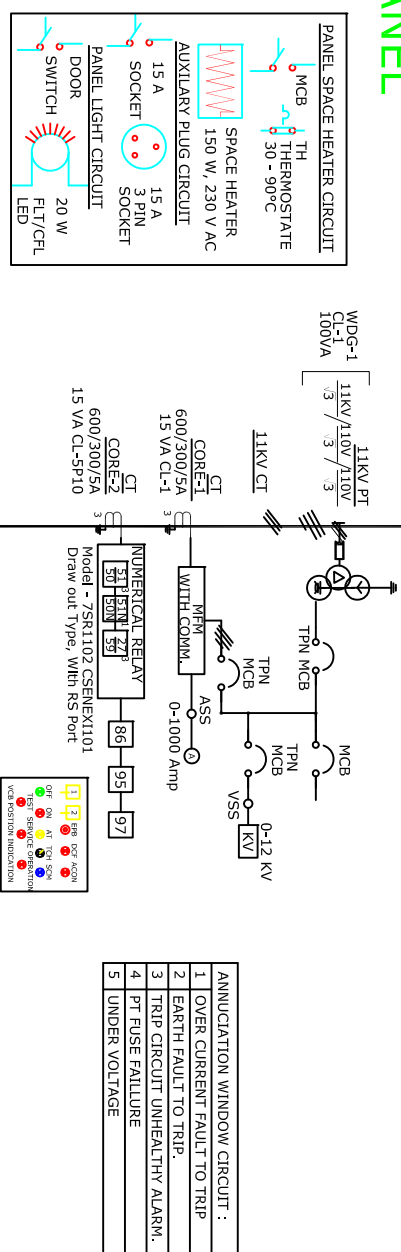


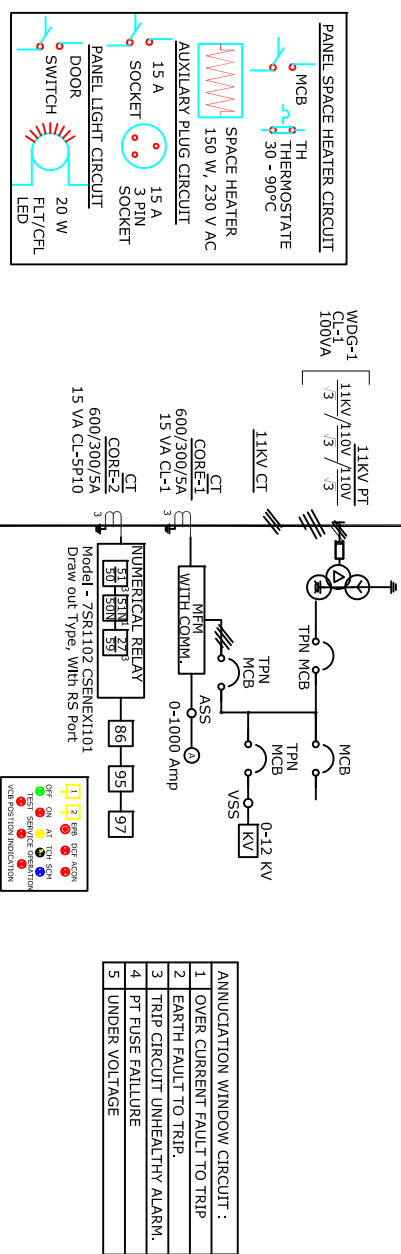
TENDER DRAWING

ANNEXURE- II F

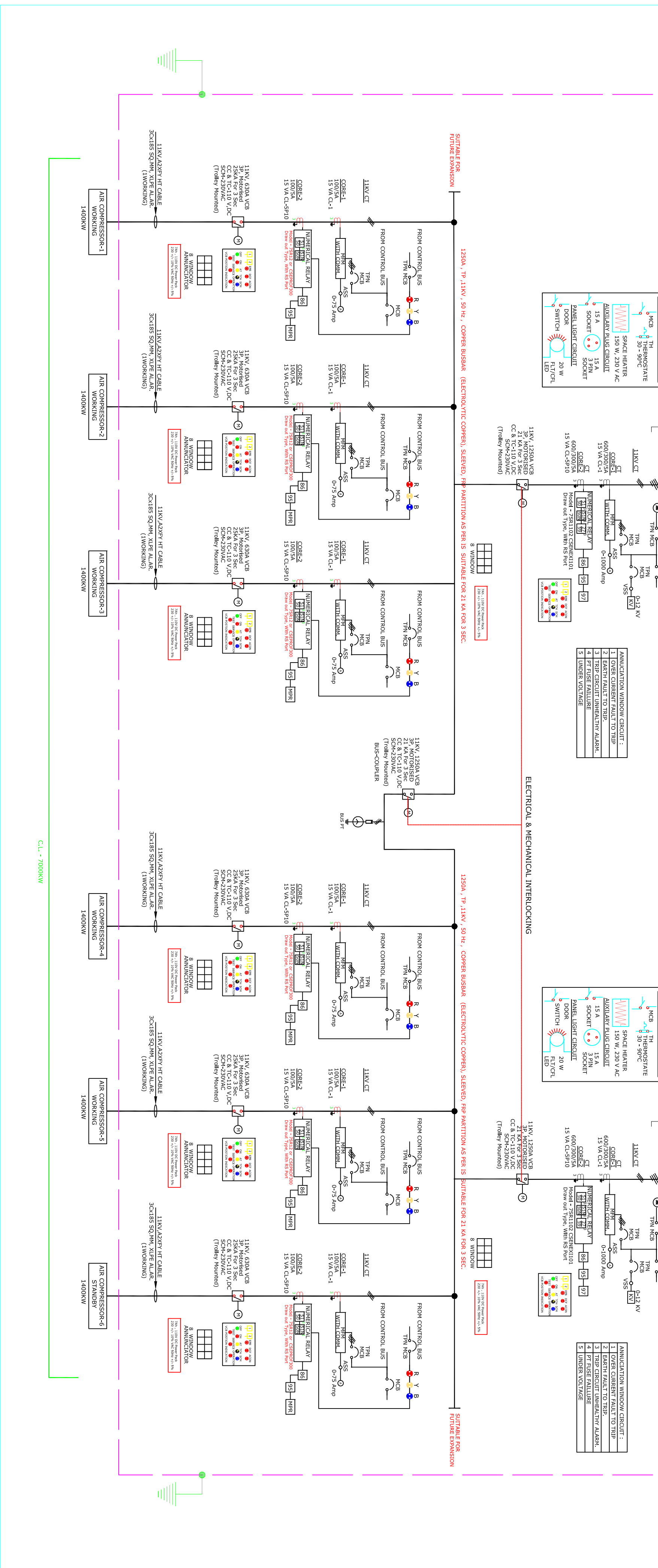
INCOMING FROM 11KV
COMPRESSOR PANEL 1
@ PANEL ROOM



INCOMING FROM 11KV
COMPRESSOR PANEL 1
@ PANEL ROOM



11KV COMPRESSOR PANEL
@ UTILITY ROOM



14. PANEL, ANTI-CONDENSATION HEATER SHALL BE 230 VAC.
15. CT & PT RATING AND CHARACTERISTICS SHALL BE CONFIRMED BY THE SWITCHGEAR VENDOR.
16. VENDORS TO INDICATE PURCHASER'S REFERENCE DRAWING NUMBER ON ALL DOCUMENTATION.
17. THE SWITCHGEAR VENDOR SHALL BE RESPONSIBLE FOR THE COMPLETE DESIGN AS DETAILED IN THE SPECIFICATION
18. RELEVANT STANDARDS AND ENGINEERING BEST PRACTICE.
19. CT , RELAY,METERING,LAMPS ETC SHOWN ARE INDICATIVE AND MINIMUM. ANY AUX RELAYS, METERS, INDICATING LAMPS, CT SHALL BE PROVIDED.
20. SWITCHGEAR SHALL BE SUITABLE TO EXPANDABLE AT ONE SIDE FOR FUTURE EXPANSION.
21. PT(POTENTIAL TRANSFORMER) SHALL BE FIXED TYPE.
22. PANEL SHALL BE PROVIDED WITH BREAKER TROLLEY AND EARTHING TRUCK.
23. BREAKER SHALL BE PROVIDED WITH SEPARATE DISCRETE AUX. RELAY.
24. EACH VCB SHALL BE PROVIDED WITH VCB SERVICE , VCB TEST AND VCB OPERATIONAL POSITION/CONDITION INDICATION LAMP.
25. HT PANEL SHALL BE OF MINIMUM INGRESS PROTECTION AS IP54.
26. HT PANEL SUPPLIER SHALL BE SUPPLIED CT FOR REF.

