

First Solar – Switch Station Technical Review

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Summary

The Switch Station projects (Switch Station 1 & Switch Station 2, collectively the "Projects") consist of approximately 236 MW_{DC} of photovoltaic (PV) generation near the Moapa River Indian Reservation approximately 40 miles northeast of Las Vegas, NV and within 30 miles of JPM's River Mountains solar project. The Projects cover approximately 1,700 acres of public land administered by the United States Bureau of Land Management (BLM). The Projects were developed and are being brought to commercial operations by First Solar. The general characteristics of each project are outlined in the table below. Both projects use First Solar Series 4 Version 3 (S4v3) modules mounted on First Solar single-axis trackers. The Point of Interconnection (POI) is NV Energy's existing 230 kV Harry Allen substation located less than 1 mile to the southwest of the projects. All of Switch 1's power is to be sold under a 20 year PPA with Nevada Power Company (NPC) and Switch 2's power will be sold under two separate 20 year PPAs with NPC (35%) and Sierra Pacific Power Corporation (65%).

| Project | MW _{DC} ¹ | MW _{AC} ¹ | Location | Module Mfr. | Inverter Mfr. | Mounting System | Expected COD |
|-----------------------------|-------------------------------|-----------------------------------|-------------------------------------|---|---|----------------------------------|--------------|
| Switch Station 1 (Switch 1) | 137.53 | 104.65 (limited to 100 MW at POI) | 40 miles northeast of Las Vegas, NV | First Solar Series 4 (FS4-117A-3 to FS4-120A-3) | GE LV5-1540 (4 MVA each); 27 @ Switch 1 21 @ Switch 2 | First Solar single-axis trackers | 7/2017 |
| Switch Station 2 (Switch 2) | 98.26 | 81.69 (limited to 79 MW at POI) | | | | | 10/2017 |

Note 1: DC capacity is relevant for purposes of the understanding the plant's physical size and for O&M cost benchmarking. AC capacity is relevant for discussion related to inverters and all grid-facing plant aspects (e.g. substation, PPA, interconnection agreement).

Key Concerns (both Projects unless specified otherwise):

- Modules:** First Solar Series 4 Version 3 (S4v3) modules are new to our portfolio and thin film (Cadmium Telluride, CdTe, here) modules are a relatively small portion of the JPM portfolio. We have similar modules (S4v2) and trackers at the sPower 2 transaction's Redwood Cluster (73 MW_{DC}, COD in late 2015). They operate on the same physical principles as the more common crystalline silicon panels but have different components and manufacturing processes. Series 4 modules have higher breakage rates than crystalline silicon due to their frameless design. We do not see the modules as presenting any undue risk to the Projects (See: "Module Technology" in the technical appendix).
- Module QA/QC and testing:** No project-specific module testing or third party factory audits have occurred to date. First Solar (which arguably has a best-in-class internal quality program, a view held by Leidos as well as other industry participants we have spoken to including third party factory inspector CEA) uses an ongoing program to monitor product reliability for known or perceived risks. It includes weekly sampling and ongoing quarterly reliability tests, including short term performance tests and long-term environmental exposure tests across all production lines.
 - To date, Leidos has received 33 weeks' worth of reliability covering 85% of the module production for Switch 1, and has confirmed that such results are acceptable. **We will require the rest of the testing information with respect to Switch 1 and 2 modules prior to funding.**
 - The latest results available from VDE, a reputable third party lab, are from Q1 2016 modules and are indicated to be passing, although little detail was provided. We have reviewed the Leidos analysis and limited third party test reports and consider the available information to be acceptable for Switch 1 modules, **although some clarifications and updates (as results become available) are needed to close this out prior to Substantial Completion funding.**
- Over-generation Curtailment:** Economic curtailment is not allowed under the PPAs and Switch 1 & 2 will be network resources, the highest transmission priority. As is typical, reliability or emergency curtailment is not reimbursed under the PPAs. As a part of its transmission study, Leidos has assessed the risk of over-generation curtailment, where production exceeds load on a regional level and may be invoked and categorized as non reimbursable reliability-driven curtailment. We have accepted Leidos' baseline forecast of 0.4% initially ramping to 1.4% in 2021.

Our review is based on various project documents, all of which are currently draft version, a Leidos Independent Engineer's Report, (319871 Switch Station IER D4 dated 11May2017) and a draft Leidos Transmission Assessment (Draft 3 dated

11May2017). A JPM site visit was also conducted on 18 April 2017 and informs this report. A second site visit is planned closer to mechanical completion of Switch 2.

A table summarizing key review areas and major findings is shown below, with significant issues discussed following the table. Maps, figures and year by year production values for each project follow the discussions. A detailed review is attached as an appendix for additional details and reference.

| | Switch Station 1 | Switch Station 2 |
|---|---|--|
| Solar Resource | | |
| JPM Haircuts: Long-term & 10-yr average | Long term: 1.5%; (recent solar projects have ranged from 0-2.5% long-term). <i>We may increase our haircut if First Solar's performance testing plan is not satisfactory.</i> | |
| Annual Output projection | 288.5 GWh/yr.; (10-yr average after JPM adjustments & curtailment) see Table 1a & 1b for year by year values | 210.1 GWh/yr.; (10-yr average after JPM adjustments & curtailment) see Table 2a & 2b for year by year values |
| JPM Capacity Factor | 32.9% | 30.3% |
| On-site Period of Record (POR) | No onsite measurements; relied on satellite based sources. This is unusual for a project of this size and we have accounted for this in our haircut. See technical discussion below | |
| Long term reference(s) | Satellite-derived irradiance data from Clean Power Research (CPR) | |
| Long term Irradiance (kWh/m²) | 2,079; we applied a 0.5% haircut to this value. See technical discussion below. | |
| Terrain and Ground cover | Undeveloped desert with dry stream beds (aka "washes"); site generally slopes from higher elevations in the west to lower elevations in the east. | |
| Module Degradation | First Solar states 0.5%/year which we did not accept; recommend using 0.75%/year degradation for the JPM booking case as we've done historically. | |
| Inverter Considerations | We believe a lower 1 st year availability of 97.5% is warranted; adopted our standard 98.5% long-term availability starting year 2. (Leidos recommended 99% for years 2+.) | |
| AC Clipping Adjustment | See technical discussion below. | |
| Other considerations | Leidos did brief checks of manufacturer input files (PAN files), no 3 rd party test validation. | |
| Curtailment | Based on Leidos congestion analysis; expectation of 1.4% by 2021. See discussion above. | |
| Uncertainty (10 year) | We did not accept Leidos value of 3.7% as it is well below what we have seen projected by other IEs; used 5.2% to align with accepted values by other IEs for this region. | |
| Buildout | There is the potential for an additional 21 MW of solar capacity to be connected at the project POI. <u>We are working to ensure appropriate build-out protections (mainly with respect to electrical losses) are in place.</u> | |
| Modules | | |
| Models and features | 1,158,600 S4v3 modules (types FS-117 & FS-120); See discussion above. | 822,240 S4v3 modules (types FS-117 & FS-120); See discussion above. |
| JPM Experience | Favorable to date (sPower Redwood cluster have similar), but somewhat limited data available. 0.18% first year breakage/replacement rate at Redwood. | |
| Track record | In production since 2014; S4v2 produced in 2015; current S4v3 technology (with mostly minor process changes vs. S4v2) has been in production since 2016. Total Series 4 volume of 6,256 MW _{DC} through 2016. <u>We are seeking to reconcile these figures vs. sPower 2 experience and to make sure the O&M budget and spare parts are sufficient.</u> | |
| Key considerations | Due to frameless glass-on-glass design, breakage rates (0.08% overall) are higher than for crystalline silicon PV – accounted for in O&M and stress cases. First Solar has extensive deployment in similar hot/dry climates. | |
| Warranties | Standard 10 yr workmanship. Performance: 98% in year 1, then 0.5%/year to year 25 | |
| Module QA/QC and Testing | | |
| Bankability Study | Leidos (standalone report not provided, but good detail provided within IE report) | |
| Qualification Testing of Panel Characteristics | None provided by First Solar, checked by Leidos to match spec sheets; accounted for lack of third party validation in haircut. | |

