

NOTES:

The panels will be built to relevant IEC specification

Unless otherwise stated and or where applicable :

Construction :

- The panels will be dust and vermin proof with gaskets of the doors installed on the panel and not on door. The compartmentalized construction is required with extendable bus bars. The entire assembly must go through 7 tank process and will be oven baked .
- Outdoor installation will be with IP55 enclosure
- Bus bars will be tinned copper with current density of not more than 800A / Sq. inches.
- Base frame of at-least 4" made out of steel sections is to be provided.
- Panel will have :
 - Top Entry Bottom Entry
 - Floor Mounted Installation/Wall Mounted Installation
- Bus bar system supports will be CPRI or equal test laboratory approved.
- All panel compartments shall have identification etched on Aluminum strip.
- All MCB DB will have each MCB identification
- Stands should be provided for the installation of switch board matching to height of the false floor.
- All VFDs shall have an active-front-end design
- All UPSs shall have an active-front-end design
- KVAR Requirement for each transformer is 400 KVAR steps size should be appropriate considering data centre application & to maintain p.f. 98 to unity.

Components :

- MCBs will be atleast 35 kA or as specified in SLD.
- MCBs will be atleast 10 kA short circuit withstand of the curve to suit discrimination
- ALL protections will be coordinated
- The range of the instruments be such that the readings will show the mid-range of the instrument.
- The load manager will be installed with communication port and win95 or similar graphic OS based software.
- All ACBs will be draw out type with static relays provided for over-current, earth fault.
- For DG set protection restricted earth fault protection is required.
- MCB to have following :
 - Shunt trip , fault indications, Electronics trip mechanism.
- All Panel Should Have Tvss Protection

Earthing :

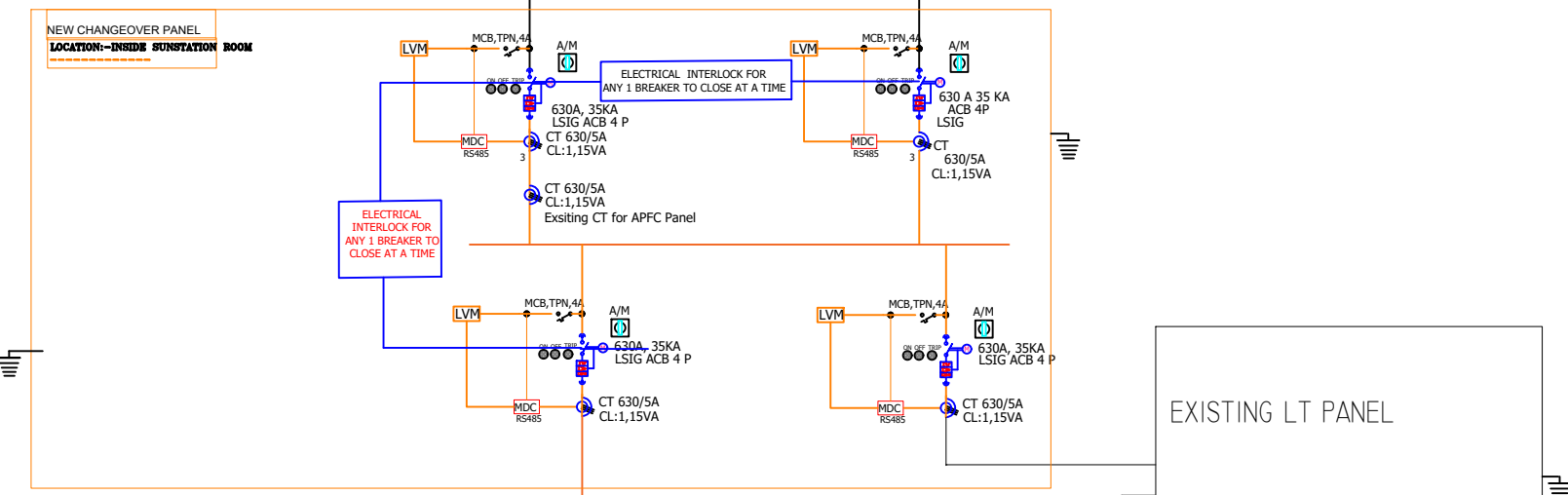
- All doors will have flying earth.
- Copper earth bus is to be installed.
- Where applicable UPS system, VS system and Raw power earth shall be separate. All the earth bus installed on suitable insulators

Drawings and Tests :

