

PV-DG+ZE

Case Study & IEML Expo

Centre



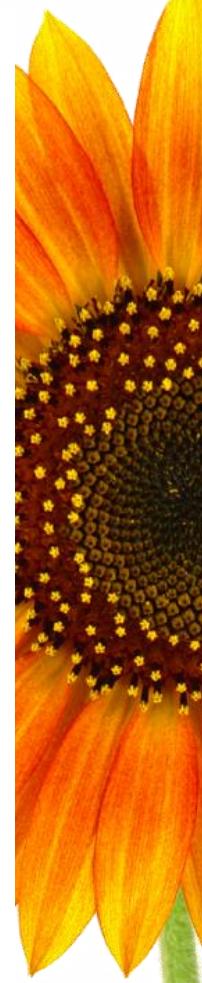
Atul
iPLON India Pvt Ltd
#26/80,Luz Avenue, 5th Street, Mylapore,
Chennai, Tamil Nadu, India 600 004



YOUR PARTNER FOR A
GREENER WORLD



M⁺[®] AMPLUS
SOLAR
WITH YOU
AT THE CORE



AN OVERVIEW

Amplus Solar is India's leading owner and operator of distributed/rooftop solar assets for Commercial and Industrial Customers.

600+ MW

Operational and
Under-development Capacity

275+

Projects

150+

C&I Customers

250+

Dedicated
Professionals

150+

Sales Network
Across Asia



3.



PIONEERS

-  First developer in India to be awarded rooftop debt financing by World Bank & ADB
-  175 MWp: India's Largest Open-Access Solar Park at Gadag, Karnataka; supplying power to 30+ customers
-  India's first tracker based Airport Solar Project at HAL Airport, Bengaluru
-  One-of-a-kind Battery Integrated Solar Plant with Energy Management System at a Toll Plaza
-  India's largest Rooftop Plant (OPEX with net metering) of 6.2 MW for Yamaha, Noida in 2016

GROWTH STORY

-  2000% growth in capacity in 3 years
-  Customer base tripled from 2017 to 2019
-  Three-fold growth in Sales and Service network in two years



AMPLUS OPEN-ACCESS (OFF-SITE) SOLAR PLANTS



 **Market Leader in Open Access Solar Segment in India**

 **220+ MW Operational capacity;
Additional 200+ MW in advance stages of development**



BATTERY STORAGE PLUS SOLAR PLANTS



First mover in India to establish battery energy solar solutions for C&I customers under OPEX model



3 operational pilot projects of 0.2 MW



WELL-DIVERSIFIED TIER 1 CUSTOMER BASE

High Quality, Long-term Portfolio With Multinational Clients And Strong Government Institutions