| | Switch Station 1 | Switch Station 2 |
|---|---|---|
| Accelerated Life Testing of Bill-of-Materials & Mfg. Process | First Solar uses an ongoing program to monitor product reliability for known or perceived risks. See discussion above. | |
| In-Plant Inspection of Process – Sponsor | Several dozen in-process visual, electrical, or mechanical QA/QC steps. Leidos and others in the industry have a favorable view. | |
| In-Plant Inspection of Panels – 3rd party | None. We have accepted First Solar’s own process QA/QC and ongoing reliability test data, as we also did for sPower 2. | |
| Racking/Trackers | | |
| Models and features | First Solar single-axis tracker; rows individually driven similar to NEXTracker NX Horizon. | |
| JPM Experience | Same tracker design at sPower 2’s Redwood cluster, understood to be working acceptably after year 1 teething issues were addressed. | |
| Warranty | <u>Working to confirm the details post First Solar Electric (FSE) warranty</u> | |
| Obsolescence | We have recently learned that First Solar has discontinued producing their tracker. Per Leidos, the tracker design is very simple, i.e. off-the-shelf components, <u>nonetheless we are working to understand First Solar’s product obsolescence strategy and, if needed, will ensure appropriate protections are in place.</u> | |
| Inverters | | |
| Models and features | 48 total GE LV5-1540 (4 MVA) supplied by GE | |
| JPM Experience | NextEra’s Longleaf and Indigo Plains portfolios which amounts to a total of 284 units with a mix of 1 MVA and 4 MVA inverters. See discussion below. | |
| Track record | Deployed since late 2015, GE Power reported an installed base of 4,500 MW _{AC} of PV inverters worldwide with over 3,100 MW _{AC} of those in the US. First Solar projects alone (not including these projects) have 1,217 MW _{AC} of GE inverters (323 units) in the fleet. | |
| Warranties | 5.5 year warranty from delivery | |
| EPC | | |
| Major contractors | First Solar Electric (FSE) full turnkey EPC; <i>Contracts to be executed prior to funding.</i> | |
| Experience | Completed 4,000 MW _{AC} of utility scale projects in North America through the end of 2016. | |
| Electrical | Standard substation with two 230 kV, 110 MVA main transformers (one per project) | |
| Completion Procedures: Mechanical Completion | Generally standard; <i>Seeking further documentation with regards to confirmation of no grid connection and that all necessary tasks have been completed</i> (e.g. torquing, pile heights, electrical terminations, electrical testing, etc.). | |
| Completion Procedures: Substantial Completion | Generally standard; <i>Seeking agreement on capacity test and availability test procedures.</i> | |
| Grid & Power Delivery | | |
| Grid interconnection | NV Energy’s (NVE) existing Harry Allen 230 kV substation. | |
| Offtakes and guarantees | 100% with 20 yr. PPA; no economic curtailment allowed; no other curtailment reimbursement | 100% between two 20 yr. PPAs; no economic curtailment allowed; no other curtailment reimbursement |
| Curtailment | Based on Leidos study and expectations of over-generation curtailment recommend starting at 0.4% in 2017 and ramping to a long-term value of 1.4% in 2021. | |
| O&M | | |
| Plans | First Solar Electric for first 10 years. | |
| Costs | Due to lack of planned module washing and little vegetation abatement needs for this site decreased JPM base by \$0.5/kW-year. Sponsor similar to JPM for yrs 1-5; increased long-term budgets to align with JPM project-adjusted baseline in later years; see Figure 3. | |
| Key considerations and adjustments | FSE’s O&M contract excludes key items, such as module replacement. Inverter & tracker replacement / refurbishment (years 11+) as well as warranty expirations not budgeted in Sponsor model and added to JPM base case. | |
| Environmental / Other | | |

| | Switch Station 1 | Switch Station 2 |
|-----------------------------|--|------------------|
| Phase I | Completed; no RECs identified/expected to impact the project. <i>Leidos comments on the Phase I ESA to be addressed.</i> | |
| Species of concern | See technical discussion below. | |
| Monitoring | 2 years avian monitoring with a potential for a 3 rd year. | |
| Special permits or concerns | Due to the Projects being on BLM land additional studies were required. See technical discussion below. | |
| Site Visit | JPM conducted a site visit for Switch 1 already with favorable findings. A second visit will be held closer to Switch 2's MCC. <i>We have open questions with respect to Leidos' construction monitoring which we expect to be addressed prior to our Substantial Completion fundings.</i> | |

Technical Discussion Items:

- **Leidos as IE:** This is our first time working with Leidos as solar IE. As has been the case previously, opinions and value-added commentary are generally insufficient, although Leidos has been working to add these. *We will make sure opinion is provided in all needed areas prior to funding.*
- **On-site Period of Record (POR):** Leidos relied solely on satellite meteorological sources in the energy estimates. It is typically preferred in the solar industry, especially for large projects like Switch 1 & 2 where EPC budgets easily allow for a ground measurement campaign, to correlate satellite data to ground data to correct for any potential errors or biases in the satellite data. We have accounted for this in our haircut.
- **Long-term reference:** The Projects' footprint spans 4 adjacent satellite weather tiles. Leidos assumed the long-term irradiance from the NW tile, which was 1.1% higher than the NE tile. We have increased our haircut to account for the selection of the most favorable tile without sufficient support.
- **AC Clipping Adjustment:** Due to over-build of Project DC capacity to inverter AC capacity, the Project will experience clipping losses in the early years of operation (primarily due to inverter limits, but there is also a separate clipping loss calculated at the point of interconnection due to AC over-build vs. the PPA limits. These clipping losses will decline over time as system degradation occurs. Leidos has estimated this and we have accepted their results and included them in our base case.
- **Inverters:** GE's large LV5 1540 inverters (4 MW each) are a relatively new product line. We are aware of some teething issues and retrofits to date with the model used at the Projects and have reduced our year 1 availability assumption.
- **Threatened and Endangered Species:** Per Leidos, the project may affect, but is not likely to seriously adversely affect the Yuma clapper rail, Yellow billed cuckoo, and the Southwestern willow flycatcher. A Desert tortoise relocation area is required to be put in place. Additionally, the potential for impacts to these species is further reduced through implementation of conservation measures (e.g. leaving areas left in natural a condition as possible) required by BLM for protection of wildlife and other resources.
- **Environmental Assessment (EA):** An EA was required under the National Environmental Policy Act (NEPA) for projects that include a major federal action, such as the BLM land crossing. A Determination of NEPA Adequacy, by BLM, was issued concluding that the NEPA Documentation fully covers the proposed action and constitutes BLM's compliance with NEPA requirements. A Resource Management Plan was approved October 2012.

Technical Stress Case Summaries

| Description | Base Case | Combined "P95" | Module Failure | Inverter Failure | Curtailement |
|-----------------|---------------|--|--|--|--|
| Flip (Years) | 9.67 | 10.00 | 10.33 | 10.00 | 10.00 |
| Description | Expected Case | JPM P95 equivalent downside, combines lower resource, higher degradation, and higher O&M | Early module failure, warranty not honored | Early inverter failure, warranty not honored | Over-generation curtailement due to solar buildout, per Leidos |
| Production adj. | 100.0% | 91.3% (River Mountains 10-year P95) | Base | Base | 92.2% |
| Availability | 98.5% | 98.0% | 98.5%, with reductions in years 1-5 | 98.5%, with reductions in years 2-10 | Base |

| Description | Base Case | Combined "P95" | Module Failure | Inverter Failure | Curtailement |
|---|---------------------------------------|---|---|--------------------------------------|--------------|
| Degradation | 0.75% | 1.25% | Base | Base | Base |
| O&M Baseline | \$9.5/kW-yr | Base * multiplier | Base | Base | Base |
| Adder Post-warranty (yrs 6+) | \$2/kW-yr | Base * multiplier | Base | n/a | Base |
| Adder post module warranty (yrs 11+) | 0.5/kW-yr | Base * multiplier | n/a | Base | Base |
| O&M pattern | escalation only | Multiplier: 150% yr 1-10 200% yr 11-20+ | Base + module replacement | Base + inverter replacements | Base |
| Inverter replacement cost (\$/W _{AC}) | \$0.08/W _{AC} Yr. 10 - 15 | Base | Base | \$0.08/W _{AC} Yr. 2 - 10 | Base |
| Module replacement cost (\$W _{DC}) | Included | included | \$0.64/W _{DC} 25% replaced Yr. 2-5 | included | included |

