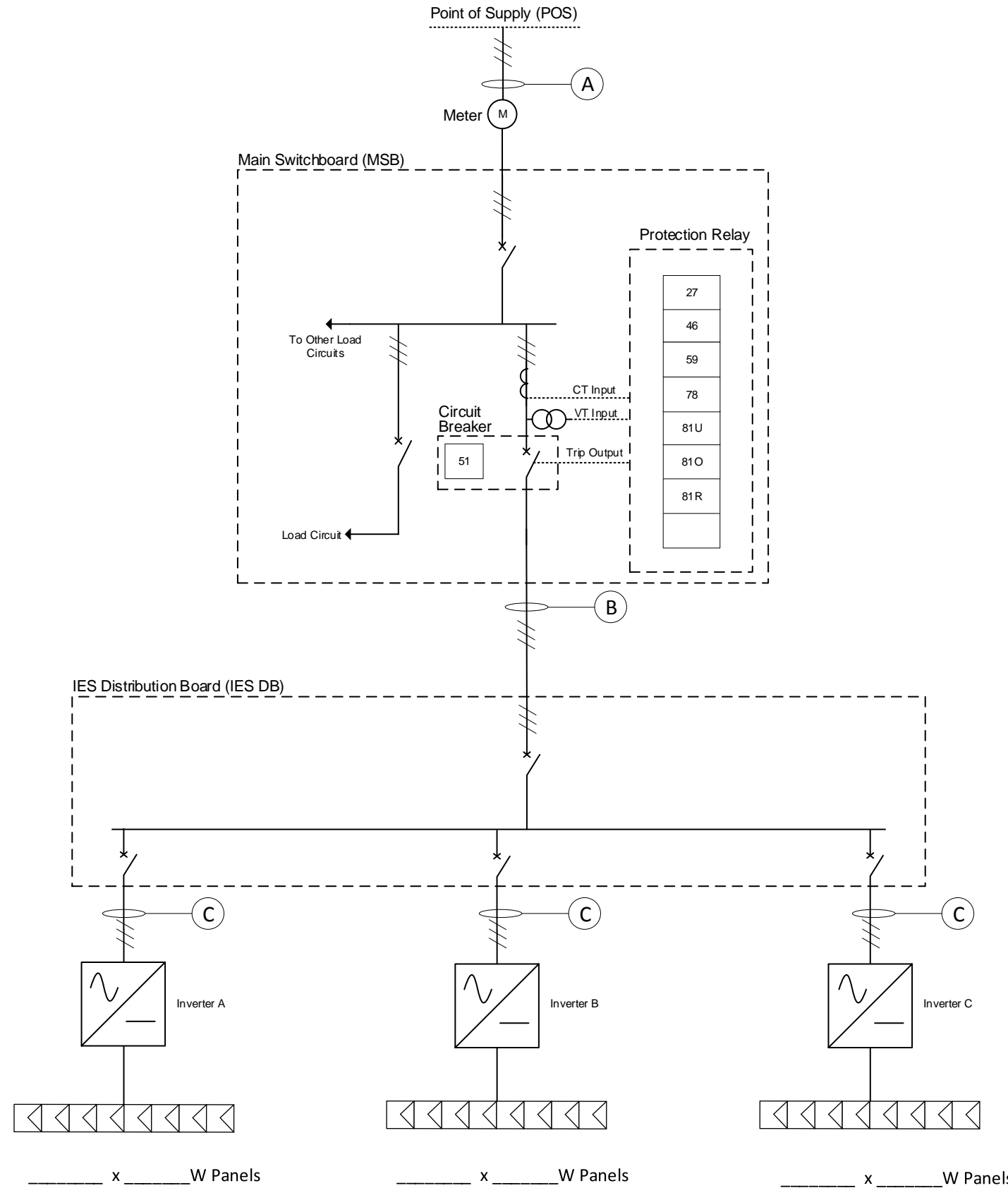# EMBEDDED GENERATOR - SINGLE LINE DIAGRAM (FOR CONSTRUCTION)

Equipment Schedule

Total System Capacity (kW)	
(Rating of all Inverters)	

Inverter A Details

Manufacturer	
Model Name	
Model Number	
Rating (kW)	
Quantity	

Inverter B Details

Manufacturer	
Model Name	
Model Number	
Rating (kW)	
Quantity	

Inverter C Details

Manufacturer	
Model Name	
Model Number	
Rating (kW)	
Quantity	

Panel Details

Manufacturer	
Model Name	
Model Number	
Total Number of PV Panels	
Individual Panel Rating (W)	
Total Panel Rating (kW)	

Interconnection Protection Relay Details

Manufacturer	
Model Name	
Model Number	

Cable Schedule

Section	Description	Cable Size (mm^2)	Longest Run (m)	Voltage Rise (%)
C	IES TO IES DB			
B	IES DB TO MSB			
A	MSB TO POS			
Total Voltage Rise (%)				

Point of Supply (POS)

(A)

Meter (M)

Main Switchboard (MSB)

Protection Relay

To Other Load Circuits

Circuit Breaker

CT Input
VT Input
Trip Output

51

| 27 |
| 46 |
| 59 |
| 78 |
| 81U |
| 81O |
| 81R |

Load Circuit

(B)

IES Distribution Board (IES DB)

(C)   (C)   (C)

Inverter A   Inverter B   Inverter C

_____ x _____W Panels   _____ x _____W Panels   _____ x _____W Panels

AusNet Services Mandatory Settings

Volt-Watt Response Set-Point Values

Reference	Voltage (V)	Power % Rated Power
V1	207	100%
V2	220	100%
V3	253	100%
V4	259	20%

Volt-VAr Response Set-Point Values

Reference	Voltage (V)	VAr % Rated VA
V1	208	44% (exporting VArs)
V2	220	0%
V3	241	0%
V4	253	44% (sinking VArs)

Interconnection Protection Relay Settings [1]

Parameter	Setting	Disconnection Time
Overvoltage (59)	260 V	2 sec
Undervoltage (27)	180 V	2 sec
Over Frequency (81O)	52 Hz	2 sec
Under Frequency (81U)	47.5 Hz	2 sec
RoCoF (81R)	2 Hz/s	1 sec
Vector Shift (78)	8 Deg	1 sec
Phase Balance (46) [2]	21.7 A	2 sec
Reconnection Delay	60 sec	

1. Refer to SOP 11-16 - Protection Requirements of Embedded Generators <5 MVA
2. Not applicable when using ONLY AS4777.1 approved three phase inverters

Inverter Protection Settings

Parameter	Setting	Disconnection Time
Over-voltage 1 (V>)	260 V	2 sec
Over-voltage 2 (V>>)	265 V	0.2 sec
Sustained operation for voltage variations ($V_{nom-max}$)	258 V	3 sec
Under-voltage (V<)	180 V	2 sec
Over Frequency	52 Hz	0.2 sec
Under Frequency	47 Hz	2 sec
Active anti-islanding or loss of mains (LoM)	-	2 sec
Reconnection Delay	60 sec	

Installation Company		Project Name	
Address		Customer Name	
Contact Number		Supply Address	
Email		Town	
Registered Electrical Contractor		NMI	

			Date		Rev	

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