**150+ CUSTOMERS
ACROSS VERTICALS**

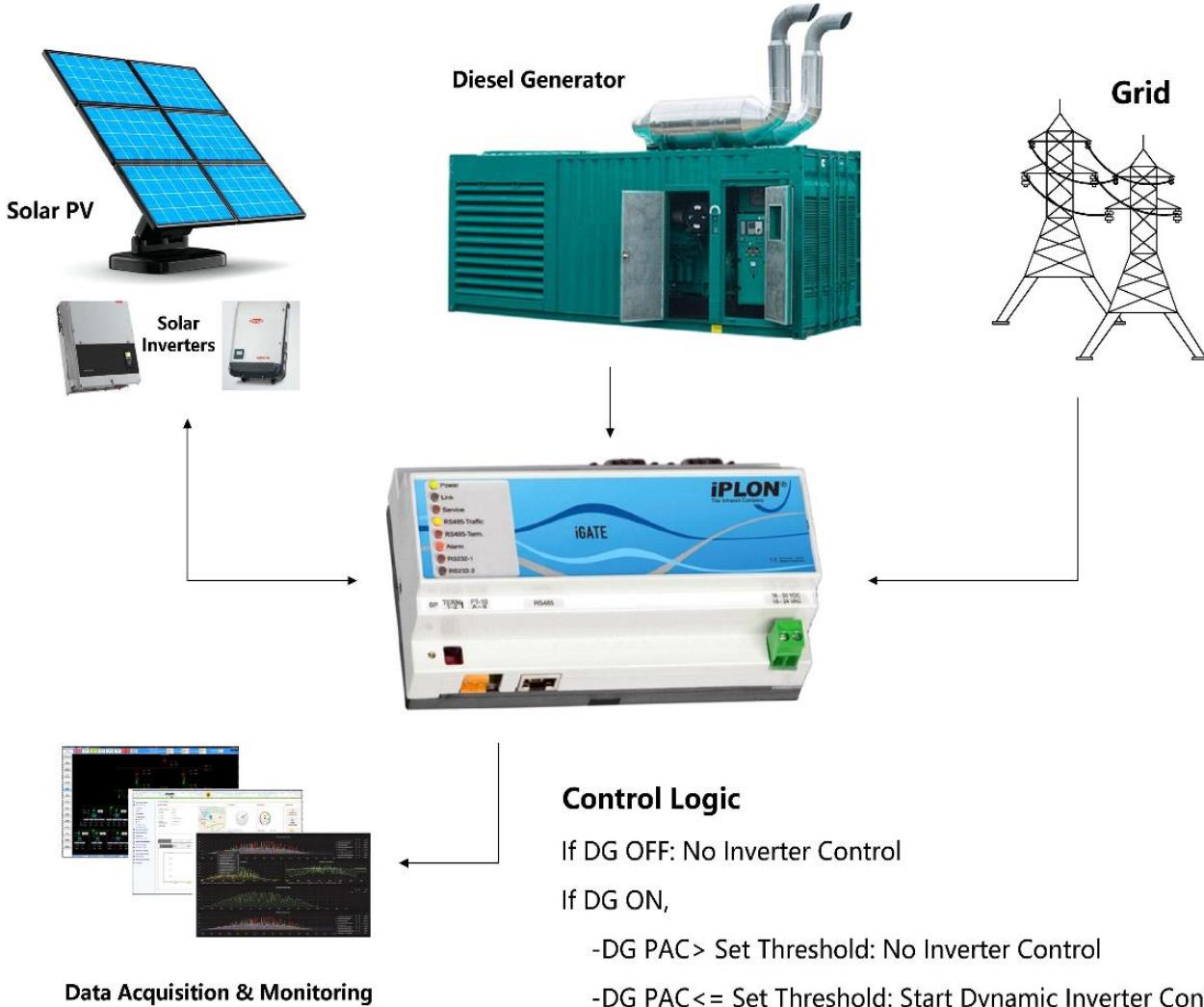
- ❖ Automotive and Locomotives
- ❖ Defence
- ❖ FMCG and Consumer Durables
- ❖ Retail
- ❖ Manufacturing
- ❖ Government and Private Institutions
- ❖ Pharma, Hospitals and Healthcare
- ❖ Real Estate and Housing Societies
- ❖ Educational Institutions
- ❖ IT and Technology
- ❖ Others