Figure 1. Switch Station 1 & 2 Regional Map

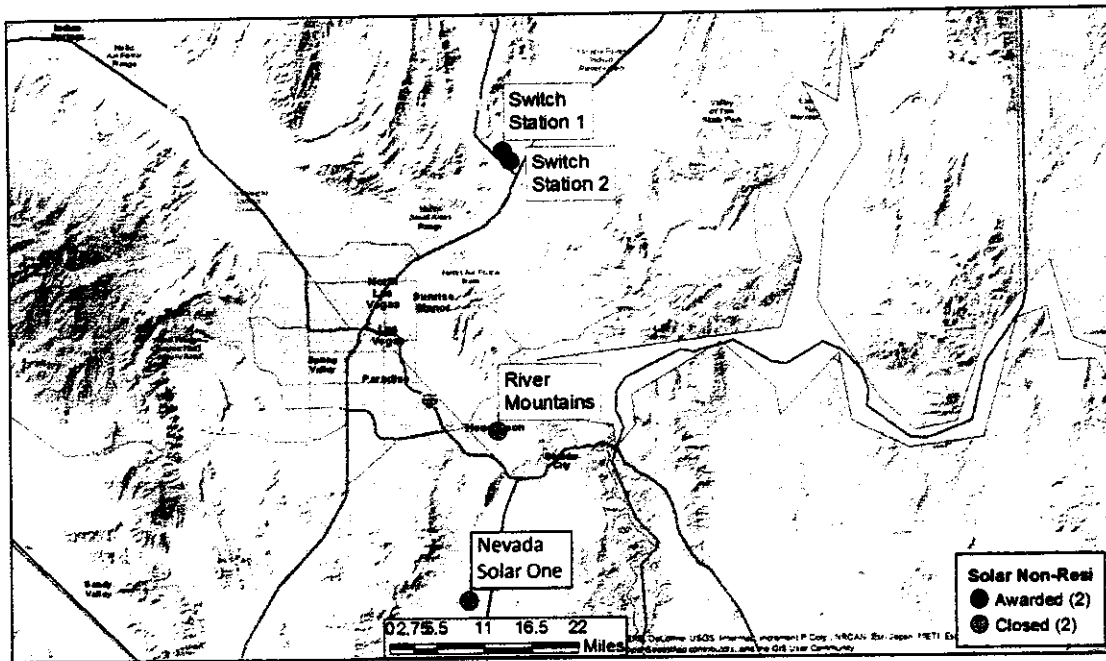


Figure 2. Switch Station 1 & 2 Project Layout

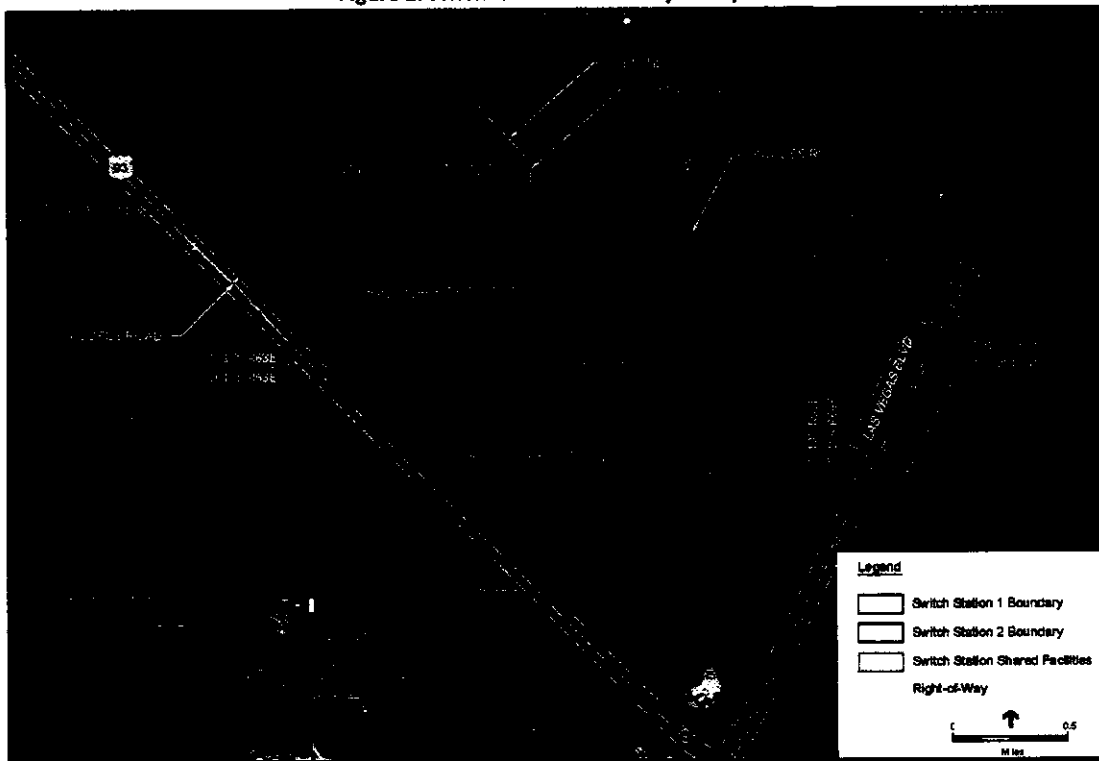
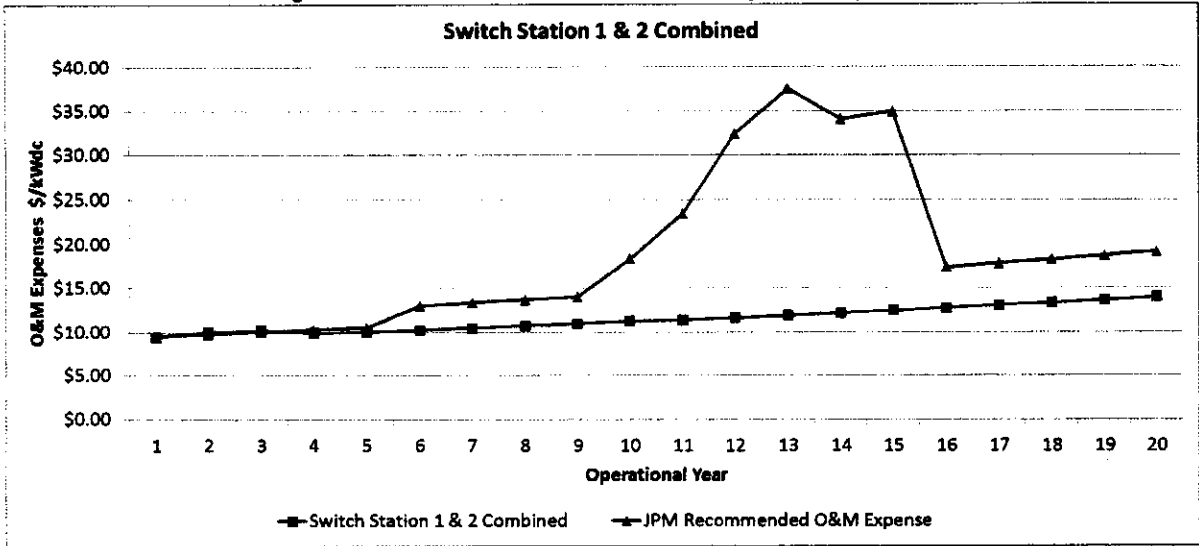


Table 1a and 1b. Switch Station Projects Annual Energy Production and P-Cases

| Switch Station 1 | | | | | Switch Station 2 | | | | | | |
|---|----------------|------------------|--------------|--------------|---|--|----------------|------------------|--------------|--------------|--------------|
| Base Output for JPMC | | | | | Base Output for JPMC | | | | | | |
| Cases with haircut | Year | AC Clipping | P95 | P80 | P50 | Cases with haircut | Year | AC Clipping | P95 | P80 | P50 |
| | 1 | 3.9% | 271.0 | 283.3 | 296.3 | | 1 | 0.4% | 198.9 | 208.0 | 217.5 |
| | 2 | 3.7% | 272.3 | 284.8 | 297.8 | | 2 | 0.3% | 199.6 | 208.7 | 218.3 |
| | 3 | 3.5% | 270.9 | 283.3 | 296.2 | | 3 | 0.3% | 198.2 | 207.3 | 216.8 |
| Degradation: 0.75% | 4 | 3.3% | 269.4 | 281.7 | 294.6 | Degradation: 0.75% | 4 | 0.2% | 196.8 | 205.8 | 215.3 |
| Haircut: 1.5% | 5 | 3.1% | 268.0 | 280.2 | 293.0 | Haircut: 1.5% | 5 | 0.1% | 195.4 | 204.4 | 213.7 |
| Availability YR1: 97.5% | 6 | 2.8% | 266.5 | 278.7 | 291.4 | Availability YR1: 97.5% | 6 | 0.1% | 194.0 | 202.9 | 212.2 |
| Availability YR2+: 98.5% | 7 | 2.6% | 265.0 | 277.1 | 289.8 | Availability YR2+: 98.5% | 7 | 0.1% | 192.6 | 201.4 | 210.6 |
| | 8 | 2.4% | 263.5 | 275.5 | 288.1 | | 8 | 0.0% | 191.1 | 199.8 | 209.0 |
| | 9 | 2.2% | 262.0 | 273.9 | 286.5 | | 9 | 0.0% | 189.6 | 198.3 | 207.3 |
| | 10 | 2.0% | 260.4 | 272.3 | 284.7 | | 10 | 0.0% | 188.1 | 196.7 | 205.7 |
| | Average | | 266.9 | 279.1 | 291.9 | | Average | | 194.4 | 203.3 | 212.6 |
| Switch Station 1 | | | | | Switch Station 2 | | | | | | |
| Output for Recommended JPMC Cases - Including haircut and curtailment | | | | | Output for Recommended JPMC Cases - Including haircut and curtailment | | | | | | |
| Based on Leidos Report | Year | Curtailment Loss | P95 | P80 | P50 | Based on Leidos Report | Year | Curtailment Loss | P95 | P80 | P50 |
| | 1 | 0.4% | 269.9 | 282.2 | 295.1 | | 1 | 0.4% | 198.1 | 207.1 | 216.6 |
| | 2 | 0.5% | 270.9 | 283.2 | 296.2 | | 2 | 0.6% | 198.3 | 207.4 | 216.9 |
| | 3 | 0.9% | 268.5 | 280.8 | 293.7 | | 3 | 1.0% | 196.3 | 205.3 | 214.7 |
| | 4 | 1.2% | 266.2 | 278.4 | 291.1 | | 4 | 1.3% | 194.3 | 203.1 | 212.4 |
| Note curtailment shown is based on Operational year | 5 | 1.4% | 264.2 | 276.3 | 288.9 | Note curtailment shown is based on Operational year | 5 | 1.4% | 192.7 | 201.5 | 210.7 |
| | 6 | 1.4% | 262.8 | 274.8 | 287.4 | | 6 | 1.4% | 191.3 | 200.0 | 209.2 |
| | 7 | 1.4% | 261.3 | 273.2 | 285.7 | | 7 | 1.4% | 189.9 | 198.5 | 207.6 |
| | 8 | 1.4% | 259.8 | 271.7 | 284.1 | | 8 | 1.4% | 188.4 | 197.0 | 206.0 |
| | 9 | 1.4% | 258.3 | 270.1 | 282.4 | | 9 | 1.4% | 187.0 | 195.5 | 204.4 |
| | 10 | 1.4% | 256.7 | 268.5 | 280.8 | | 10 | 1.4% | 185.5 | 194.0 | 202.8 |
| | Average | | 263.9 | 275.9 | 288.5 | | Average | | 192.2 | 200.9 | 210.1 |

Figure 3. Switch Station 1 & 2 Technical O&M expense comparison



Technical Appendix – Switch Station Projects (Detailed Technical Review)

Discussion applies to both Switch Station 1 and 2 (the “Projects”) unless otherwise noted.