1. Require auxiliary contactor relay with 2 NO and 2 NC contact for motor on/off.
2. Feedback of motor under voltage and over load.
3. Starter feedback contact
4. We need one active 4-20mA signal representing the motor current, 4mA must represent zero Amps, 20mA represent the upper scale of the CT (current transformer) in the HT starter.

1	REFERENCE SPECIFICATION OF HT PANEL'S DOCUMENT NO. :-
2	INCOMING ELECTRICAL POWER SUPPLY DETAIL ARE AS FOLLOWS.
3	UTILIZATION VOLTAGE 11k V, 3 PHASE , 3 WIRE - 50 Hz
4	VOLTAGE VARIATION ± 10%
5	FREQUENCY VARIATION ± 3%
6	HT PANEL SHALL BE SINGLE FRONT, FLOOR MOUNTED WITH PROVISION FOR BOTTOM CABLE ENTRY.
7	HT PANEL SHALL BE PROVIDED WITH NUMERICAL TYPE PROTECTION RELAY
8	ALL MAIN BUS BARS SHALL BE SUITABLY-PVC SLEEVED ELECTROLYTIC COPPER.
9	EMERGENCY TRIP PUSH BUTTON WILL BE PROVIDED NEAR THE HT SWITCHYARD.
10	VOLTMETER & AMMETER SHALL BE DIGITAL TYPE WITH INBUILT SELECTOR SWITCH.
11	RESTRICTED EARTHFAULT RELAY PROVIDED ON SECONDARY SIDE SHAL TRIP LT BREAKER THROUGH SEPARATE LOCKOUT RELY.
12	CS FOR TRANSFORMER RESTRICTED EARTH FAULT PROTECTION & STAND BY EARTH FAULT PROTECTION TO BE INCLUDED ON TRANSFORMER BUSING. (SECONDARY).
13	THE CONTROL SCHEME SHALL INCLUDE ALL NECESSARY TIMERS , RELAYS AND SELECTOR /CONTROL SWITCHES. MANUAL OPERATION SHALL BE INCLUDED.
14	ALL PROTECTION RELAY SHALL BE OF THE FULLY WITHDRAWABLE TYPE.
15	VCB SHALL BE PROVIDED WITH OPERATION COUNTER.
16	AUXILIARY DC SUPPLY UNIT SHALL BE FROM INTERNAL POWER PACK INSTALLED IN HT PANEL.
17	AUXILIARY POWER SUPPLY SHALL BE AS FOLLOWS , ALL EQUIPMENT SHALL BE RATED FOR 24 VDC CONTINUOUS OPERATION

SERVICE	VOLTS	AC/DC	SUPPLY POWER DERIVED FROM
VCB CLOSING	110	DC	INTERNAL POWER PACK
VCB TRIPPING	110	DC	INTERNAL POWER PACK
SPRING CHARGED MOTOR	230	AC	EXTERNAL AC SUPPLY UNIT
CONTROL & INDICATION	110	DC	INTERNAL POWER PACK
METERS	230	AC	INTERNAL AC SUPPLY UNIT
AUX. RELAYS & CONTACTORS	110	DC	INTERNAL POWER PACK