IEML – Expo Centre



PV-DG Fuel Saver Controller

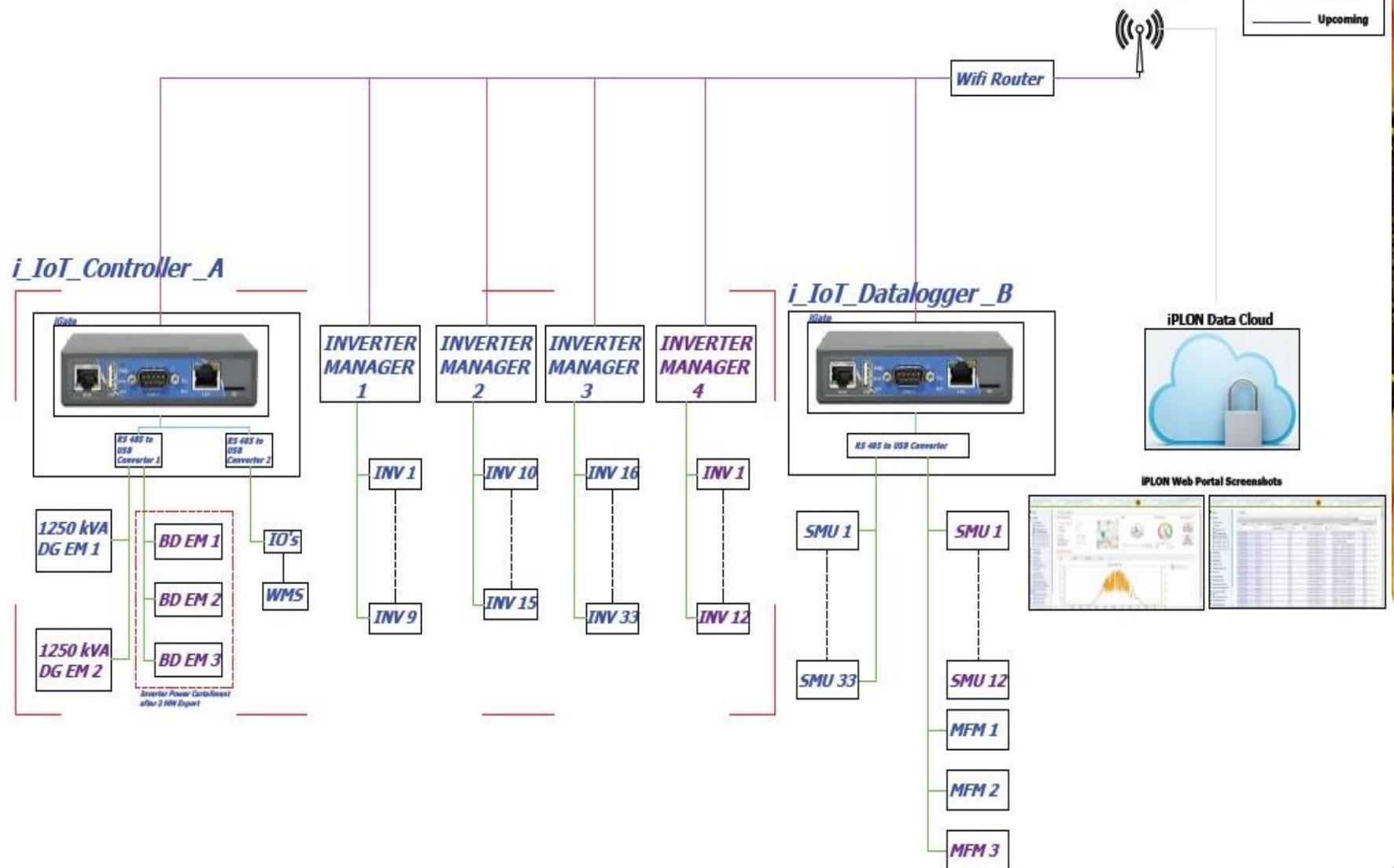


PV-DG Controller does

- Inverter output control
- Protection against reverse current
- Maintains the DG in the safe operating efficiency
- Fully automated system operation