Solar Resource Assessment – (by Leidos)

- **Net Project Haircut (excluding curtailment/including availability):** LT: 1.5%;
- **JPM Annual Output Projection (10-yr w/ curtailment and haircut):** Switch 1: 288.5 GWh/yr; Switch 2: 210.1 GWh/yr
- **JPM Capacity Factor (10-yr):** Switch 1: 32.9%; Switch 2: 30.3%
- **Campaign and analysis considerations**
 - **Consultant methods:** The assumptions, factors and methods used by Leidos in the solar resource assessment are reasonable except where noted below. Supplemental estimates were also performed using First Solar’s own “PlantPredict” model, yielding results that were not materially different.
 - **Onsite period of record:** None; while large sites typically have on-site measured data, Leidos relied solely on satellite meteorological sources in the energy estimates. It is typically preferred in the solar industry, especially for large projects like Switch 1 & 2, to correlate satellite data to ground data to correct for any potential errors or biases in the satellite data. We have accounted for this in our haircut.
 - **Long term reference:** SolarAnywhere (Clean Power Research, CPR, data is satellite based) v3.2 (1998-2015)
 - **Long term adjustment:** Leidos assumed the long-term irradiance from the CPR NW tile which was 1.1% higher than the tile next to it, which also included the project. We have increased our haircut by to account for the selection of the most favorable tile without sufficient support.
 - **Plane-of-array (POA) irradiance:** Leidos used an accepted method to derive the POA irradiance—the key “resource” input for solar energy modeling—from the global horizontal irradiance (GHI). The POA irradiance for this site was determined to be significantly higher than the GHI value (142.9% of GHI), with this large boost attributable to the use of a single-axis tracker and the relatively low proportion of diffuse light at this site.
 - **Terrain and ground cover:** Undeveloped desert with dry stream beds (aka “washes”); site generally slopes from higher elevations in the west to lower elevations in the east. The Projects generally slopes from higher elevations in the west to lower elevations in the east.
 - **Solar regime characteristics:** Characterized by Leidos as an arid climate, with hot/dry summers & mild winters.
 - **Performance test plans:** The Projects will be performing an availability test as well as two capacity tests, a standard “short-term” test as well as a test over the entire first year of operation. ***We are still working with First Solar to finalize the EPC passing conditions for the availability and short-term capacity test. If we cannot agree on these we may require alternative testing via a third party, such as Leidos.***
 - **Module degradation:** First Solar states 0.5%/year which we did not accept; recommend using 0.75%/year degradation for the JPM booking case as we’ve done historically.
 - **Inverter considerations:** Based on our experience, and discussion with Leidos, we believe a first year availability lower than long-term expectations is appropriate, we have therefore lowered our availability in the first year by 1% to 97.5%. We note Leidos is looking into applying a factor to their own analysis for this and may further influence our recommendation. Additionally we have adopted our standard 98.5% long-term availability starting year 2; Leidos recommended 99%.
 - **AC Clipping Adjustment:** Due to over-build of DC capacity to inverter AC capacity, the Projects will experience clipping losses in the early years of operation. The full effects of system degradation will not be seen in overall Project energy generation until the Project no longer experiences any clipping losses. Leidos has estimated this and we have accepted their results and included them in our base case.
- **Buildout:** There is the potential for an additional 21 MW of solar capacity to be connected at the project POI. We are working to ensure appropriate build-out protections (mainly with respect electrical losses) are in place, although impacts (if any) are expected to be minor.
- **Curtailment:** A full discussion is later in this report. Based on the results of the Leidos curtailment analysis and the PPA terms we have adopted a long term view of 0.4% initially and ramping to 1.4% in year 5. We will get a bring-down of the report, if determined to be needed by Leidos, prior to funding Switch 2.

- **Uncertainty:** Leidos' forecast 10 yr. uncertainty was 3.7% which we did not accept as it was well below what we have seen projected by other IEs. We have increased the uncertainty to 5.2% to align with what we have seen for projects in similar regimes as forecasted by other IEs.

The net JPM recommended production levels, after adjusting for our haircut, with and without curtailment, are shown in Tables 1a and 1b in the summary section above.

Module Technology

- **Modules:** Mix of First Solar Series 4 Version 3 (S4v3) modules (types FS-117 & FS120); 1,158,600 total at Switch 1 and 822,240 total at Switch 2; First Solar CdTe (Cadmium Telluride) Series 4 thin film modules have been in production since 2014. Series 4 Version 2 (S4v2) was produced in 2015 and the current S4v3 technology (with mostly minor process changes vs. S4v2, including optimization of materials for improved optical properties and performance) has been in production since 2016.
- **Key characteristics:** Thin film modules operate on the same physical principles as the more common crystalline silicon panels, but instead of a series of 60 or 72 silicon wafers soldered together into a module, the thin film semiconductor is coated directly onto the glass in a continuous process (a laser then scribes electrically isolated cells into the module). Thin film was developed as a lower cost alternative to silicon. In recent years the cost of silicon has dropped substantially, so that now the cost differential is much more modest. First Solar's CdTe thin film module efficiencies have improved with time, closing the gap vs. the higher efficiencies achieved by crystalline silicon designs, especially after considering that CdTe has better performance at higher temperatures and better ability to make use of indirect light.
- **Fleet experience:** The First Solar Series 4 series has been manufactured since 2014. Statistics from First Solar indicate total Series 4 volume of 6,256 MW_{DC} through 2016, a first year return rate and cumulative return rates well below 0.025% (250 ppm), but with a breakage rate for Series 4 of 0.08%. These rates are lower than those of previous generations of First Solar's designs but within expectation given the frameless glass-on-glass design, which has higher breakage rates vs. framed crystalline silicon modules.
- **JPM experience:** We have the close cousin modules, S4v2, at JPM and sPower's Redwood Cluster (~100 MW_{AC} COD in late 2015). Based on discussions with sPower and reported performance to date, the First Solar modules and trackers have been performing well in our portfolio. The first year breakage rate was 0.18%, higher than First Solar's fleet statistics. We are following up to ensure that appropriate spares and are arranged for and that the O&M budget is sufficient.
- **Transition to Series 6:** First Solar announced in Nov-2016 that it would transition from S4 modules to a new larger form factor product, Series 6 (S6) modules. As a part of this transition, S4 module production lines will be shutdown and new S6 production lines will be installed and qualified. The transition started in Q4 2016 and is expected to be completed in 2018. First Solar plans to continue S4 production and transition its S4 production lines such that it is able to meet all of its obligations in terms of module deliveries and warranty replacements. First Solar has reported that it will build up a stock of S4 modules for warranty replacement purposes, and that it may also keep one S4 production line available for use in the future. We note that this is the same process used when First Solar transitioned from S2 to S3 and as recently as last year converted production lines over to S2 to replenish that warranty stock; this gives added confidence in First Solar's ability to meet warranty needs. We do not see this as presenting any undue risk to the Projects.
- **Degradation:** First Solar assumes 0.5%/year linear degradation, which Leidos considers reasonable and supportable by the performance of earlier generation modules installed at an NREL test site. Given that system degradation is generally higher than individual module levels, and based on the currently available information and lack of substantiation from First Solar on 0.5%/year, we believe it is appropriate to assume annual degradation of 0.75%/year, as we typically do for other projects, including the sPower 2 Redwood portfolio (First Solar S4v2).
 - We note that modules can become susceptible to a condition known as PID (Potential Induced Degradation) in which their output can degrade under particular sets of voltage and environmental conditions. As the Switch Solar projects use negatively grounded arrays, PID risk is understood to be mitigated.
- **Fleet Issues:** First Solar enjoys a good reputation in the industry but we are aware of two serial failures that were experienced by First Solar panels in the past. The third item below is a general area of concern with Series 4 modules.
 - **Manufacturing tolerance issue (Series 2):** From June 2008 to June 2009 a tolerance stacking issue occurred whereby individual tolerances for the multiple manufacturing process steps were set in a way that allowed the end product to be slightly out of tolerance. About 4% of the panels manufactured during that period were affected. Those panels exhibited higher than normal degradation of 10% to 15% the first year. The affected

panels were removed from service under warranty and replaced. First Solar was able to determine that the panels had stabilized after the initial degradation and redeployed them into commercial service at the derated capacity (with transparency to the new end user). First Solar has indicated that the panels are performing well with no further degradation since redeployment.

- o **Junction box adhesion:** Another issue related to a potential risk of junction box adhesion failure on a well-defined population of modules produced in the first half of 2009 with known serial numbers. The root cause of the issue was failure to apply a recommended adhesive primer coating prior to attaching junction box to module. This was later corrected in the manufacturing process. The risk of harm was very limited, with no known incidents of harm or injury. For ground-mounted systems, First Solar repaired or provided replacements for the affected modules under warranty, whether the modules were exhibiting symptoms or not. For rooftop systems First Solar went beyond their warranty obligation and removed and replaced the affected modules at no cost to owner.
- o **Module breakage:** First Solar's Series 4 modules are frameless glass-on-glass modules and are somewhat more prone to breakage vs. typical crystalline silicon modules. As there are no soldered cell connections (unlike crystalline silicon), CdTe modules may hold up well in temperature cycling and First Solar and Leidos believe these modules will have good durability in this desert location. We have accounted for this in our review of spare parts inventory and O&M costs as well as our stress cases.

Module QA/QC and Testing:

We look for a robust QA/QC program from the module manufacturer and/or sponsor, comparing their proposed efforts against a JPM benchmark approach which includes a suite of studies, tests and inspections (listed below). However in the case of Switch 1 & 2 much of the available quality information came internally via First Solar and was reviewed by Leidos. First Solar arguably has a best-in-class internal quality program, a view held by Leidos as well as other industry participants we have spoken to including third party factory inspector CEA. Based on our review we are comfortable with the quality information which can be provided for Switch 1 & 2, but with a few follow-up requests remaining open as noted below.

