio (6600V/1.732)/ (110V/1.7321) Class-I accuracy and 100 VA burden. <b>Qty.-3Nos.</b> <b>(Make: CGL/JSL/SILKANS/EQUIVALENT)</b> 4)Spring back type TRIP, NEUTRAL, CLOSE, Contactor Control Switch. <b>Qty.-1Set</b> 5)Indicating lamps Red/Green/Amber for contactor On/Off/Auto Trip indications, rated for 110 volts D.C. <b>Qty.-3Nos.</b> 6)White indicating lamp for trip circuit healthy indication suitable for 110 volts D.C. with provision of trip coil supervision relay. <b>Qty.-1No.</b> 7)Indications for valve operations for following positions. <b>Qty.-1Set</b> <ol style="list-style-type: none"> <li>4. Valve fully open.</li> <li>5. Valve fully closed.</li> <li>6. Valve partly open.</li> </ol> 8)Square ammeter of size 96 mm of suitable range with suppressed scale & 3 way & OFF selector switch. <b>Qty.-1No.</b> <b>(Make: RISHABH/STD)</b> 9)High speed tripping relay. <b>Qty.-1No. (Make: L&amp;T)</b> 10) Protection relays with flag for following: <ol style="list-style-type: none"> <li>V. Static CTMM English electric or equivalent comprehensive motor protection relay.(relay subject to approval by corporation)</li> <li>VI. Static type capacitors earth fault relay.</li> <li>VII. Under voltage relay with setting from 60 to 117 volts with time lag setting.</li> <li>VIII. Time delay relays.</li> </ol> <b>Qty.-1Set (Make: L&amp;T)</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>6</b>
				5	1	6
				15	3	18
				15	3	18
				5Sets	1Set	6Sets
				15	3	18
				5	1	6
				5Sets	1Set	6Sets
				5	1	6
				5	1	6
				5Sets	1Set	6Sets

	<p>11) Interlock for contactor operation with valve suitable for starting/stopping of pumps. <b>Qty.-1Set</b></p> <p>LOGIC:</p> <p>IV) The valve shall start opening, only when respective pump motor has reached its full speed in starting sequence. While stopping the motors the respective valve, shall close first and then the motor ( This sequence may be suitably modified to suit the pump characteristics)</p> <p>V) The contactor controlling main motor can not be switched. 'ON' unless prelubrication to the line shaft bearings is achieved for pre set time.</p> <p>VI) The contactor controlling main motor should get tripped, if even after motor's attaining full speed, the valve does not start opening.</p> <p>12) Cable termination arrangement suitable for terminating Aluminum 'XLPE' cables required size for motor and capacitor. <b>Qty.-1Set</b></p> <p>14) Remote/local, selector switch with locking arrangement. <b>Qty.-1No.</b></p> <p>14) Auxiliary relays, timers, terminals A.C. and D.C. fuses etc. as required. <b>Qty.-1Set (Make: CGL/L&amp;T/ABB/STD)</b></p> <p>15) Hour meter one on each motor panel and spare panel operating on 230/110 V.A.C. Supply. <b>Qty.-1No. (Make: KAYCEE/STD)</b></p> <p>16) Bearing lubrication water start/stop switches with indicating lamp. <b>Qty.-1Set</b></p>			5Sets	1Set	6Sets
				5Sets	1Set	6Sets
				5	1	6
				5Sets	1Set	6Sets
				5	1	6
				5Sets	1Set	6Sets
<b>03</b>	<p><b>Transformer Feeder for 100KVA Transformers – Qty 2 nos.</b></p> <p><b>Each feeder</b> to have but not limited to the following:</p> <p>1) Draw out type vacuum circuit breaker, 630A suitable for installation on 6.6KV, 3 phase 50 Hz, A.C. system with 250MVA minimum rupturing capacity with, Motor charged spring closing mechanism and facility for remote operation. <b>Qty.-1No. (Make: CGL/EQUIVALENT)</b></p> <p>2) Three numbers, single core current Transformers ( C.T.s.) of ratio, 10/1 A for metering with class -1 accuracy 20 VA burden. <b>Qty.-3Nos. (Make: CGL/SILKANS/EQUIVALENT)</b></p> <p>3) Three numbers of single core current Transformer ( C.T. s.) of ratio, 10/1 A for protection, with 5p-20 accuracy and 15VA burden. <b>Qty.-3Nos. (Make: CGL/SILKANS/EQUIVALENT)</b></p> <p>4) Spring back type TRIP, NEUTRAL, CLOSE, circuit breaker control switch. <b>Qty.-1Set</b></p> <p>5) Indicating lamps Red/Green/Amber for circuit breaker On/Off/Auto Trip indications, rated for 110 volts D.C. <b>Qty.-3Nos.</b></p> <p>6) One indicating lamp for trip circuit healthy indication suitable for 110volts D.C. <b>Qty.-1No.</b></p> <p>7) Indication lamps for over current/Earth fault ( O/C, E/F) Relay operation and Buchholtz relay operation. <b>Qty.-1Set</b></p>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>
			2			2
			6			6
			6			6
			2Sets			2Sets
			6			6
			2			2
			2Sets			2Sets