1	BREAKER CONTROL SWITCH
2	AUTO-MANUAL SWITCH
21	DISTANCE PROTECTION RELAY
27	UNDER VOLTAGE RELAY
27	UNDER VOLTAGE RELAY/NO VOLTAGE RELAY
32	REVERS POWER RELAY
49 0	Oil TEMPERATURE INDICATOR
49 W	INST. WINDING TEMPERATURE INDICATOR
50 N	INST. OVER CURRENT EARTH FAULT RELAY
50	INST. OVER CURRENT RELAY
50L8	BREAKER PROTECTION RELAY
51	1D0T OVER CURRENT RELAY
51N	1D0T EARTH FAULT RELAY
51NS	STAND-BY EARTH FAULT RELAY
51V	VOLTAGE RESTRAINED OVER CURRENT RELAY
59	OVER VOLTAGE RELAY
64R	RESTRICTED PHASE FAULT RELAY
67	DIRECTION PHASE OVER CURRENT RELAY
67 N	DIRECTION EARTH FAULT RELAY
74	ALARM RELAY
77	OUT OF STEP (POLE SLIP FUNCTION)
81	UNDER FREQUENCY RELAY
86	MASTER TRIPPING RELAY
87	GENERATOR PROTECTION RELAY
87B	BUSBAR PROTECTION RELAY
87L	CABLE DIFFERENTIAL PROTECTION RELAY
87L	TRANSFORMER DIFFERENTIAL RELAY
95	TWO CIRCUIT SUPERVISION RELAY
97	PT FUSE FAILURE RELAY
95/96	SEPARATION RELAY FOR MASTER TRIPPING RELAY
MPR	MOTOR PROTECTION RELAY

	11 HV VACUUM CIRCUIT BREAKER
	CURRENT TRANSFORMER (FIGURE INDICATES NO. OF CTs)
	R-Y-B INDICATING LAMP
	EMERGENCY PUSH BUTTON
	VOLTAGE TRANSFORMER
	POWER METER
	3 CORE CT POTENTIAL TRANSFORMER
	2 CORE CT POTENTIAL TRANSFORMER
	DISTRIBUTION TRANSFORMER
	AMMETER, VOLTMETER
	FUSE
	TRIP/NEUTRAL/CLOSE SWITCH
	MCB
	CABLE TERMINATION
	TRIP CIRCUIT HEALTHY INDICATION
	CLOSING COIL
	TRIPPING COIL
	SCM
	SPRING CHARGING MOTOR (BLUE COLOUR)
	BREAKER ON INDICATION (RED COLOUR)
	BREAKER OFF INDICATION (GREEN COLOUR)
	AUTO TRIP INDICATION (AMBER COLOUR)
	DC SUPPLY FAIL INDICATION
	AC SUPPLY ON INDICATION
	TEMPERATURE METER

A	AMMETER
ASS	AMMETER SELECTOR SWITCH
V	VOLTMETER
VSS	VOLTMETER SELECTOR SWITCH
DLM	DIGITAL LOAD MANAGER
EDO	ELECTRICAL DRAW OUT
MDO	MANUAL DRAW OUT
EPB	EMR. PUSH BUTTON
WTI	WINNING TEMPERATURE INDICATOR
LM	LOAD MANAGER WITH HIGH DEMAND ALARM
PPR	REPEATED PRESSURE RISE RELAY
RTCC	REMOTE TAP CHANGING CRYBUCLE
ARV	AUTOMATIC VOLTAGE RELAY
NGR	NEUTRAL GROUNDING RELAY
CT	CURRENT TRANSFORMER
NIC	NEUTRAL ISOLATING CONTACTOR
CTTB	CT TERMINAL BLOCK
ETB	EXTERNAL TERMINAL BLOCK
NL	NEUTRAL LINK
CC	CLOSING COIL
OC	OPENING COIL
IPB	ILLUMINATED PUSH BUTTON
RV	PRESSURE RELIEF OF VALVE

21.08.23	R0	MAIL	CLIENT	FOR STUDY	
DATE	REV.	NOS	ISSUED TO	DESCRIPTION	

REVISION TABLE :-

CLIENT :-
KARNATAKA ANTIBIOTICS AND
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RELEASE FOR :-
TENDER DRAWING

TITLE :-
**SINGLE LINE DIAGRAM
11KV/LT COMPRESSOR PANEL2**

DESIGN	KIRTI	19.07.23	PROJECT NO - 606	SCALE - NTS
CHECKED	KIRTI	19.07.23		
DRAWN	SNO	24.07.23		
APPROVED	SNO	24.07.23		

Rev	DRAWING NO.
R-00	626/MAP/LHT-SDEL-602B