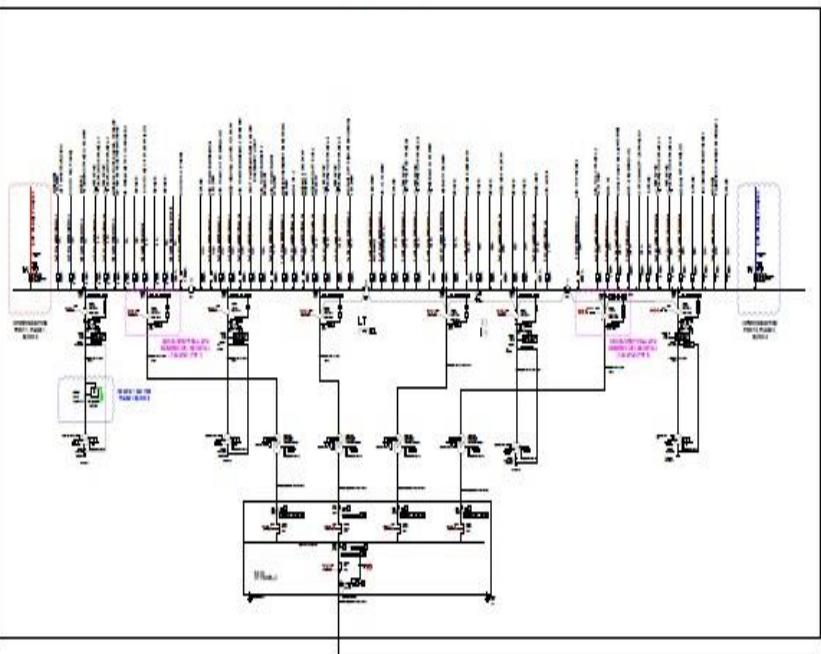


IEML Plant Communication Architectural Diagram



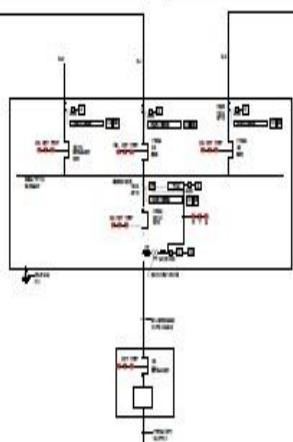
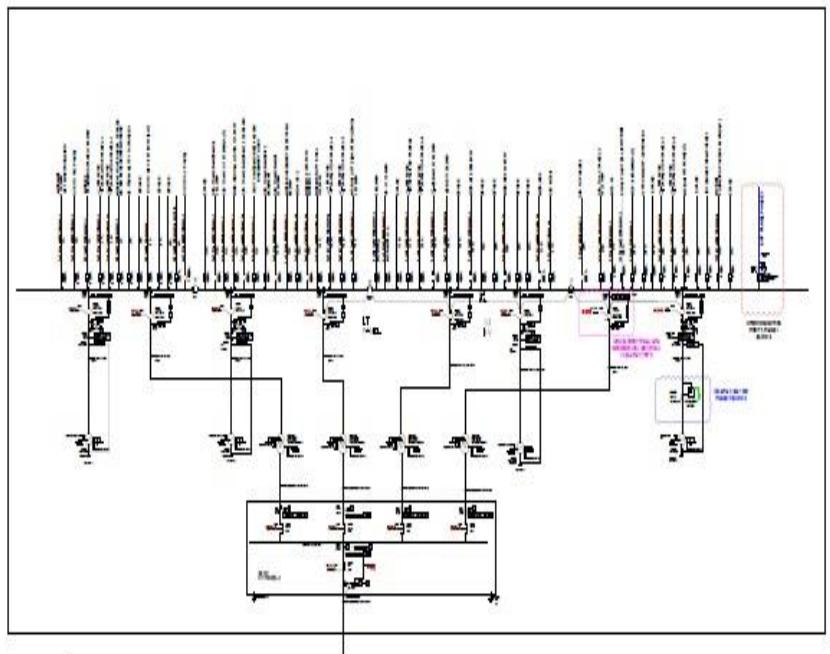
SUBSTATION 1, CLIENT SIDE LT ROOM