- **Bankability Study:** Leidos. A standalone report was not provided, but very good diligence detail was provided within the IE report itself, with details on factory yields, etc. added reflecting resolution of JPM questions on the below topics..
- **In-Plant Inspection of Process – Sponsor:** First Solar has several dozen in-process visual, electrical, and/or mechanical QA/QC steps to promote high reliability modules. These tests range from sample tests to 100% inspection of all modules, depending on the specific operation. A Leidos opinion is pending on this topic and certain portions of the expected reliability data may not yet have been provided by First Solar, but based on broader industry reputation JPM expects it to be acceptable, if not best-in-class, relative to other manufacturers.
- **In-Plant Inspection of Panels – 3rd party:** None. Unlike other large solar transactions, we have not received or required a third party manufacturing audit (e.g. by CEA or SolarBuyer) for First Solar. We believe this is acceptable given that First Solar has one of the most extensive track records in the industry, and has provided internal quality control data to Leidos (discussed further below).
- **Qualification Testing of Panel Characteristics (PAN File test):** No third party validation-PAN file provided by First Solar, checked by Leidos to match spec sheets. We accounted for lack of third party validation in our haircut.
- **Accelerated Life Testing of Bill-of-Materials & Mfg. Process ("HALT test"):** First Solar uses an ongoing program to monitor product reliability for known or perceived risks to module reliability. Modules are randomly selected on a weekly basis from multiple production lines for packaging integrity, interconnects, power performance (i.e., efficiency), and cosmetic issues. First Solar uses a combination of short term performance tests and long-term environmental exposure tests for a weekly sampling of production modules across all of its production lines.
 - o Leidos has received and reviewed reliability and yield data corresponding to 33 weeks of production for Switch 1, during which 85% of the modules were produced (Q2 2016-Q1 2017). **We have requested that Leidos obtain and review the remaining reliability data for Switch 1 and Switch 2.**
 - o A very small sample of modules each quarter is run through extended cycle testing. The latest results available from VDE, a reputable third party lab, are from Q1 2016 modules and are indicated to be passing, although little detail was provided.
 - o We consider the information available to date to be acceptable overall. We will discuss the results with Leidos and First Solar and intend to request updated results as they become available, but this can be a post-close item.

- **Lab Testing of Production Panels – 3rd Party:** None. In light of First Solar’s Ongoing Reliability Testing (ORT) program as described above, which includes weekly sampling across all production lines as well as extended cycle testing on a limited sample of modules on a quarterly basis, JPM is not requiring third party lab testing of modules directly sampled from the Switch 1 & 2 projects’ inventory.

Racking/Trackers Technology

- **Model and key characteristics:** First Solar uses a distributed architecture for its tracking systems, with each table of 60 modules actuated by an individual motor, gearbox, and drive screw system. The tracker relies on wind stow to protect the equipment from damage if local wind measurements reach a certain threshold. In these respects (i.e. distributed architecture, wind stow), First Solar’s tracker is similar to the popular NEXTracker NX Horizon design, although unlike NEXTracker’s recent designs, First Solar’s trackers are not self-powered by a mounted solar panel and battery and instead have a wired connection back to the nearest inverter pad.
- **Obsolescence:** We have recently learned that First Solar has discontinued producing their tracker. Per Leidos, the tracker design is very simple, i.e. off-the-shelf components and nothing proprietary, nonetheless we are working to understand First Solar’s product obsolescence strategy and, if needed, will ensure appropriate protections are in place.
- **JPM experience:** First Solar trackers are also deployed at sPower 2’s Redwood Cluster. Through one year of operation, sPower provided a rough estimate of 99-99.5% tracker availability for Redwood, and indicated that after working through some “teething” issues the performance of these trackers has largely stabilized and has been acceptable.
- **IE Opinion:** Leidos has indicated that the First Solar tracker design has not changed much over the last year or so, thus potentially making JPM’s experience with this tracker at the Redwood Cluster relevant to Switch 1 & 2. Leidos’ IE review indicates that the First Solar trackers have undergone accelerated life testing.
- **JPM View:** Based on Leidos’ review and our discussions with sPower we do not believe the First Solar trackers present any undue risk to the Projects. The largest uncertainties are with respect to longer-term wear-out risk (mainly motors) and maintenance needs. Since existing customers, such as sPower, consider this design to be straightforward and serviceable, we believe that our existing major maintenance guidance should cover potential tracker cost needs over our investment horizon.

Inverter Technology

- **Model background:** Switch 1 & 2 use 48 total GE LV5-1540 (4 MVA) inverters supplied by GE. GE Power reported an installed base of 4,500 MW_{AC} of PV inverters worldwide with over 3,100 MW_{AC} of those in the US. First Solar projects alone (not including these projects) are reported to have 1,217 MW_{AC} of GE inverters (323 units) in the fleet. GE is expecting to ship up 800 MW to 1GW of LV5 inverters to US projects in 2017.
 - GE stopped inverter production at its Pittsburgh plant (which manufactured the 4 MVA inverter model used here) at the end of 2016 and transitioned production to their main power electronics factory in Berlin, Germany. The Pittsburgh plant will now be used for project and supply chain management while centralized spares are located at the facility in Houston, TX.
- **Key characteristics:** The GE inverters are totally enclosed, with IP56 rated housing. An air to liquid cooling system is used, with the cooling path isolated from the electronics so that no dust is drawn into the electronics circuitry and filtering is not required. GE used design-for-reliability processes extensively in developing its inverters and in qualifying components used in them, in particular for higher risk areas including power electronics, controls, and cooling. GE has stated they have designed their inverters for 25 years but this has not yet been empirically supported.
- **JPM experience:** NextEra’s Indigo Plains portfolio has 34 (136 MVA) of the 4 MVA inverters used at Switch 1 & 2. Performance during initial months appears to have been lower than expected due to teething issues; however we have not been able to confirm this with NextEra. We have accounted for this with a lower first year availability.
- **Fleet Issues:** Leidos believes that the types of issues observed with the LV5 inverters are comparable to those of other newly introduced utility-scale inverters. Availability data has been requested from GE and First Solar; recent (i.e. February-April 2017) availability for 6 First Solar projects has been good (99.4%) but prior to that availability may have been lower; **Leidos and JPM are seeking availability data from COD to current.** Per Leidos, GE has a detailed product management process in place to understand the root cause of issues, and address such issues both within its installed base and in its manufacturing and design to prevent future occurrences, which we see as beneficial.
 - Leidos has reviewed the failures associated with the First Solar fleet and state that the majority of issues observed across the projects were related to hardware issues, including the following: failed components, broken or loose parts, missing parts, wiring errors, coolant leaks, component damage, shipping damage,

- incorrect parts, and hardware design. First Solar's QCR program (detailed in the O&M section) allows easy tracking of all issues within their fleet, including inverters.
- **Cooling System:** There is currently an open retrofit for the inverters at Switch 2 with regards to the cooling system. ***We are working to understand this issue further and will ensure proper protections are in place prior to funding, if needed.*** We note that GE has stated the cooling issue is more to help maintain their one year maintenance schedule and has to date not triggered any high temperature-related inverter derates.
 - **Availability expectations:** Leidos has assumed an availability of 99% which is inline with what GE has stated as their expectations. Based on historical issues we have assumed a 98.5% availability, as has been our standard for all inverter types to-date.

Warranties

- **General:** The warranties for the projects are within the range observed in the industry. The major terms of the warranty are summarized below:
- **EPC Contract (First Solar Electric):**
 - **Defect Warranty** commences on the Substantial Completion date and expires 12 months later for all Project Hardware whether provided by EPC contractor, subcontractor or owner. The Defect Warranty period for repaired or replaced items continues for 12 months after the repair or replacement, provided that the entire period is no later than 18 months from Substantial Completion. Note the modules have a separate warranty noted below. **This warranty is less than what we generally see and are working to improve it to 24 months but note that we have accepted similar warranties in past transactions.**
 - **Design Warranty** is 12 months starting at Substantial Completion.
- **Module:** The module warranties are fairly standard.
 - **Performance Warranty:** The S4v3 modules have a 25-year power warranty, with the performance guaranteed at 98 percent of the rated power in the first year of operation, followed by 0.5 percent annual degradation in years 2 through 25. ***Currently the module performance warranty states 0.7%/year while we have been told it is 0.5%/year, we will have this reconciled prior to first funding.***
 - **Workmanship Warranty:** 10 years from substantial completion date of the respective project.
- **Availability:** Under the O&M agreement with First Solar Electric (FSE) there is an availability warranty where LDs are paid for availability below 99% and a bonus (10-15%) is paid when above or equal to 99%. There are various carve-outs which appear to make it easier for FSE to achieve 99% or greater. We believe our budget accounts for the additional bonus payments but the Sponsor/IE budget does not. ***We are working to adjust the provisions of the carve-outs in the O&M agreement and/or to adjust the Sponsor model to accurately reflect the bonus.***
- **Inverter Warranty:** The GE inverters come with a 5.5 year warranty from delivery. JPM's booking model reflects expenses for inverter overhauls in years 10-15, and recommended stress cases also cover early inverter failures.
- **Trackers/Racking:** **TBD—no warranty information provided yet.** The First Solar O&M contract covers corrective maintenance for the trackers over its 10 year term.
- **Main Transformer Warranty:** One main transformer per project is used. **We are confirming the warranty length.**