	8) Square ammeter of size 96mm, having scale 0 to 20 A, with 3 way & 'OFF' selector switch. <b>Qty.-1No.</b> <b>(Make: RISHABH/STD)</b>		2			2
	9) High speed tripping relay. <b>Qty.-1No. (Make: L&amp;T)</b>		2			2
	10) Static type Triple pole IDMTL relay with two elements one for over current protection having setting range of 50% to 200% on IDMTL unit & the other element earth fault protection with setting range 20% to 80% on IDMTL unit. <b>Qty.-1No.</b> <b>(Make: L&amp;T)</b>		2			2
	11) Cable termination arrangement, suitable for terminating one number 3core suitable 'XLPE' cables. <b>Qty.-1Set</b>		2Sets			2Sets
	12) Auxiliary relays, terminals, A.C. and D.C. fuses, etc. as required. <b>Qty.-1Set (Make: CGL/STD)</b>		2Sets			2Sets
	13) Remote/local, control switch. <b>Qty.-1No.</b>		2			2
<b>04</b>	<b>Annunciation:</b> 3) 1 No. buzzer suitable for operation on 110volts D.C. 4) 1 No. Bell suitable for operation on 230volts A.C. <b>Qty.-1Set (Make: MINILEC/EQUIVALENT)</b>					

### TECHNICAL SPECIFICATIONS

#### (I) SYSTEM PARAMETERS

1.	RATED VOLTAGE	6600V
2.	RATED FREQUENCY	50HZ
3.	SYSTEM NEUTRAL	EFFECTIVELY EARTHED
4.	FAULT LEVEL	26.3 KA
5	DEGREE OF PROTECTION AS PER IS 3427:1969	IP4X FOR EXTERNAL ENCLOSURE

#### (J) CONTROL SUPPLY VOLTAGES

1.	CLOSING COIL	110V DC
2.	TRIPPING COIL	110V DC
3.	INDICATION CKT.	110V DC
4.	PANEL SPACE HEATER	230V AC
5.	SPR CHARGE MOTOR	110V DC

#### (K) GENERAL NOTES

1.	Inter panel wires shall be supplied with the panel, to be connected at site.
2.	All doors will be earthed by flexible copper braid.
3.	Panel shall be painted inside and outside with shade 631 of IS-5.
4.	Neoprene gaskets shall be provided at opening door.
5.	Electrical & mechanical interlock shall be provided between line capacitor feeder and it's respective motor feeder such that when only line capacitor is on, it's motor should not be made on independently.
6.	230V AC & 110V DC control supply shall be received at incomers & same shall be distributed by bus wiring to other panels.
7.	Mech. operated emergency stop push button shall be provided for VCB panels only.
8.	The outer ms sheet body is available at site. Only the all internal components should be replaced with new one as per this bill of material.



(L) MAIN HORIZONTAL BUSBARS

1.	RATED CURRENT	630A
2.	SHORT TIME RATING	26.3 KA FOR 3 SEC
3.	MATERIAL OF BUSBARS	ELECTROLYTIC ALUMINIUM
4.	INSULATION OF BUSBARS	FULLY INSULATED WITH HEAT SHRINKABLE PVC SLEEVES

(M) EARTH BAR

1.	MATERIAL OF EARTH BUS	COPPER
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(N) WIRING

5. All control wiring shall be of adequate capacity & all outgoing circuits shall be wired upto terminal blocks, for external connections.
6. Wires shall be properly colour coded & ferruled, to distinguish different circuits.
7. They shall be neatly routed through PVC channels of adequate size.
8. All control wiring shall be carried out with 1.1KV, grade, 2.5sq.mm., PVC insulated, copper wires.

(O) PANELS

8. The panels shall be indoor, free standing type, fully compartmentalized and properly ventilated.
9. It shall be totally enclosed dust and vermin proof.
10. Fixed main disconnect contacts in Panel housing shall be provided with automatic safety shutters, to cover the high voltage circuit. Means shall be provided to operate shutters by a handle or knob, on the front of the panel.
11. It shall be made out of at least 10 SWG sheet steel, suitably reinforced to provide flat level surface, resistant to vibration, rigid, during transportation and installation.
12. Doors & removable covers may be of 14 SWG sheet.
13. All panel surfaces to be painted shall be first chemically treated to remove all rust, scale and then two coats of Zinc primer shall applied.
14. The colour of all panels shall be light Gray to shade no. 631 of IS-5.

(P) TESTS

1. The switch gear assembly and all other components; like vacuum contactor, circuit breaker, C.T.P.T., Relays, etc. shall be tested for all type and routine tests, as per latest editions of relevant Indian Standard/ International standards.
2. In case, type test reports on similar equipment are available.
3. All routine tests as per relevant standards shall be conducted on the assembly and the various components.
4. Heat run test for temperature range & time for incomer VCB.

Thanking you.

Yours faithfully,

Executive Engineer,  
Tembhu Lift Irrigation Mechanical & Electrical Unit,  
Ogalewadi – Karad.

Copy submitted to the Superintending Engineer, Mechanical Circle (C.P.), Kolhapur, for information & necessary action please. It is requested to upload this offer on official website of department.  
Office Notice Board.