HALL 1,2,3,4



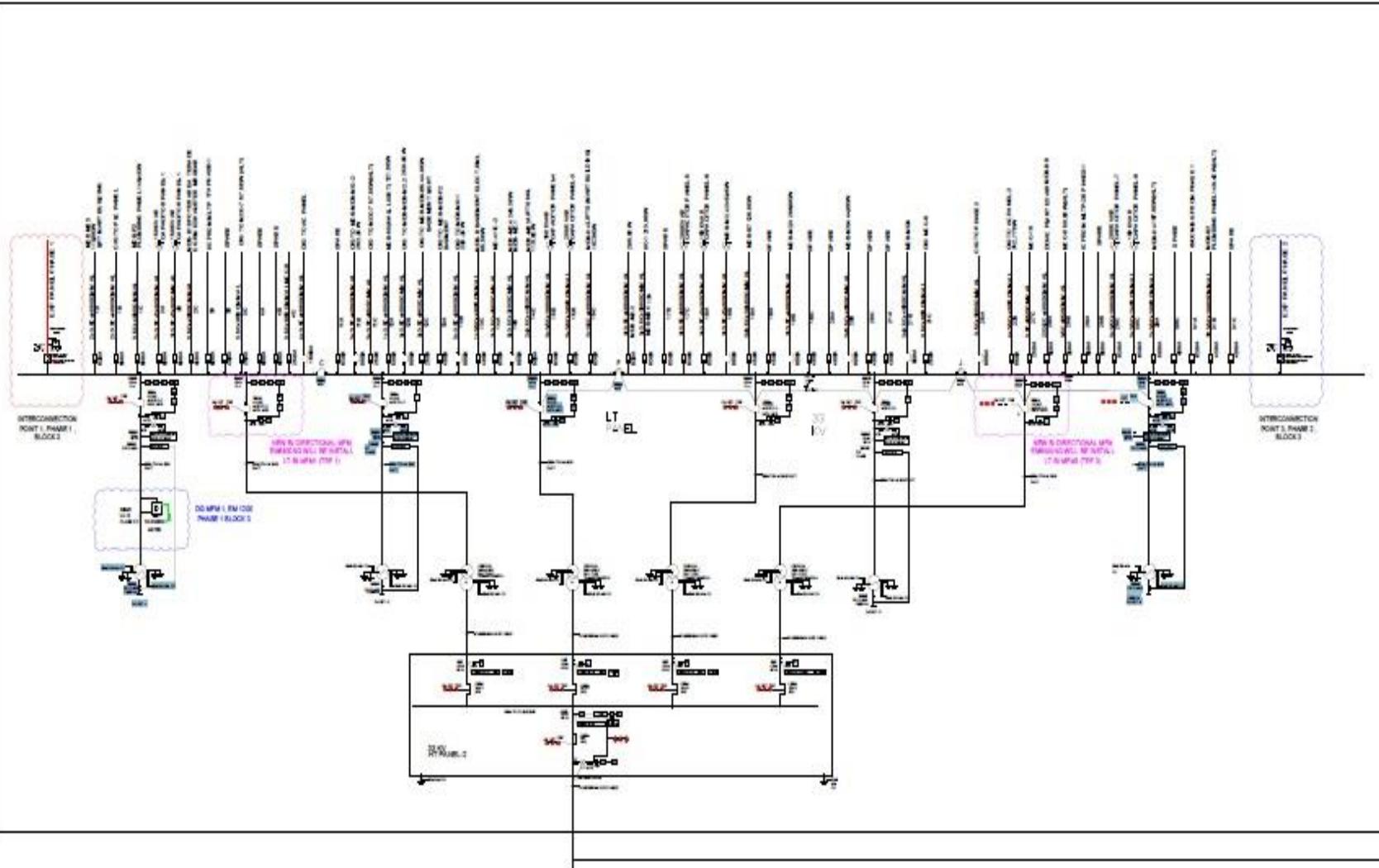
SUBSTATION 2/ CLIENT SIDE LT ROOM

HALL 5,6,7,8



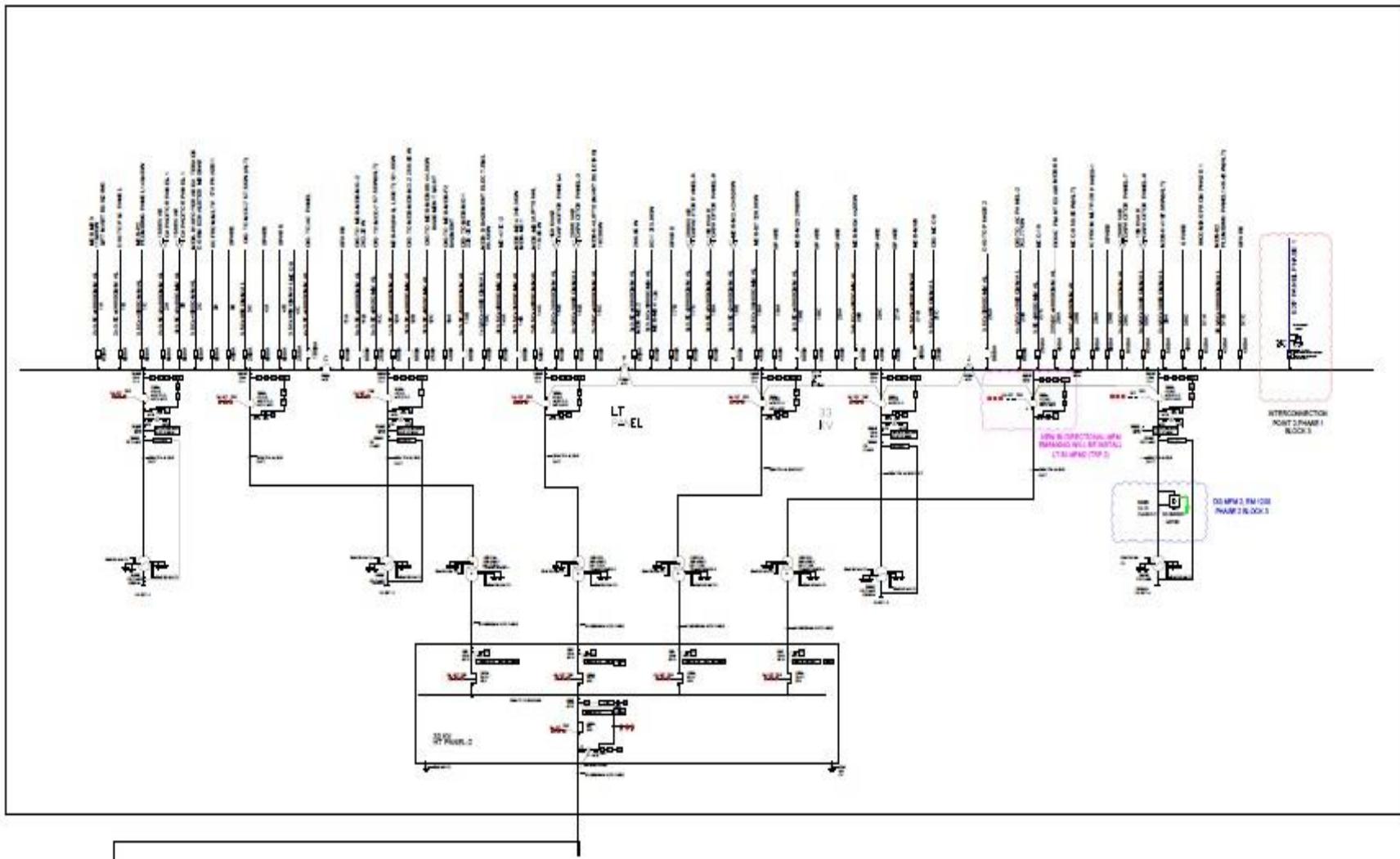
SUBSTATION 1,CLIENT SIDE LT ROOM

HALL 1,2,3,4



SUBSTATION 2/ CLIENT SIDE LT ROOM

HALL 5,6,7,8



IEML PV-ZE & PV-DG Philosophy

Plant Details:

- ✓ **PV Plant Capacity :-**

Solar – 45 Inverters (4 IM's) – 3441.32kWp

- ✓ **Total DG :-**

DG 1 CAPACITY – 1250kVA

DG 2 CAPACITY – 1250kVA

SI No.	Source – Power Supply	Load Bus Active Max Power (kVA)	Bus Bar Active (BC)	Test Cases	Solar System controlled
1	Grid (Summation of 3 Grid Meters)	>- 2000kW	-	0	Control 4 IM's (45 Inv's)
2	DG 1	< 1250	-	1	Control 4 IM's- 45 INV
3	DG 1 & 2	< 2500	-	2	Control 2,4 IM (30 Inv's) and 1,3 IM (15 Inv's) respectively.