Engineer, Procure & Construct (EPC) Agreement

EPC contractor

- First Solar provides EPC services through its wholly owned subsidiary First Solar Electric (FSE) and have reported completion of 4,000 MW_{AC} of utility scale projects in North America through the end of 2016. In JPM's experience it is unusual that FSE has been constructing Switch 1 & 2 without an executed EPC contract in place. Despite the lack of a formalized contract structure, JPM and Leidos site visits have both indicated that sufficient oversight and QA/QC measures are in place during construction. ***EPC contracts will be executed prior to funding.***

Piles (i.e. steel posts supporting the racking structures)

- The pile designs for the projects were developed using an industry standard approach. Due to the dense caliche soils pre-drilling 100% of the piles was determined to be the most efficient method for this site (to reduce the likelihood of refusal as they are pounded into place, as occurred for a certain percentage of piles at Switch 1). JPM and Leidos observed construction work at Switch 2 and considered it to be in line with good industry practice. Pile construction for Switch 1 was completed prior to JPM / Leidos engagement on these projects; **again, Leidos is reviewing the QA/QC records.**

Electrical

- **Electrical design:** The electrical design has been completed and reviewed found by Leidos and found to be acceptable.
- **Main Transformer:** Both Projects' main 230 kV transformers are provided by Virginia Transformer and are both rated for 110 MVA. Switch 2's main transformer has excess capacity which could potentially be used by a later expansion phase to use up the remaining 21 MW available under the Project's 200 MW Interconnection Agreement. ***Buildout provisions in the ECCA are currently pending.***
- **Inverter Step-up Transformers:** Each inverter has a padmount transformer supplied by GE Prolec.
- **Metering Protocol:** Individual meters at each project's main transformer. ***Loss allocation to be covered in Shared Facilities Agreement.***
- **Harmonics:** First Solar has not confirmed plans to perform harmonics testing at the onset of project operations even though their 3rd party report required that and filters. ***We are working to confirm all pre-operational requirements have been met and expect to have language, or comparable protections, requiring the project to perform such testing and all associated costs, including any required filters would not be a project expense.***
- **Electrical Losses** have been calculated during the energy analysis via the PVsyst software package, as is typical.

Completion Procedures

- **Mechanical Completion:** Requirements for mechanical completion are generally standard, ***however we are seeking further documentation with regards to confirmation of no grid connection and that all necessary tasks have been completed (e.g. torqueing, pile heights, electrical terminations, electrical testing, etc.).***
- **Substantial Completion:** Requirements for Substantial Completion are generally standard, however First Solar's ***availability test and capacity test requirements seem relatively easy to meet and we are discussing revising the requirements with First Solar and Leidos.***

SCADA

- The project will use a SCADA system in use is one which as been used by First Solar at their other projects. It has the ability to interact with the inverters as well as monitor other typical points such as the meteorological stations, transformers and interconnection disconnect switches. ***We are still working to confirm the ability of the SCADA system to perform required curtailments or how curtailments will be handled.*** Generally we don't see the SCADA system as presenting any undue risk to the project assuming curtailments are properly handled.

Interconnection

- **The project is located** in NV Energy's (NVE) service territory and connects onto lines controlled by NVE.
- **The Point of Interconnection (POI), Point of Delivery for the PPA and metering location will be at NV Energy's Harry Allen 230 kV substation.**
- **Project Transmission line:** An approximately 1-mile project constructed and owned 230 kV tie line to the POI.
- **Shared Facilities Agreement (SFA):** The Projects have entered into a SFA for: (1) the 230 kV bus and associated ancillary equipment in the Project Substation; (2) the Project Transmission Facilities including the 230 kV transmission line to the NVE Harry Allen Substation; and (3) the O&M building, and associated lands and easements that accommodate those facilities.
- **Grid Support capability:** The interconnect agreement requires power factor support and the current design requires the project shared substation have 2 x 22 MVAR capacitor banks. Leidos does not believe this presents any undue risk to the Projects.
- **IE opinion:** It is Leidos' opinion that the Generator Interconnection Agreement (GIA) is standard in nature and comparable to other GIAs, and the project design will meet the requirements.

Power Purchase Agreement(s)

The key provisions of the three Power Purchase Agreements are the same and discussed together below.

- **Nevada Power Company (NPC):**
 - Switch Station 1: 100% of power generated
 - Switch Station 2: 35% of power generated
 - 20 year PPA with an energy price starting at \$38.70/MWh and escalating annually at 3%.
- **Sierra Pacific Power Corporation (SPPC):**
 - Switch Station 2: 65% of power generated
 - 20 year PPA with an energy price starting at \$38.70/MWh and escalating annually at 3%.

- **Guaranteed Output:** The Projects are exposed to LDs if production falls below 90% of the adjusted annual supply for any two consecutive years (based on summer (June – September) and non-summer months); this amount varies annually as the PPAs account for annual degradation of 0.5%/year. The shortfalls are just above the 1-year JPM P90. An event of default is NOT triggered at any point with respect to the guaranteed output; there are only liquidated damage provisions. We not believe the PPAs present any undue risk to the Projects.
- **Liquidated Damages** are not capped; during summer months it is the shortfall amount times the greater of 10% of the contract price and an amount equal to Average On-Peak Mead Index for the Summer Months minus the contract price. For non-summer months the calculation is the same except for the removal of the option to select the 10% of contract price if it is greater.
- **Curtailement, transmission and other provisions:** The Off-Takers are not allowed to curtail the Project for the purpose of receiving economic savings. The Off-Takers are not obligated to compensate the Owners for any energy that is not delivered due to emergency or reliability curtailment. Any curtailed potential net energy will be calculated, documented, and included in the total available for guaranteed performance of the respective Project as used to track potential shortfall. Emergency outages resulting in failure to deliver the potential output of the Facility do not apply to this guaranteed performance calculation.
- **Summary:** Overall the PPAs do not present undue technical risks.

Curtailement

- **Consultant Studies and Conclusions:** Leidos conducted a transmission and congestion study which we have accepted. The baseline results indicated modest levels of curtailement starting at 0.4% in 2017 and ramping to 1.4% in 2021. The bulk of the curtailement is over-generation curtailement, described further below. Leidos' downside analysis for 2021, assuming approximately an additional 1,050 MW of Nevada solar build-out, resulted in a large increase in curtailement (7.8%). We have treated the downside as a stress case. We will get a bring-down of the report, if determined to be needed by Leidos, prior to funding Switch 2.
- **Over-generation Curtailement** occurs when there is more generation than demand and in turn non-dispatchable renewable energy is considered marginal and are subject to curtailement. Leidos has indicated such curtailement would be emergency or reliability curtailment (as opposed to economic curtailment, which is not allowed under the PPAs) even though the curtailement signal could be sent via negative LMPs. Another indicator of over-generation conditions is when there is little to no basis differential between node and hub and prices are negative, i.e. all price points move down together.
- **Congestion charges:** Since the delivery occurs at the interconnection point, and transmission is the offtakers responsibility, no congestion charges are expected with respect to the PPAs.
- **Regional considerations and overall recommendation:** Given the push for additional renewable energy, being heavily driven by state renewable portfolio standards (RPS), we believe that curtailement of solar facilities will occur. We have already started to see the impacts of over-generation curtailement on some of our California assets given the strong hydro generation this year in California. Based on this we recommend accepting the Leidos results and starting curtailement at 0.4% and ramping 1.4%, by 2021 and maintain that for the long-term. If the Leidos bring-down shows different results, we will update our view as needed.

Operation & Maintenance

- **JPM O&M cost forecast comparison approach:** The JPM baseline O&M forecast serves as our primary basis for comparison of sponsor proposed budgets. It is based on discussion with industry O&M providers, full-wrap contracts, industry research and experience with our own portfolio and is the level of O&M budgeting we believe is required to properly operate and maintain a utility-scale solar facility. It is on a dollars-per-kilowatt (DC) per year expenditure basis. The JPM adjusted base for the project is then compared to the Sponsor's pro-forma O&M budget.
- **O&M Provider plans:** O&M for the first 10 years will be provided by First Solar Electric (FSE). The main expected maintenance activities for the Projects are periodic inspections, preventative maintenance, and corrective maintenance as needed. First Solar does not expect to do module cleaning at this site; the O&M team has confirmed that it monitors other nearby First Solar projects for soiling-related performance loss and that such losses have not justified washing to date. ***We are still awaiting the plans for maintenance of the transmission line and substation as these are carved out of the FSE contract.***

- First Solar's spare module guidance (years 1-10 of 0.045%/yr and 0.012%/yr thereafter) is below the breakage rate they have reported (0.08%) and what we have seen in our portfolio (0.18% at sPower 2, all replaced under warranty). First Solar's spare parts list has just 150 spare modules, which does not reflect the expected breakage; ***we are working to determine if additional spares are needed early on to account for breakage likely caused by installation.***
- **Project specific considerations and adjustments:** Given that First Solar does not plan on washing the modules and vegetation abatement costs for this project are expected to be minimal, JPM has lowered its first 10 year baseline guidance by \$0.5/kW-year. Sponsor budget does not account for later year cost impacts, including expiration of the inverter and module warranties and eventual refurbishment or replacement of inverter or trackers.
- **The JPM O&M budget recommendation:** JPM and Leidos both view First Solar's long-term budget as aggressive. Based on economies of scale with these large projects, JPM expects that a budget of \$9.5/kW/year+ escalation during the inverter warranty period, \$11.5/kW/year+escalation for years 6-10, and \$12/kW/year thereafter (to account for module breakage/ replacement). JPM has also included its baseline guidance for major maintenance in years 10-15 (e.g. for inverter and tracker overhauls), consistent with budgeting on prior solar deals and also broadly consistent with Leidos' guidance.

