

**Blue Sky Utility 2017 III LLC (Passco Hanford Mall)**

**Quarterly Report- Q2 2019**

**04/01/2019 – 07/1/2019**

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# | Executive Summary

In Q2 2019, the portfolio performed -5.33 % below the predicted production for the quarter.

Several issues remain outstanding from the initial installation of the system. Please see the O&M section for a detailed description of the current issues. New issues were also discovered during the annual panel cleaning and maintenance.

April underperformed by -3% in comparison to May, which underperformed by -9%. Weather combined with the installation issues are what seems to be affecting the site performance. June underperformed by -4%. The weather pattern late in the month produced extreme heat which also causes the system to underperform. The irradiance was near what PVsyst reports expected but the heat was significantly higher than anticipated.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **PVSyst** | **Production Meter** | **Production Variance** | **Invoiced** | **Accrued Credits** | **Value Created** | **Projected Revenue** | **Revenue Variance** |
| **Month** | kWh | kWh | kWh | $ | $ | $ | $ | $ |
| **19 - Apr** | 276,308 | 267,977 | -8,331 | $28,388.65 |  | $28,388.65 | $34,143.85 | -$5,755.20 |
| **19 - May** | 305,204 | 278,199 | -27,009 | $34,411.15 |  | $34,411.15 | $37,410.16 | -$2,999.01 |
| **19 - Jun** | 310,648 | 306,886 | -12,765 | $85,281.63 |  | $85,281.63 | $61,058.25 | -$61,058.25 |
| **Total** | **901,160** | **853,062** | **-48,105** | $148,081.43 |  | $148,081.43 | **$132,612.26** | **-23,270.82** |

Summary by Quarter

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **PVSyst** | **Production Meter** | **Production Variance** | **Invoiced\*** | **Accrued Credits\*** | **Value Created\*** | **Projected Revenue** | **Revenue Variance** |
|
| **Quarter** | kWh | kWh | kWh | $ | $ | $ | $ | $ |
| **19 – Q1** | 461,393 | 479,920 | 18,527 | $83,092.92 |  | $83,092.92 | $67,982.84 | $15,110.08 |
| **19– Q2** | 901,160 | 853,062 | -48,105 | $148,081.43 |  | $148,081.43 | $132,612.26 | $-23,270.82 |
| **19 – Q3** |  |  |  |  |  |  |  |  |
| **189– Q4** |  |  |  |  |  |  |  |  |
| **YTD Total** | **1,359,865** | **1,323,664** | **-29,578** | **$231,174.35** |  | **$231,174.35** | **$200,595.10** | **$-8,160.74** |

# | Portfolio Performance

The predicted energy output for the Blue Sky Utility 2017 III, LLC project during Q2 2019 was **901,160 kWh**. The actual energy output for the Blue Sky Utility 2017 III, LLC project during Q2 2019 was **853,062 kWh**.

The performance of the portfolio is evaluated by comparing the produced energy to two quantities: (1) the energy forecasted/modeled during pre-acquisition of each array (PVSyst model), to which the quantities are labeled as “predicted” will be associated, and (2) the energy expected using the same model as the forecast, but applied to the actual irradiance, temperature, and wind speed observed at the site during the reporting period. Quantities associated with the specific energy production are labeled as “actual”.

# | Forecasted vs. Actual Energy

The following graph shows performance (*Actual*-metered energy v. *Predicted*- PVSYST forecast) for Q1 2019.



# | Weather Adjusted Performance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Measured Avg Irradiance** | **Assumed Avg Irradiance** | **Measured Avg Temp** | **Assumed Avg Temp** | **Weather adjusted expected production variance** |
| **Month** | kWh/m^2 | kWh/m^2 | F | F | % Variance |
| **19-Apr** | 191.78 | 196.1 | 69 | 62.4 | -3% |
| **19-May** | 200.17 | 227.8 | 69 | 71.04 | -9% |
| **19-Jun** | 232 | 245.3 | 83 | 78.29 | -4% |

# | Operations & Maintenance

The following table details all operations/maintenance related issues and corrective actions for Q2 2019.

**Issue - Smart Panels**: Smart panels were installed without the proper understanding of how they would affect the overall production of each array.

**Corrective Action**: Sunpreme has been notified of the issues and we are working with them to resolve the issue.

**Issue -Panels / Hot Spots:** Several “hot spots” on the solar panels were located on array 8. Sunpreme has been notified as these should be covered under their warranty.

**Corrective Action:** Survey the entire site with a drone and infrared camera to ensure we clearly identify all hot spot issues so that panels can be replaced under the manufacturer’s warranty.

**Issue -Inverter Stringing:** In some cases, inverter stringing may have been done incorrectly during the installation. We’ve discovered several issues where an inverter has strings that were landed incorrectly.

**Corrective Action:** Open and inspect all inverters at the site to confirm that they have been installed per design specifications.

**Issue - Inverters Exposed to heat:** While investigating inverter performance, we discovered that temperatures exceed 150 degrees Fahrenheit. This could cause underperformance issues but is also stated in the warranty that they should not be exposed to heat conditions in excess 150 degrees Fahrenheit.

**Corrective Action:** Shade covers will be installed over all Sungrow inverters.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Hanford** | **Issue/Date** | **Corrective Action** | **Resolved/Not Resolved** | **kWh Lost** |
|  |  |  |  |  |

# |Availability

The overall availability for this quarter was **100.00%** and there were no outages.

# |Billings & Collections

|  |  |  |
| --- | --- | --- |
| **Month** | **Invoice Amount** | **Collections** |
| **19 – April** | $28,388.65 | $28,388.65 |
| **19 – May** | $34,411.15 | $34,411.15 |
| **19 – June** | $85,281.63 | $85,281.63 |

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# |Financials

Financials are attached below or sent in separate document.