

LEGENDS	
SYMBOLS	DESCRIPTION
	(VACUUM CIRCUIT BREAKER)
	ACB (AIR CIRCUIT BREAKER)
	HRC FUSES
	(MCCB)
	MOULDED CASE CIRCUIT BREAKER
	POTENTIAL TRANSFORMER
	CURRENT TRANSFORMER
	AMMETER
	VOLTMETER
	AMMETER SELECTOR SWITCH
	VOLTMETER SELECTOR SWITCH
	INDICATING LAMP
	ENERGY ANALYZER WITH MDI
	POWER FACTOR METER
	FREQUENCY METER
	CAPACITOR
	VOLTAGE RELAY
	M.C.B. (MINIATURE CIRCUIT BREAKER)
	DUAL REGISTER ENERGY METER
	ISOLATOR
	PUSH BUTTON
	SELECTOR SWITCH
	TRIP/NORMAL/CLOSE SWITCH WITH LOST MOTION DEVICE
	ANNUNCIATION WINDOW WITH
	MASTER TRIP RELAY
	OVER VOLTAGE RELAY
	TRIP CIRCUIT SUPERVISION RELAY
	RESTRICTED EARTH FAULT RELAY
	INST. O/C RELAY
	IDMT RELAY
	IDMT & INSTANTANEOUS RELAY
	OVER VOLTAGE RELAY WITH TIMER
	TIMER
	REVERSE POWER RELAY
	DIFFERENTIAL RELAY
	BATTERY CHARGER
	TEMPERATURE SCANNER
	VOLTAGE RESTRAINED OVER CURRENT RELAY
	IDMT EARTH FAULT RELAY
	SENSITIVE EARTH FAULT RELAY

GENERAL NOTE:- In normal case all three lamps shall be "ON" to indicate that incoming power supply is available. In case of power resumption after failure buzzer shall ring to indicate that power supply is resume, there shall be one push button to acknowledge the same.

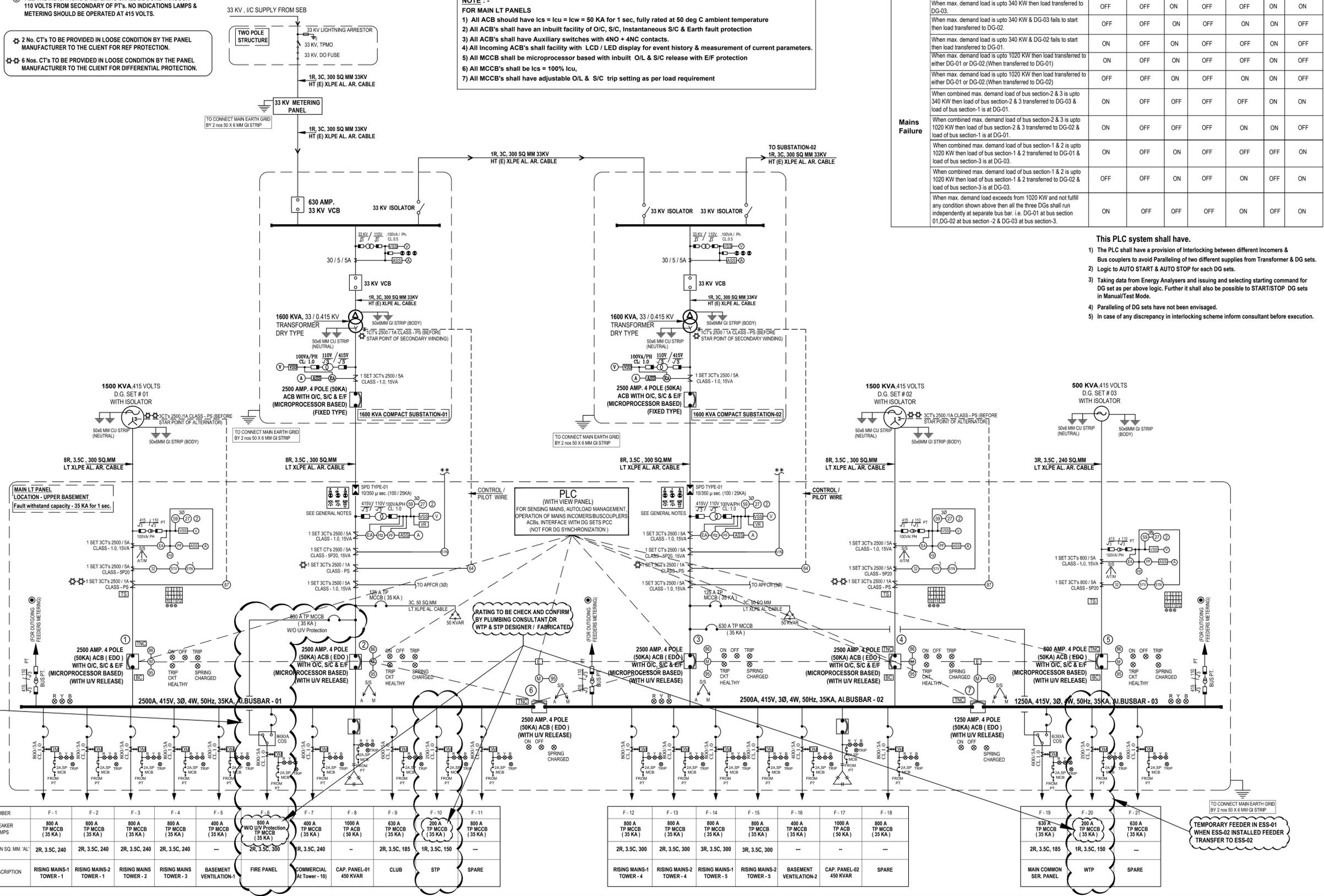
NOTES:-
 1) ALL THE INDICATIONS & METERING SHALL BE DONE THROUGH 110 VOLTS FROM SECONDARY OF PT'S. NO INDICATIONS LAMPS & METERING SHOULD BE OPERATED AT 415 VOLTS.
 2) No. CT's TO BE PROVIDED IN LOOSE CONDITION BY THE PANEL MANUFACTURER TO THE CLIENT FOR REF PROTECTION.
 3) 6 Nos. CT's TO BE PROVIDED IN LOOSE CONDITION BY THE PANEL MANUFACTURER TO THE CLIENT FOR DIFFERENTIAL PROTECTION.