- Shop drawings are required to be submitted for the review and approval
- Test certificates for all components and the panel's routine tests are required to be provided in triplicate
- Panel is required to be tested at site and works

TR-1, Existing
315KVA,
11/0.433KV,STEP
DOWN
TRANSFORMER

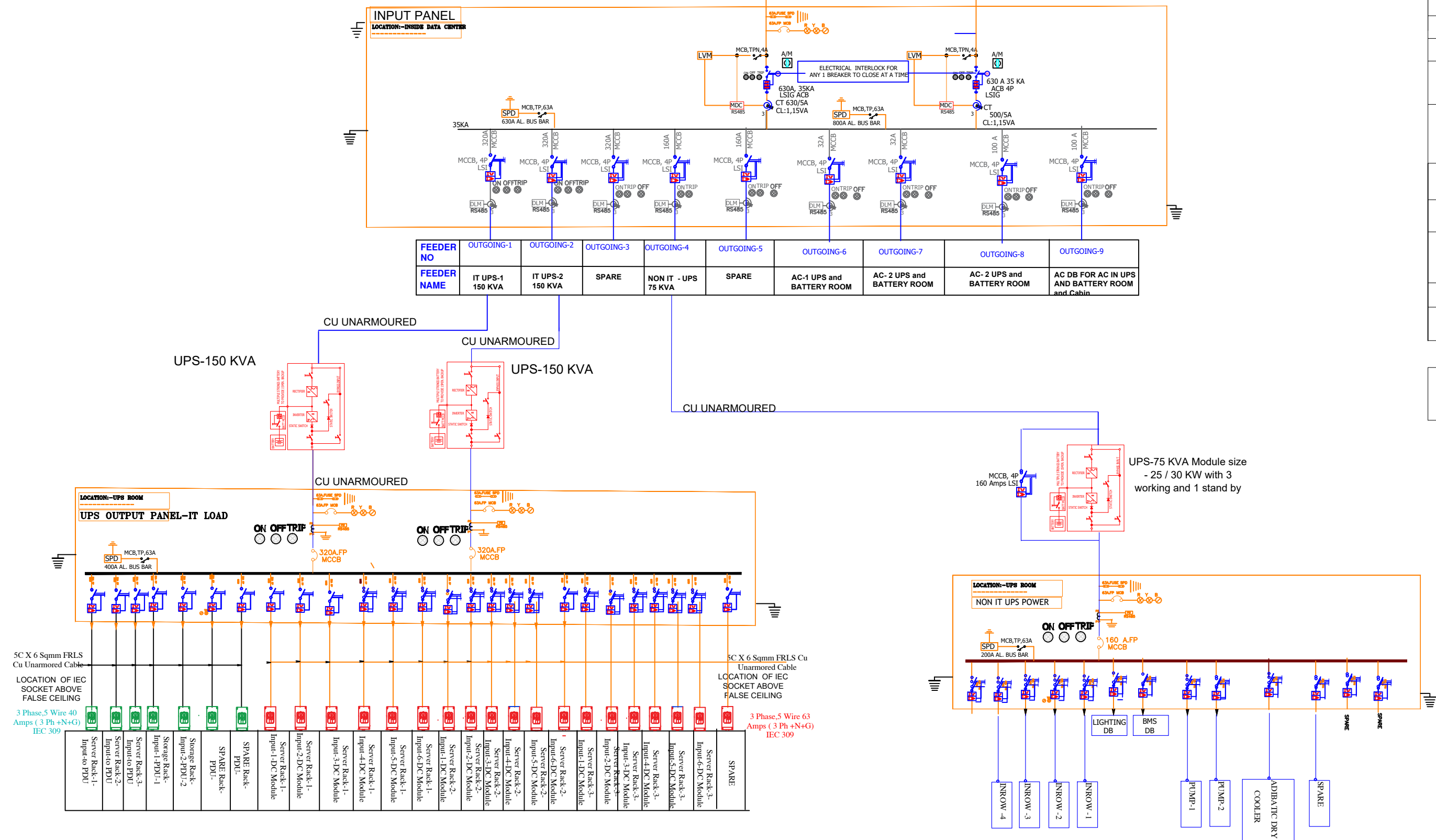
DG-1 Existing
250 KVA, 420
V,



NEW CABLE 4 C
A2XFFY AL 240 Sq
mm ARMoured

DG-1 NEW
250 KVA, 420V,

ONLY EB POWER



LEGENDS	
	ONAN 11KV/433V STEPDOWN TRANSFORMER
	AIR COOLED K-20 400V/400V ISOLATION TRANSFORMER
	ELECTRICALLY OPERATED DRAWOUT (EDO) TYPE ACB WITH O/L & S/C RELEASE (LSI).
	ELECTRICALLY OPERATED DRAWOUT (EDO) TYPE ACB WITH O/L, S/C & E/F RELEASE (LSIG).
	MANUALLY OPERATED DRAWOUT (MDO) TYPE ACB WITH O/L & S/C RELEASE (LSI).
	MANUALLY OPERATED DRAWOUT (MDO) TP+N(100%) TYPE ACB WITH O/L, S/C & E/F RELEASE (LSIG).
	MANUALLY OPERATED DRAWOUT (MDO) TYPE MCCB WITH O/L & S/C RELEASE (LSI).
	MANUALLY OPERATED MICROPROCESSOR BASED FIXED TYPE MCCB WITH O/L & S/C RELEASE (LSIG).
	MANUALLY OPERATED FIXED TYPE MCCB WITH O/L & S/C RELEASE (LSI).
	MODE (MOTOR OPERATED) FIXED TYPE MCCB WITH O/L & S/C RELEASE (LSI).
	MANUALLY OPERATED FIXED TYPE MCCB WITH O/L, S/C & E/F RELEASE (LSIG).
	MOTOR PROTECTION CIRCUIT BREAKER (MPCB)
	MINATURE CIRCUIT BREAKER (MCB)
	RESIDUAL CURRENT CIRCUIT BREAKER (RCCB)
	LOAD BREAK SWITCH
	CHANGEOVER SWITCH
	CURRENT TRANSFORMER (CT) RESIN CAST
	POTENTIAL TRANSFORMER (PT)
	DIGITAL LOAD MONITOR - EM6435 INTEGRATED BASIC POWER & ENERGY PARAMETERS
