Conceptual Layout - V1 San Diego Youth Services, 3255 Wing Street, San Diego, CA

Report

Project Name	San Diego Youth Services
Project Address	3255 Wing Street, San Diego, CA
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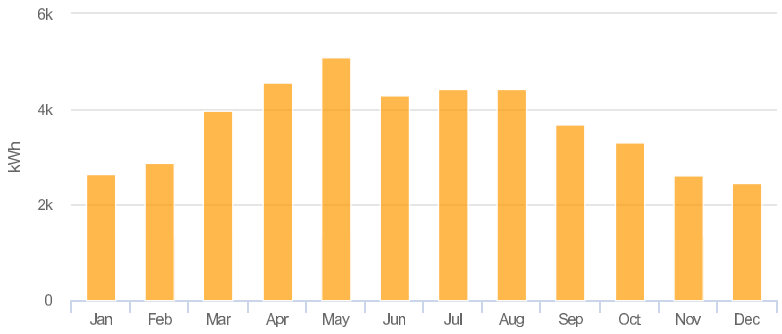
System Metrics

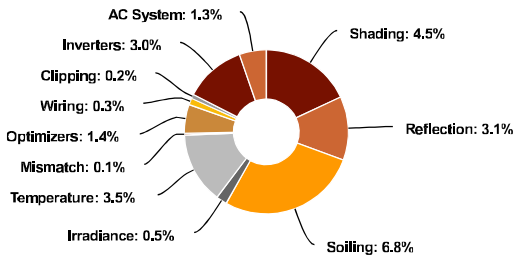
Design	Conceptual Layout - V1
Module DC Nameplate	29.9 kW
Inverter AC Nameplate	28.8 kW Load Ratio: 1.04
Annual Production	44.34 MWh
Performance Ratio	77.9%
kWh/kWp	1,484.0
Weather Dataset	TMY, 10km grid (32.75,-117.25), NREL (prospector)
Simulator Version	c724a466fd-c55c2bad74-3319e162ad-49c4c59f12

Project Location

Monthly Production



Sources of System Loss



Annual Production

	Description	Output	% Delta
Irradiance (kWh/m²)	Annual Global Horizontal Irradiance	1,837.4	
	POA Irradiance	1,903.8	3.6%
	Shaded Irradiance	1,818.8	-4.5%
	Irradiance after Reflection	1,762.3	-3.1%
	Irradiance after Soiling	1,641.9	-6.8%
	Total Collector Irradiance	**1,642.2**	**0.0%**
Energy (kWh)	Nameplate	49,251.7	
	Output at Irradiance Levels	48,990.2	-0.5%
	Output at Cell Temperature Derate	47,278.4	-3.5%
	Output After Mismatch	47,235.7	-0.1%
	Optimizer Output	46,571.4	-1.4%
	Optimal DC Output	46,421.6	-0.3%
	Constrained DC Output	46,323.0	-0.2%
	Inverter Output	44,930.8	-3.0%
	Energy to Grid	**44,340.7**	**-1.3%**
Temperature Metrics			
	Avg. Operating Ambient Temp		18.6 °C
	Avg. Operating Cell Temp		27.7 °C
Simulation Metrics			
	Operating Hours		4646
	Solved Hours		4646

Condition Set

Description	Condition Set 1
Weather Dataset	TMY, 10km grid (32.75,-117.25), NREL (prospector)
Solar Angle Location	Project Lat/Lng
Transposition Model	Perez Model
Temperature Model	Sandia Model

Temperature Model Parameters

Rack Type	a	b	Temperature Delta
Fixed Tilt	-3.56	-0.075	3°C
Flush Mount	-2.81	-0.0455	0°C
East-West	-3.56	-0.075	3°C
Carport	-3.56	-0.075	3°C

Soiling (%)

J	F	M	A	M	J	J	A	S	O	N	D
4	5	5	5	6	7	8	9	10	9	7	5

Irradiation Variance	5%
Cell Temperature Spread	4° C
Module Binning Range	-0.5% to 1%
AC System Derate	0.50%

Module Characterizations

Module	Uploaded By	Characterization
LG415N2W-L5 1500V (LG)	Folsom Labs	Spec Sheet Characterization, PAN

Component Characterizations

Device	Uploaded By	Characterization
SE14.4KUS (SolarEdge)	Folsom Labs	CEC
P860 (SolarEdge)	Folsom Labs	Sheet

Components

Component	Name	Count
Inverters	SE14.4KUS (SolarEdge)	2 (28.8 kW)
AC Panels	2 input AC Panel	1
AC Home Runs	4 AWG (Copper)	2 (1,042.8 ft)
AC Home Runs	2 AWG (Aluminum)	1 (126.5 ft)
Strings	10 AWG (Copper)	5 (544.5 ft)
Optimizers	P860 (SolarEdge)	37 (31.8 kW)
Module	LG, LG415N2W-L5 1500V (415W)	72 (29.9 kW)

Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	12	7-15	Along Racking

Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 1	Fixed Tilt	Landscape (Horizontal)	5°	209°	0.6 ft	1x1	65	44	18.3 kW
Field Segment 2	Fixed Tilt	Landscape (Horizontal)	5°	216.55°	0.6 ft	1x1	40	28	11.6 kW

Detailed Layout