GA DRAWINGS SHALL BE GOT APPROVED BEFORE FABRICATION. THE PANEL HAS TO BE SPECIFICALLY FABRICATED AS PER THE SPACE AVAILABLE AT PANEL ROOM IN BASEMENT. THE EXISTING COLUMN POSITIONS WILL ALSO BE CONSIDERED.

NOTE :- FOR MAIN LT PANELS
 1) All ACB should have Ics = Icu = Icw = 50 KA for 1 sec, fully rated at 50 deg C ambient temperature
 2) All ACB's shall have an inbuilt facility of O/C, S/C, Instantaneous S/C & Earth fault protection
 3) All ACB's shall have Auxiliary switches with 4NO + 4NC contacts.
 4) All Incoming ACB's shall facility with LCD / LED display for event history & measurement of current parameters.
 5) All MCCB shall be microprocessor based with inbuilt O/L & S/C release with E/F protection
 6) All MCCB's shall be Ics = 100% Icu,
 7) All MCCB's shall have adjustable O/L & S/C trip setting as per load requirement

Conditions	(BREAKER POSITION)							
	EQUIP. ACB No.	D.G.- 01 (1500 KVA) 1	T/R-01 (1600 KVA) 2	B/C-1 (1600 KVA) 6	T/F -02 (1600 KVA) 3	DG-02 (1500 KVA) 4	B/C-2 (500 KVA) 7	DG-03 (500 KVA) 5
Mains "ON"	Under normal condition total load is at Transformer.	OFF	ON	OFF	ON	OFF	ON	OFF
	When max. demand load is upto 340 KW then load transferred to DG-03.	OFF	OFF	ON	OFF	OFF	ON	ON
	When max. demand load is upto 340 KW & DG-03 fails to start then load transferred to DG-02.	OFF	OFF	ON	OFF	ON	ON	OFF
	When max. demand load is upto 340 KW & DG-02 fails to start then load transferred to DG-01.	ON	OFF	ON	OFF	OFF	ON	OFF
	When max. demand load is upto 1020 KW then load transferred to either DG-01 or DG-02 (When transferred to DG-01)	ON	OFF	ON	OFF	OFF	ON	OFF
	When max. demand load is upto 1020 KW then load transferred to either DG-01 or DG-02 (When transferred to DG-02)	OFF	OFF	ON	OFF	ON	ON	OFF
	When combined max. demand load of bus section-2 & 3 is upto 340 KW then load of bus section-2 & 3 transferred to DG-03 & load of bus section-1 is at DG-01.	ON	OFF	OFF	OFF	OFF	ON	ON
Mains Failure	When combined max. demand load of bus section-2 & 3 is upto 1020 KW then load of bus section-1 & 2 transferred to DG-02 & load of bus section-3 is at DG-03.	ON	OFF	OFF	OFF	ON	ON	OFF
	When combined max. demand load of bus section-1 & 2 is upto 1020 KW then load of bus section-1 & 2 transferred to DG-02 & load of bus section-3 is at DG-03.	ON	OFF	ON	OFF	OFF	ON	ON
	When combined max. demand load of bus section-1 & 2 is upto 1020 KW then load of bus section-1 & 2 transferred to DG-02 & load of bus section-3 is at DG-03.	OFF	OFF	ON	OFF	ON	OFF	ON
	When max. demand load exceeds from 1020 KW and not fulfill any condition shown above then all three DG's shall run independently at separate bus bar i.e. DG-01 at bus section 01, DG-02 at bus section -2 & DG-03 at bus section-3.	ON	OFF	OFF	OFF	ON	OFF	ON

