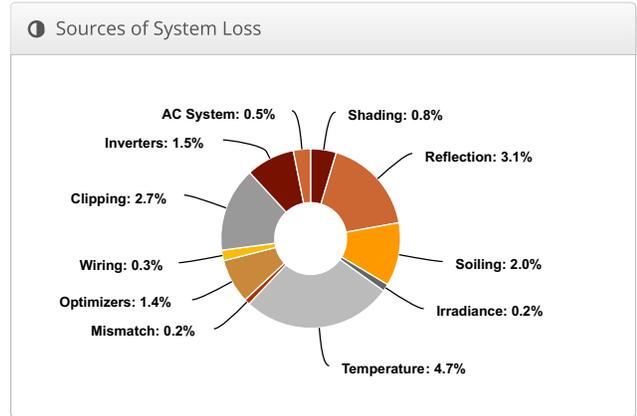
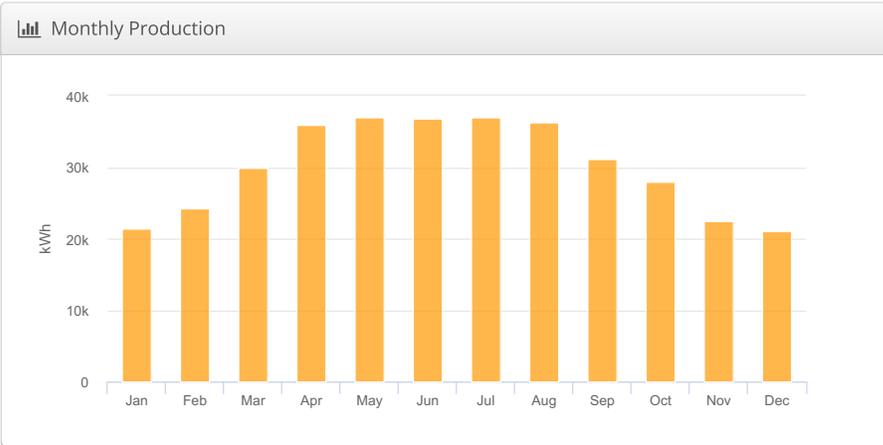
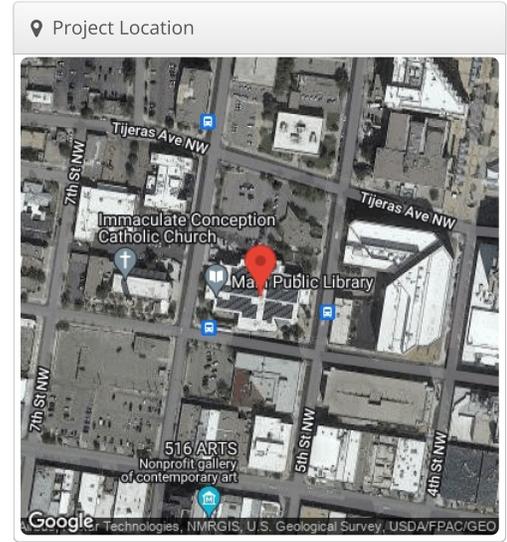


Design 3 - Talesun N-S RM (Large- 10 Deg) (backup 2017-12-19 08:59:01)

City of ABQ Main Library (COA#1), 501 Copper Ave NW, Albuquerque, New Mexico, 87102

| Report | |
|-----------------|---|
| Project Name | City of ABQ Main Library (COA#1) |
| Project Address | 501 Copper Ave NW, Albuquerque, New Mexico, 87102 |
| Prepared For | City of Albuquerque |
| Prepared By | Benjamin Rodefer ben@riogranderenewables.com |

| System Metrics | |
|-----------------------|--|
| Design | Design 3 - Talesun N-S RM (Large- 10 Deg) (backup 2017-12-19 08:59:01) |
| Module DC Nameplate | 201.9 kW |
| Inverter AC Nameplate | 0 Load Ratio: |
| Annual Production | 361.0 MWh |
| Performance Ratio | 83.8% |
| kWh/kWp | 1,788.0 |
| Weather Dataset | TMY, ALBUQUERQUE INTL ARPT [ISIS], NSRDB (tmy3, I) |
| Simulator Version | 45a06c4782-65a2e3a7bc-cce9d61228-18ebce00b3 |