Environmental Considerations

The primary environmental review was led by the deal team and counsel. Some observations are noted below.

- **Phase I ESA:** Environmental Science completed Phase 1 Environmental Site Assessments in February 2017 with no RECs identified at the project. Leidos has raised concerns with respect to the methods and completeness of the ESA, and we expect that it will be updated to address such concerns.
- **Environmental Assessment (EA):** An EA was required under the National Environmental Policy Act (NEPA) for projects that include a major federal action, such as the BLM land crossing. A Determination of NEPA Adequacy, by BLM, was issued concluding that the NEPA Documentation fully covers the proposed action and constitutes BLM's compliance with NEPA requirements. A Resource Management Plan was approved October 2012.
- **Threatened and Endangered Species:** Per Leidos, the project may affect, but is not likely to seriously adversely affect the Yuma clapper rail, Yellow billed cuckoo, and the Southwestern willow flycatcher. A Desert tortoise relocation area is required to be put in place. Additionally, the potential for impacts to these species is further reduced through implementation of conservation measures (e.g. leaving areas left in natural a condition as possible) required by BLM for protection of wildlife and other resources.
- **Bird and Bat Conservation Strategy (BBCS):** Both projects have comprehensive BBCS' with systematic monitoring and adaptive management plans to assist in avoiding, minimizing, and detecting impacts to migratory birds.
- **Avian Surveys and planned monitoring (2 yr.)** will be implemented for at least two years, with the potential for a third year contingent upon the findings from the first years. The pro forma includes funding for this monitoring over years 1-3 ("mitigation costs").
- There are no **landowner or neighbor issues** of note. A large amount of water has been needed to manage dust on site roads during construction. Leidos has indicated that there are no long-term needs for dust mitigation.

Site Visit Summary

Ryan Zwilling and Paul Legac visited Switch Stations 1 & 2 on April 18, 2017. Construction progress was observed to be consistent with First Solar's representations, with Switch 1 expected to be ready to begin commissioning their first block upon 1st funding by JPM. Leidos has made a total of three site visits to date in Q2 2017. While it is unusual in JPM experience for construction to take place without an executed EPC contract in place, First Solar has internal processes in place which are resulting in acceptable project quality and JPM and Leidos have not raised any significant concerns to date. We will visit the Projects again around the time of Switch 2 Mechanical Completion. ***We do have open questions with respect to Leidos' construction monitoring which we expect to be addressed prior to our substantial completion fundings.***

APPENDIX A - Econ Summary (page 1 of 2)

Switch Station Solar Project 234 MW (DC)
ITC MPAS: 89% / 1% Structure

| | 1 | | 2 | | 3 | | 4 | |
|--|--|--|---------------------------|--|------------------------------------|--|---|--|
| | JPMCC P50 Banking Model (No Accelerated Amortization) | | JPMCC P95 Scurer Downside | | P50 Funding Model (Sizing Case) | | JPMCC P50 Unadjusted (No Accelerated Amortization) | |

Inputs & Assumptions

| | P50 96.68% / 94.20% | | P95 85.96% / 78.79% | | P50 100.0% / 100.0% | | P50 96.68% / 94.20% | |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| 1 Scenario % of IE P50 (Yr. 1-10 and Yr 11-20) | P50 | 96.68% / 94.20% | P95 | 85.96% / 78.79% | P50 | 100.0% / 100.0% | P50 | 96.68% / 94.20% |
| 2 Avg. NCF(AC), 1st yr / 10yrs average | 12.90% | 28.81% | 11.80% | 25.65% | 13.30% | 29.79% | 12.90% | 28.81% |
| 3 Avg. NCF(DC), 1st yr / 10yrs average | 10.28% | 22.92% | 9.38% | 20.40% | 10.58% | 23.69% | 10.28% | 22.92% |
| 4 Nameplate MWs | 234.3 MW(dc) | 186.3 MW(ac) | 234.3 MW(dc) | 186.3 MW(ac) | 234.3 MW(dc) | 186.3 MW(ac) | 234.3 MW(dc) | 186.3 MW(ac) |
| 5 Prod. Wgt Energy Price (yrs. 1 - 10 / yrs. 11 - 20) | \$44.14 | \$59.27 | \$43.91 | \$58.45 | \$44.16 | \$59.32 | \$44.14 | \$59.27 |
| 6 | | | | | | | | |
| 7 ECCA Date | 6/2/2017 | | 6/2/2017 | | 6/2/2017 | | 6/2/2017 | |
| 8 1st Funding Date / 2nd Funding Date | 06/02/17 (\$21.4M) | 06/30/17 (\$85.6M) | 06/02/17 (\$21.4M) | 06/30/17 (\$85.6M) | 06/02/17 (\$21.4M) | 06/30/17 (\$85.6M) | 06/02/17 (\$21.4M) | 06/30/17 (\$85.6M) |
| 9 3rd Funding Date / 4th Funding Date | 06/30/17 (\$15.1M) | 09/30/17 (\$60.3M) | 06/30/17 (\$15.1M) | 09/30/17 (\$60.3M) | 06/30/17 (\$15.1M) | 09/30/17 (\$60.3M) | 06/30/17 (\$15.1M) | 09/30/17 (\$60.3M) |
| 10 | | | | | | | | |
| 11 Portfolio 30-Year Unlevered IRR | 3.50% | | -0.33% | | 5.89% | | 3.50% | |
| 12 Total Portfolio FMV(DC) | \$447,736,879 | \$1.91MM / MW | \$447,736,879 | \$1.91MM / MW | \$447,736,879 | \$1.91MM / MW | \$447,736,879 | \$1.91MM / MW |
| 13 | | | | | | | | |
| 14 ITC Eligible Cost Basis / % of Total Portfolio FMV | \$419,468,622 | 93.89% | \$419,468,622 | 93.69% | \$419,468,622 | 93.89% | \$419,468,622 | 93.69% |
| 15 ITC Amount | \$125,840,587 | | \$125,840,587 | | \$125,840,587 | | \$125,840,587 | |
| 16 | | | | | | | | |
| 17 Capital Structure | | % of Portfolio FMV | | % of Portfolio FMV | | % of Portfolio FMV | | % of Portfolio FMV |
| 18 Investor Equity | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% |
| 19 JPMCC Equity | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% |
| 20 | | | | | | | | |
| 21 Sponsor Equity | \$265,328,874 | 59.3% | \$265,328,874 | 59.3% | \$265,328,874 | 59.3% | \$265,328,874 | 59.3% |
| 22 | | | | | | | | |
| 23 Investor Cash Distributions & Tax Allocations | | | | | | | | |
| 24 Initial Funding Thru 9/30/2017 | Cash 0.00% | Tax 99.00% | Cash 0.00% | Tax 99.00% | Cash 0.00% | Tax 99.00% | Cash 0.00% | Tax 99.00% |
| 25 10/31/2017 Thru 12/31/2017 | 30.00% | 99.00% | 30.00% | 99.00% | 30.00% | 99.00% | 30.00% | 99.00% |
| 26 1/1/2018 Thru 12/31/2022 | 30.06% | 67.00% | 37.79% | 67.00% | 30.00% | 67.00% | 30.06% | 67.00% |
| 27 1/1/2023 Thru Target Flip | 30.50% | 99.00% | 42.35% | 99.00% | 30.00% | 99.00% | 30.50% | 99.00% |
| 28 Targeted Flip thru Flip | 31.08% | 99.00% | 42.98% | 99.00% | NA | NA | 31.08% | 99.00% |
| 29 Post-Flip Thru Year 20' | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% |
| 30 Post Year 20 | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% |
| 31 | | | | | | | | |
| 32 Priority % on Sponsor P50 Portfolio Cash | 27.52% | | 27.52% | | N/A | | 27.52% | |
| 33 | | | | | | | | |
| 34 Flip Dates | | | | | | | | |
| 35 Flip Date | 01/31/27 | 9.67 yrs | 05/31/27 | 10.00 yrs | 05/31/26 | 9.00 yrs | 01/31/27 | 9.67 yrs |
| 36 Targeted Flip Date | 05/31/26 | 9.00 yrs | 05/31/26 | 9.00 yrs | 05/31/26 | 9.00 yrs | 05/31/26 | 9.00 yrs |
| 37 | | | | | | | | |
| 38 Investor Returns | | Generic / JPMCC | | Generic / JPMCC | | Generic / JPMCC | | Generic / JPMCC |
| 39 Realized Flip Date After-Tax IRR | 7.65% / 8.93% | | 7.65% / 9.02% | | 7.65% / 9.12% | | 7.65% / 8.93% | |
| 40 20 Yr. All-in After-Tax IRR | 9.84% / 10.87% | | 8.83% / 9.94% | | 10.57% / 11.57% | | 9.84% / 10.87% | |
| 41 | | | | | | | | |
| 42 All-in 20 Yr. Pre-Tax & ITC IRR | 0.95% | | -0.90% | | 1.86% | | 0.95% | |
| 43 All-in 25 Yr. Pre-Tax & ITC IRR | 1.54% | | (0.47%) | | 2.83% | | 1.54% | |
| 44 | | | | | | | | |
| 45 Sponsor Returns | | | | | | | | |
| 46 30 Yr. After-Tax IRR | 2.40% | | (1.30%) | | 4.56% | | 2.40% | |
| 47 30 Yr. After-Tax Cash NPV (8% Discount Rate) | (120,764) | | (175,413) | | (86,855) | | (120,764) | |
| 48 | | | | | | | | |
| 49 HLBV Accounting | | Flip Date 20.0 Yrs. | | Flip Date 20.0 Yrs. | | Flip Date 20.0 Yrs. | | Flip Date 20.0 Yrs. |
| 50 HLBV Rate | 7.65% | | 7.65% | | 7.65% | | 7.65% | |
| 51 PVO Discount Rate Pre / Post ITC Period | 9.84% | 8.32% | 9.84% | 8.32% | 9.84% | 8.32% | 9.84% | 8.32% |
| 52 Match Funded COF | 2.43% | | 2.43% | | 2.43% | | 2.43% | |
| 53 Basel III ROE | 21.16% | 30.16% | 17.12% | 27.05% | 27.36% | 28.27% | 25.24% | 26.95% |
| 54 Basel III ROA | 2.19% | 3.12% | 1.77% | 2.80% | 2.83% | 3.03% | 2.61% | 2.79% |
| 55 SVA (\$'000) | \$6,797 | \$13,495 | \$4,055 | \$10,102 | \$11,144 | \$14,690 | \$9,866 | \$12,241 |
| 56 2017 Annual SVA (\$'000) | \$7,875 | | \$6,167 | | \$8,896 | | \$7,675 | |
| 57 2018 Annual SVA (\$'000) | (\$1,391) | | (\$1,846) | | (\$1,148) | | (\$1,391) | |
| 58 Flip Term Avg SVA (% of Avg RWA) | 1.14% | | 0.72% | | 1.78% | | 1.56% | |
| 59 | | | | | | | | |
| 60 (\$'000) | Spread Inc. | Asset Bal. | Spread Inc. | Asset Bal. | Spread Inc. | Asset Bal. | Spread Inc. | Asset Bal. |
| 61 2017 | 14,366 | 147,842 | 11,844 | 145,673 | 16,311 | 149,857 | 14,366 | 147,842 |
| 62 2018 | 1,289 | 120,896 | 499 | 117,760 | 1,730 | 122,873 | 1,289 | 120,896 |
| 63 2019 | 1,808 | 93,554 | 1,698 | 90,645 | 2,354 | 96,117 | 2,226 | 93,875 |
| 64 2020 | 1,610 | 66,104 | 1,364 | 63,056 | 2,387 | 69,241 | 2,235 | 67,161 |
| 65 2021 | 1,313 | 38,178 | 1,037 | 34,941 | 2,249 | 42,025 | 2,101 | 40,046 |
| 66 2022 | 1,040 | 21,852 | 735 | 18,361 | 2,053 | 26,454 | 1,910 | 24,626 |
| 67 2023 | 1,029 | 18,299 | 673 | 14,427 | 1,926 | 23,466 | 1,791 | 21,884 |
| 68 2024 | 964 | 14,479 | 552 | 10,156 | 1,736 | 20,072 | 1,618 | 18,778 |
| 69 2025 | 863 | 10,348 | 387 | 5,496 | 1,506 | 16,218 | 1,406 | 15,261 |
| 70 2026 | 738 | 5,873 | 199 | 451 | 1,142 | 14,499 | 1,173 | 11,300 |
| 71 2027 | 505 | 4,828 | 1,810 | 0 | 1,027 | 13,846 | 802 | 10,637 |
| 72 Total Thru Yr. 2027 | 25,525 | | 20,900 | | 34,420 | | 30,918 | |
| 73 Total Thru Flip | 25,061 | | 19,840 | | 32,722 | | 30,182 | |
| 74 Total Thru Flip as % of JPMCC Equity | 13.74% | | 10.88% | | 17.94% | | 16.55% | |
| 75 | | | | | | | | |
| 76 DROs & Excess Distributions | | | | | | | | |
| 77 JPM Max. DRO / % of JPM Equity | \$90,544,621 | 49.64% | \$100,554,247 | 56.13% | \$88,092,592 | 48.29% | \$90,544,621 | 49.64% |
| 78 Year of JPM Max DRO / Year of DRO Reversal | 2022 | 2031 | 2022 | 2037 | 2029 | 2022 | 2031 | 2031 |
| 79 JPM DRO at Year 10 / % of JPM Equity | \$38,313,683 | 21.00% | \$73,333,000 | 40.20% | \$24,446,216 | 13.40% | \$38,313,683 | 21.00% |
| 80 | | | | | | | | |
| 81 ITC | | | | | | | | |
| 82 Total Portfolio ITC | \$125,840,587 | | \$125,840,587 | | \$125,840,587 | | \$125,840,587 | |
| 83 Actual Investor ITC / % of total | \$124,582,181 | 99.00% | \$124,582,181 | 99.00% | \$124,582,181 | 99.00% | \$124,582,181 | 99.00% |

