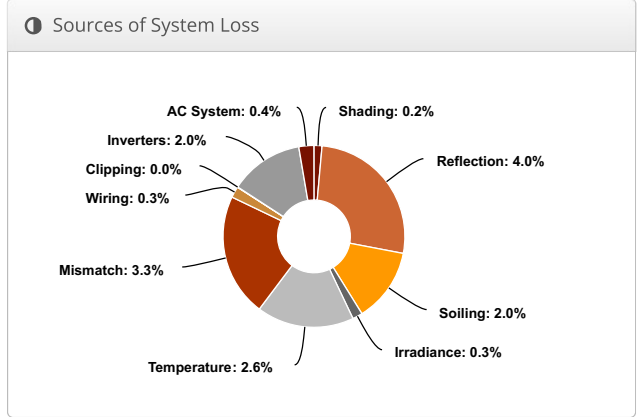
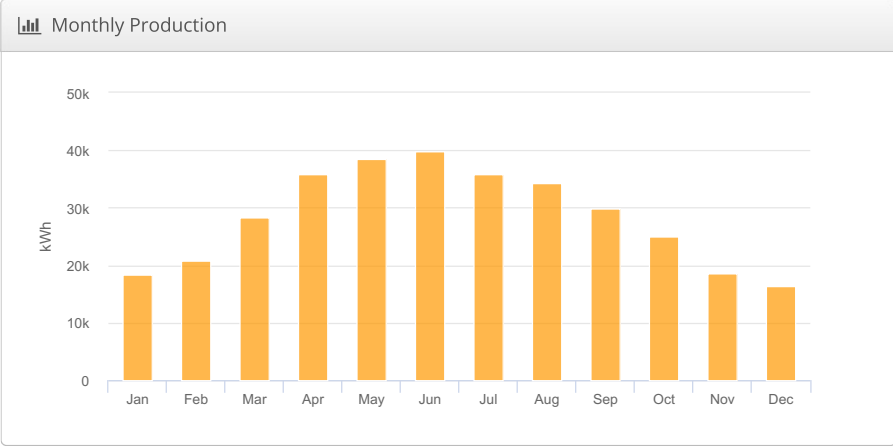
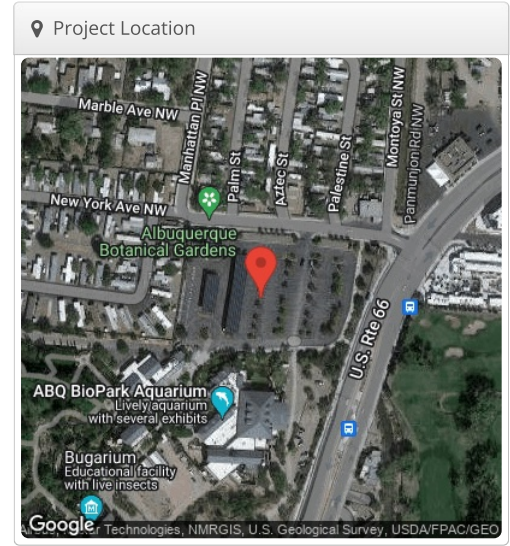


Design 6 - Talesun 320+Seraphim 325P (For Construction) NW Botanical

Gardens, 2601 Central Ave. NW, Alb

Report	
Project Name	Botanical Gardens
Project Address	2601 Central Ave. NW, Alb
Prepared By	Benjamin Rodefer ben@riogranderenewables.com

System Metrics	
Design	Design 6 - Talesun 320+Seraphim 325P (For Construction) NW
Module DC Nameplate	203.0 kW
Inverter AC Nameplate	250.0 kW Load Ratio: 0.81
Annual Production	342.3 MWh
Performance Ratio	85.8%
kWh/kWp	1,686.1
Weather Dataset	TMY, 10km grid (35.05,-106.65), NREL (prospector)
Simulator Version	6c216557b8-7a35fa7531-6b6e1d0039-ca5ae3961c



Annual Production			
	Description	Output	% Delta
Irradiance (kWh/m ²)	Annual Global Horizontal Irradiance	2,026.9	
	POA Irradiance	1,965.3	-3.0%
	Shaded Irradiance	1,961.0	-0.2%
	Irradiance after Reflection	1,881.8	-4.0%
	Irradiance after Soiling	1,844.1	-2.0%
	Total Collector Irradiance	1,844.1	0.0%
Energy (kWh)	Nameplate	374,790.1	
	Output at Irradiance Levels	373,776.9	-0.3%
	Output at Cell Temperature Derate	363,941.5	-2.6%
	Output After Mismatch	351,851.6	-3.3%
	Optimal DC Output	350,793.1	-0.3%
	Constrained DC Output	350,758.1	0.0%
	Inverter Output	343,742.9	-2.0%
	Energy to Grid	342,341.2	-0.4%
Temperature Metrics			
	Avg. Operating Ambient Temp		14.7 °C
	Avg. Operating Cell Temp		23.8 °C
Simulation Metrics			
	Operating Hours	4651	
	Solved Hours	4651	

Condition Set													
Description	Condition Set 1												
Weather Dataset	TMY, 10km grid (35.05,-106.65), NREL (prospector)												
Solar Angle Location	Meteo 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									
Soiling (%)	J	F	M	A	M	J	J	A	S	O	N	D	
	2	2	2	2	2	2	2	2	2	2	2	2	
Irradiation Variance	5%												
Cell Temperature Spread	4° C												
Module Binning Range	-2.5% to 2.5%												
AC System Derate	0.50%												
Module Characterizations	Module	Uploaded By		Characterization									
	TP672P-320 (Talesun Solar (Zhongli))	HelioScope		Manufacturer R&D, PAN									
	SEG-6MA-360WW (Seraphim)	HelioScope		Spec Sheet Characterization, PAN									
Component Characterizations	Device	Uploaded By		Characterization									

Components		
Component	Name	Count
Inverters	PVI 50TL (Solectria)	5 (250.0 kW)
AC Home Runs	1 AWG (Copper)	5 (3,555.6 ft)
Strings	10 AWG (Copper)	34 (4,522.7 ft)
Module	Seraphim, SEG-6MA-360WW (360W)	564 (203.0 kW)

Wiring Zones			
Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	-	15-18	Along Racking
Wiring Zone 7	-	15-18	Along Racking
Wiring Zone 8	-	-	Up and Down Racking
Wiring Zone 4	-	15-22	Up and Down Racking

Field Segments									
Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Field Segment 3	Carport	Landscape (Horizontal)	10°	278.374°	0.1 ft	1x1	384	384	138.2 kW
Field Segment 2	Carport	Landscape (Horizontal)	10°	278.831°	0.1 ft	1x1	180	180	64.8 kW
Tree	Carport	Landscape (Horizontal)	0°	278.374°	0.0 ft	1x1			0
Tree	Carport	Landscape (Horizontal)	0°	278.374°	0.0 ft	1x1			0

Detailed Layout