IEML Bus coupler – DO Philosophy

IEML Phase II has 3 DO's

1. ACB1 – Phase 1 I/C1 → IM 2
2. ACB2 – Phase 1 I/C2 → IM 1 & IM 3
3. ACB3 – Phase 2 I/C3 → IM 4

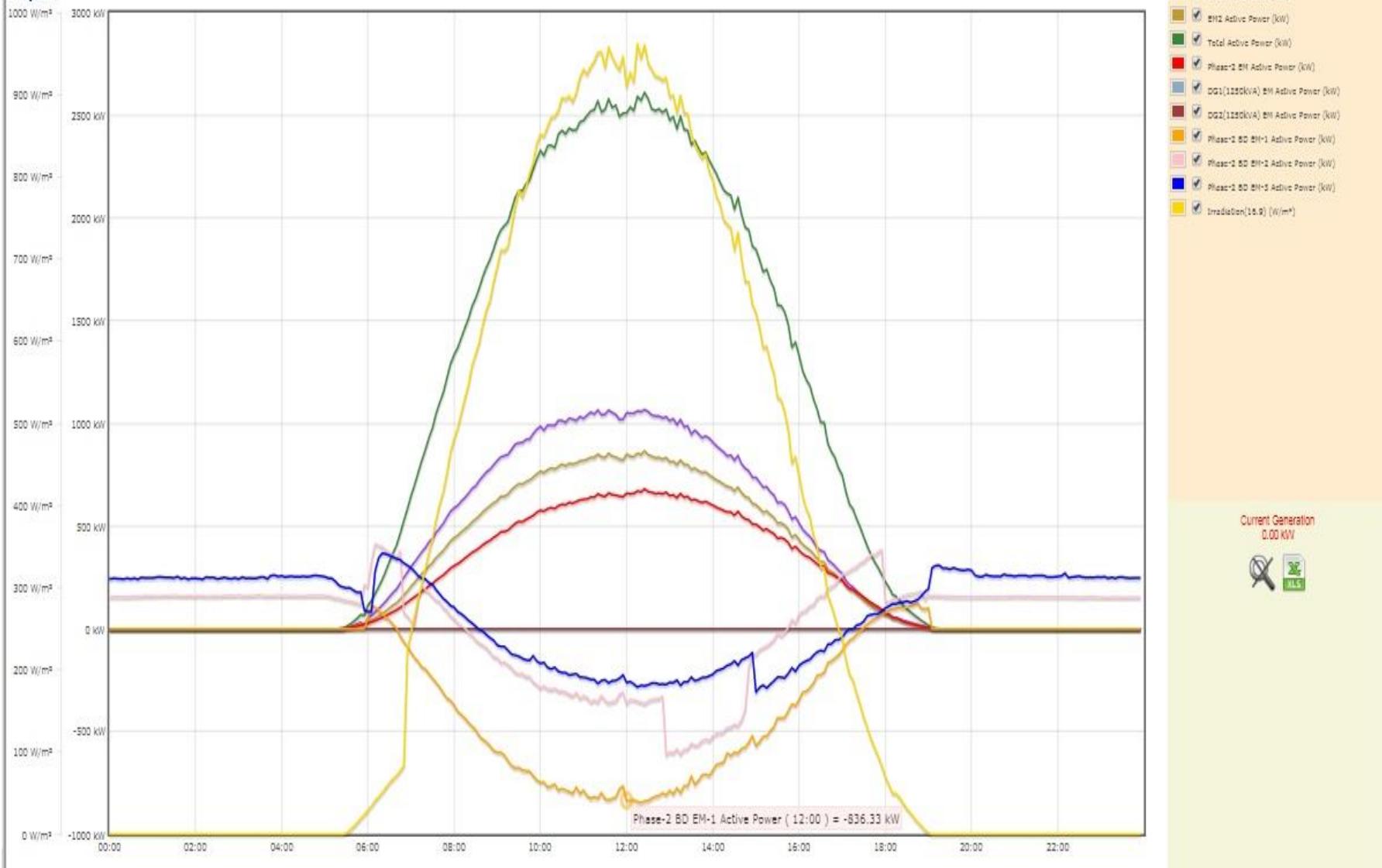
DO's RESPONSE TIME – 7 to 10 sec

CASE 1: DG1 & DG2 running:-

1. Break IM2 communication (DG1) – observe DO1 activation & ACB1 tripping
2. Break IM1 or IM3 communication (DG2) – observe DO2 activation & ACB2 tripping
3. Break IM4 communication (DG1) – observe DO3 activation & ACB1 tripping
4. Break IM1, IM2, IM3 communication (DG1 & DG2) – observe DO1 & DO2 activation & ACB1 & ACB2 tripping
5. Break IM2, IM3 communication (DG1 & DG2) – observe DO1 & DO2 activation & ACB1 & ACB2 tripping
6. Break IM1 & IM2 communication (DG1 & DG2) – observe D01 & D02 activation & ACB1 & ACB2 tripping
7. Break IM1, IM2, IM3, IM4 communication – observe D01 & D02 & D03 activation & ACB1, ACB2, ACB3 tripping



Graph-1



Thank You!

www.iplon.in

<http://re2tn.org/>

www.youtube.com/user/iPLONChannel

