



- ### TECHNICAL SPECIFICATIONS :
- THE VENDOR SHALL SUBMIT A GA DRAWING OF THE PANEL SHOWING THE GENERAL ARRANGEMENT OF SWITCHGEARS, METERING EQUIPMENTS, BUSBARS, CABLE ALLEY, BUS DUCT FLANGE, BASE CHANNEL ETC. FOR THE APPROVAL OF THE CONSULTANTS.
  - PANELS SHALL BE FLOOR MOUNTED, FREE STANDING TYPE HAVING DEGREE OF PROTECTION AS IP-54.
  - PANELS SHALL BE FABRICATED WITH HIGH QUALITY CRCA MS/GI SHEETS OF FOLLOWING THICKNESS :
    - MAIN FRAMES AND LOAD BEARING MEMBERS - 2MM THICK
    - DOORS AND NON-LOAD BEARING MEMBERS/PARTITIONS - 1.6MM THICK
  - CABLE ALLEYS SHALL BE PROVIDED WITH CABLE ENTRY FROM TOP AND BOTTOM SIDE WITH 3MM THICK DETACHABLE GLAND PLATES.
  - BUSBARS SHALL BE OF RECTANGULAR CROSS SECTION OF ALUMINIUM COMPLYING WITH E-91E-WP GRADE AS PER IS: 5082 OR EQUIVALENT IEC PUBLICATION. THE CURRENT DENSITY SHALL NOT EXCEED 1A/Sq.mm. DIMENSIONS OF PHASE AND NEUTRAL BUSBAR SHALL BE MENTIONED GA DRAWING
  - INSULATORS : BUSBARS SHALL BE SUPPORTED WITH RIGID NON-HYDROSCOPIC SMC/DMC INSULATING SUPPORTS TO BEAR THE MAXIMUM FORCES DURING SHORT CIRCUIT CONDITIONS.
  - INTERCONNECTIONS: INTERCONNECTION OF SWITCHGEARS WITH CABLE ALLEY AND BUSBARS SHALL BE DONE IN FOLLOWING MANNERS :
    - UP TO 63A RATING - WITH FLEXIBLE FRLS COPPER CONDUCTOR SINGLE CORE WIRES
    - ABOVE 63A RATING - WITH RECTANGULAR ALUMINIUM BUSBARS, LINK ON DMC SUPPORT
  - CONNECTERS : HEAVY DUTY CONNECTERS SHALL BE PROVIDED FOR CABLE TERMINATION IN CABLE ALLEYS.
  - CONTROL WIRING: CONTROL WIRING FOR METERING SHALL BE DONE WITH 2.5 Sq. mm FLEXIBLE FRLS COPPER WIRES.
  - METAL TREATMENT : THE CRCA SHEETS USED FOR PANEL CONSTRUCTION SHALL UNDERGO THE RIGOROUS METAL TREATMENT SUCH AS DEGREASING, PICKLING, COLD RINSING, PHOSPHATING ETC. (9 TANK METHOD).
  - PAINING: AFTER METAL TREATMENT THE PANELS SHALL BE POWDER COATED WITH MINIMUM 65 MICRON POWDER COATING WITH APPROVED SHADE AND SHALL BE BAKED BY BAKING IN THE OVEN IN A CONTROLLED ENVIRONMENT.
  - IDENTIFICATION LABELS : EACH COMPARTMENT OF THE PANEL SHALL BE PROVIDED WITH IDENTIFICATION LABELS. THE LABELS SHALL BE MADE OF ALUMINIUM CHANNELS WITH ENGRAVED TYPE LETTERING IN WHITE SHADE AND THE BACKGROUND OF THE LABEL SHALL BE BLACK.
  - IP RATING : PANELS SHALL BE DUST, DAMP AND VERMIN PROOF WITH IP-54 DEGREE OF PROTECTION.
  - TYPE: EVERY SWITCHGEAR AND METERING SHALL BE PROVIDED IN SEPARATE COMPARTMENTS.
  - METERING SHALL BE PROVIDED IN SEPARATE COMPARTMENTS, FOR INCOMER SWITCHGEARS.
  - ALL MCCBs SHALL BE PROVIDED WITH ON INDICATION (R) LAMP, PHASE SPREADERS AND ROTARY HANDLE.

### LEGEND

DIGITAL VOLTMETER IN BUILT SELECTOR SWITCH	(V)
DIGITAL AMMETER IN BUILT SELECTOR SWITCH	(A)
MULTI FUNCTION METER IN BUILT SELECTOR SWITCH (SHOWN V, I, KW, KWH, PF & HZ)	(MFM)
VIF METER IN BUILT SELECTOR SWITCH (SHOWN V, I & HZ)	(VIF)
OVER VOLTAGE RELAY	(O/V)
UNDER VOLTAGE RELAY	(U/V)
OVER CURRENT RELAY	(O/C)
EARTH LEAKAGE RELAY	(E/L)
EARTH FAULT RELAY	(E/F)
SHUNT COIL RELAY	(S/C)
AUTOMATIC POWER FACTOR CORRECTION RELAY	(APFC)
LED TYPE PHASE INDICATING LAMP	(R) (Y) (B)
CAPACITOR BANKS	(Δ)
HRC FUSE	(F)
MOULDED CASE CIRCUIT BREAKER (MCCB)	(MCCB)
AIR CIRCUIT BREAKER (ACB)	(ACB)
VACUUM CIRCUIT BREAKER (VCB)	(VCB)
CURRENT TRANSFORMER (CT)	(CT)
POTENTIAL TRANSFORMER (PT)	(PT)
EARTH STATION	(⊕)
AUTO MAINS FAILURE PANEL (AMF)	(AMF)

REV. NO.	DATE	DESCRIPTION		
<b>REVISIONS</b>				
PROJECT				
<b>RETIREMENT HOUSING PROJECT AT SECTOR-89, FARIDABAD</b>				
TITLE				
<b>SINGLE LINE DIAGRAM -ELECTRICAL LAYOUT</b>				
<b>ELECTRICAL DRAWING</b>				
DATE	DEALT	CHECKED	APPROVED	STATUS
SEP. 2025	RR	INZMAM		SUBMISSION
DRG. NO.	REV.	SCALE		
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