	MAXIMUM DEMAND CONTROLLER - EM6400
	BASIC ENERGY METER - A-KW,AWH
	LINE VOLTAGE MONITOR & CONTROL FOR OVER, UNDER VOLTAGE, SINGLE PHASE & PHASE REVERSAL PROTECTION
	ON-OFF-TRIP INDICATING LAMPS
	R,Y,B (RED,YELLOW,BLUE) INDICATING LAMPS
	TRANSIENT VOLTAGE SURGE SUPPRESSOR
	AUTO MANUAL SELECTOR SWITCH
	ALARM - HOOTER / BUZZER
	TRANSFORMER
	MAIN SWITCH BOARD
	MOTOR CONTROL CENTRE
	12 ANNUNCIATION PANEL WITH HOOTER
	TNC SWITCH WITH SPRING RETURN TO NEUTRAL AUTO / MANUAL SELECTOR SWITCH
	ONAN 11KV/433V STEPDOWN TRANSFORMER WITH OLTC
	AIR COOLED K-20 400V/400V ISOLATION TRANSFORMER
	UNINTERRUPTED POWER SUPPLY (UPS)
	MOTORISED LOAD BREAK CHANGEOVER SWITCH (ATS)
	ATS
ABBREVIATIONS	
LSIG	L: OVER CURRENT WITH TIMER DELAY S: SHORT CIRCUIT CURRENT WITH TIMER DELAY I: CONTINUOUS SHORT CIRCUIT G: GROUND FAULT CURRENT WITH TIME DELAY

GENERAL NOTES :

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* PRESENTLY ARE TENTATIVE & APPROXIMATE, SAME SHALL BE FINALISED DURING DETAILS ENGINEERING

REF. DRAWING / DOCUMENT :

LEGEND :

AMENDMENTS

DATE	DESCRIPTION	DWN	CHK	APV.
14/04/2025	FOR APPROVAL	SLA	SLA	
03/05/2025	FOR APPROVAL	SLA		
20/05/2025	FOR APPROVAL	SLA		

CLIENT AND OWNER OF DRAWING: :

DATA CENTRE
ELECTRICAL SLD

PROJECT :

CR RAO HYDERABAD

DRAWING TITLE :

ELECTRICAL SINGLE LINE DIAGRAM

REV. NO. DRAWING No.

R0 CRRAO-HYDERABAD-SLD-R0

NORTH

DRAWN

CHECKED

APPROVED

SCALE

NTS

DATE

20/05/2025

INTERNAL REVISION

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