This PLC system shall have.
 1) The PLC shall have a provision of interlocking between different Incomers & Bus couplers to avoid Paralleling of two different supplies from Transformer & DG sets.
 2) Logic to AUTO START & AUTO STOP for each DG sets.
 3) Taking data from Energy Analysers and issuing and selecting starting command for DG set as per above logic. Further it shall also be possible to START/STOP DG sets in Manual/Test Mode.
 4) Paralleling of DG sets have not been envisaged.
 5) In case of any discrepancy in interlocking scheme inform consultant before execution.



FEEDER NUMBER	F-1	F-2	F-3	F-4	F-5	F-6	F-7	F-8	F-9	F-10	F-11
CIRCUIT BREAKER RATING IN AMPS	800 A TP MCCB (35 KA)	800 A TP MCCB (35 KA)	800 A TP MCCB (35 KA)	800 A TP MCCB (35 KA)	400 A TP MCCB (35 KA)	800 A TP MCCB (35 KA)	400 A TP MCCB (35 KA)	1000 A TP MCCB (35 KA)	630 A TP MCCB (35 KA)	200 A TP MCCB (35 KA)	800 A TP MCCB (35 KA)
CABLE SIZE IN SQ. MM. 'AL'	2R, 3.5C, 240	2R, 3.5C, 240	2R, 3.5C, 240	2R, 3.5C, 240	---	2R, 3.5C, 300	1R, 3.5C, 240	---	2R, 3.5C, 185	1R, 3.5C, 150	---
FEEDER DESCRIPTION	RISING MAINS-1 TOWER - 1	RISING MAINS-2 TOWER - 1	RISING MAINS TOWER - 2	RISING MAINS TOWER - 3	BASEMENT VENTILATION-1	FIRE PANEL	COMMERCIAL AT Tower - 10	CAP. PANEL-01 450 KVAR	CLUB	STP	SPARE

FEEDER NUMBER	F-12	F-13	F-14	F-15	F-16	F-17	F-18	F-19	F-20	F-21
CIRCUIT BREAKER RATING IN AMPS	800 A TP MCCB (35 KA)	400 A TP MCCB (35 KA)	1000 A TP MCCB (35 KA)	800 A TP MCCB (35 KA)	630 A TP MCCB (35 KA)	200 A TP MCCB (35 KA)	630 A TP MCCB (35 KA)			
CABLE SIZE IN SQ. MM. 'AL'	2R, 3.5C, 300	2R, 3.5C, 300	3R, 3.5C, 300	3R, 3.5C, 300	---	---	---	2R, 3.5C, 185	1R, 3.5C, 150	---
FEEDER DESCRIPTION	RISING MAINS-1 TOWER - 4	RISING MAINS-2 TOWER - 4	RISING MAINS-1 TOWER - 5	RISING MAINS-2 TOWER - 5	BASEMENT VENTILATION-2	CAP. PANEL-02 450 KVAR	SPARE	MAIN COMMON SER. PANEL	WTP	SPARE

project SUNWORLD ARISTA SECTOR 168 NOIDA	title ELECTRICAL DRAWING (SUBSTATION-01)	drawing released for <input type="checkbox"/> APPROVAL <input type="checkbox"/> ADVANCE COPY <input type="checkbox"/> SUBMISSION <input checked="" type="checkbox"/> CONSTRUCTION	drw. no. SA / ELEC / EXT. / 02-01	drawn by Surjeet	architects ARCHITECT HAFEEZ CONTRACTOR 29 Bank Street, Mumbai - 400 023. Tel. 2661920	services consultant Consummate Engineering Services (P) Ltd. Noida Office : B - 67, Sector - 67, Noida - 201 301 Tel : (0120) 6943500 (24 Lines) Lko. Office : R 006, Rohas Plumeria, Gomti Nagar, Lucknow e mail : mail@cespl.in, website : www.cespl.in
	subtitle MAINS SCHEMATIC DIAGRAM (FOR TOWER-01,02,03,04 & 05)		scale N.T.S. @ A1	designed by Ateeq Ur Rehman		rev. no. R0
			date June, 2018	checked by Anand Havelia		date 25-06-2018
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