| ⚡ Annual Production | | | |
|----------------------------------|-------------------------------------|------------------|--------------|
| | Description | Output | % Delta |
| Irradiance (kWh/m ²) | Annual Global Horizontal Irradiance | 1,980.4 | |
| | POA Irradiance | 2,134.7 | 7.8% |
| | Shaded Irradiance | 2,117.4 | -0.8% |
| | Irradiance after Reflection | 2,052.3 | -3.1% |
| | Irradiance after Soiling | 2,011.3 | -2.0% |
| | Total Collector Irradiance | 2,011.3 | 0.0% |
| Energy (kWh) | Nameplate | 406,280.0 | |
| | Output at Irradiance Levels | 405,331.4 | -0.2% |
| | Output at Cell Temperature Derate | 386,087.8 | -4.7% |
| | Output After Mismatch | 385,409.9 | -0.2% |
| | Optimizer Output | 380,010.8 | -1.4% |
| | Optimal DC Output | 378,754.3 | -0.3% |
| | Constrained DC Output | 368,665.1 | -2.7% |
| | Inverter Output | 363,004.1 | -1.5% |
| | Energy to Grid | 361,033.0 | -0.5% |
| | Temperature Metrics | | |
| | Avg. Operating Ambient Temp | | 17.3 °C |
| | Avg. Operating Cell Temp | | 28.0 °C |
| Simulation Metrics | | | |
| | Operating Hours | 4566 | |
| | Solved Hours | 4566 | |

| ☁ Condition Set | | | | | | | | | | | | | |
|------------------------------|--|--------------------------------------|---------|-------------------|---|---|---|-------------|-----------------------|---|---|---|--|
| Description | Condition Set 3 | | | | | | | | | | | | |
| Weather Dataset | TMY, ALBUQUERQUE INTL ARPT (ISIS), NSRDB (tmy3, I) | | | | | | | | | | | | |
| 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 | TP672P-320 (Talesun Solar (Zhongli)) | | | | | | Uploaded By | HelioScope | | | | |
| | | | | | | | | | Manufacturer R&D, PAN | | | | |
| Component Characterizations | Device | | | | | | | Uploaded By | | | | | |
| | | | | | | | | | | | | | |

| 📦 Components | | |
|--------------|--|-----------------|
| Component | Name | Count |
| Inverters | SE33.3KUS (SolarEdge) | 5 (166.5 kW) |
| AC Panels | 5 input AC Panel | 1 |
| AC Home Runs | 10 AWG (Copper) | 5 (518.8 ft) |
| AC Home Runs | 500 MCM (Copper) | 1 (58.2 ft) |
| Home Runs | 2 AWG (Copper) | 5 (1,134.2 ft) |
| Home Runs | 500 MCM (Copper) | 5 (1,134.2 ft) |
| Combiners | 1 input Combiner | 5 |
| Combiners | 3 input Combiner | 3 |
| Combiners | 4 input Combiner | 2 |
| Strings | 10 AWG (Copper) | 17 (4,505.9 ft) |
| Optimizers | P730 (SolarEdge) | 323 (235.8 kW) |
| Module | Talesun Solar (Zhongli), TP672P-320 (320W) | 631 (201.9 kW) |

| 🔌 Wiring Zones | | | |
|----------------|----------------|-------------|--------------------|
| Description | Combiner Poles | String Size | Stringing Strategy |
| Wiring Zone | 12 | 13-39 | Along Racking |

| 🏠 Field Segments | | | | | | | | | |
|------------------|------------|------------------------|------|----------|------------------|------------|--------|---------|----------|
| Description | Racking | Orientation | Tilt | Azimuth | Intrarow Spacing | Frame Size | Frames | Modules | Power |
| Field Segment 1 | Fixed Tilt | Landscape (Horizontal) | 10° | 189.034° | 1.6 ft | 1x1 | 631 | 631 | 201.9 kW |

Detailed Layout