Post flip percentage through year 20 is set to target a 1.86% 20-year PT Cash & ITC IRR in the P50 Funding Model

APPENDIX A - Econ Summary (page 2 of 2)

Switch Station Solar Project 234 MW (DC)
ITC MPAPS: 99% / 1% Structure

| 1 | 2 | 3 | 4 |
|--|--|--|--|
| JPMCC P50 Booking Model - 20% TAX RATE in 2018 | JPMCC P95 Severe Downside - 20% TAX RATE in 2018 | JPMCC P50 Booking Model - 15% TAX RATE in 2018 | JPMCC P95 Severe Downside - 15% TAX RATE in 2018 |

Inputs & Assumptions

| | P50 | P95 | P50 | P95 | P50 | P95 | P50 | P95 |
|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Scenario / % of IIE P50 (Yr. 1-10 and Yr 11-20) | 96.68% / 94.20% | 85.96% / 78.79% | 96.68% / 94.20% | 85.96% / 78.79% | 96.68% / 94.20% | 85.96% / 78.79% | 96.68% / 94.20% | 85.96% / 78.79% |
| Avg. NCF(AC), 1st yr / 10yrs average | 12.90% | 11.80% | 12.90% | 11.80% | 12.90% | 11.80% | 12.90% | 11.80% |
| Avg. NCF(DC), 1st yr / 10yrs average | 10.26% | 22.92% | 10.26% | 22.92% | 10.26% | 22.92% | 10.26% | 22.92% |
| Nameplate MWs | 234.3 MW(dc) | 186.3 MW(ac) | 234.3 MW(dc) | 186.3 MW(ac) | 234.3 MW(dc) | 186.3 MW(ac) | 234.3 MW(dc) | 186.3 MW(ac) |
| Prod. Wgt Energy Price (yrs. 1- 10 / yrs. 11 - 20) | \$44.14 | \$59.27 | \$43.91 | \$58.45 | \$44.14 | \$59.27 | \$43.91 | \$58.45 |
| ECCA Date | 6/2/2017 | 6/2/2017 | 6/2/2017 | 6/2/2017 | 6/2/2017 | 6/2/2017 | 6/2/2017 | 6/2/2017 |
| 1st Funding Date / 2nd Funding Date | 06/02/17 (\$21.4M) | 06/30/17 (\$85.6M) | 06/02/17 (\$21.4M) | 06/30/17 (\$85.6M) | 06/02/17 (\$21.4M) | 06/30/17 (\$85.6M) | 06/02/17 (\$21.4M) | 06/30/17 (\$85.6M) |
| 3rd Funding Date / 4th Funding Date | 06/30/17 (\$15.1M) | 09/30/17 (\$60.3M) | 06/30/17 (\$15.1M) | 09/30/17 (\$60.3M) | 06/30/17 (\$15.1M) | 09/30/17 (\$60.3M) | 06/30/17 (\$15.1M) | 09/30/17 (\$60.3M) |
| Portfolio 30-Year Unlevered IRR | 3.44% | -0.60% | 3.43% | -0.68% | 3.43% | -0.68% | 3.43% | -0.68% |
| Total Portfolio FMV(DC) | \$447,736,879 | \$1.91MM / MW | \$447,736,879 | \$1.91MM / MW | \$447,736,879 | \$1.91MM / MW | \$447,736,879 | \$1.91MM / MW |
| ITC Eligible Cost Basis / % of Total Portfolio FMV | \$419,468,622 | 93.69% | \$419,468,622 | 93.69% | \$419,468,622 | 93.69% | \$419,468,622 | 93.69% |
| ITC Amount | \$125,840,587 | | \$125,840,587 | | \$125,840,587 | | \$125,840,587 | |
| Capital Structure | | | | | | | | |
| Investor Equity | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% |
| JPMCC Equity | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% | \$182,408,005 | 40.7% |
| Sponsor Equity | \$265,328,874 | 59.3% | \$265,328,874 | 59.3% | \$265,328,874 | 59.3% | \$265,328,874 | 59.3% |
| Investor Cash Distributions & Tax Allocations | | | | | | | | |
| Initial Funding Thru 9/30/2017 | 0.00% | 99.00% | 0.00% | 99.00% | 0.00% | 99.00% | 0.00% | 99.00% |
| 10/31/2017 Thru 12/31/2017 | 30.00% | 99.00% | 30.00% | 99.00% | 30.00% | 99.00% | 30.00% | 99.00% |
| 1/1/2018 Thru 12/31/2022 | 38.63% | 67.00% | 50.07% | 67.00% | 41.16% | 67.00% | 53.28% | 67.00% |
| 1/1/2023 Thru Target Flip | 40.26% | 99.00% | 56.11% | 99.00% | 42.84% | 99.00% | 59.70% | 99.00% |
| Targeted Flip thru Flip | 40.77% | 99.00% | 59.72% | 99.00% | 43.52% | 99.00% | 63.55% | 99.00% |
| Post-Flip Thru Year 20' | 10.03% | 10.03% | 10.03% | 10.03% | 9.79% | 9.79% | 9.79% | 9.79% |
| Post Year 20 | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% | 5.00% |
| Priority % on Sponsor P50 Portfolio Cash | 36.47% | | 36.47% | | 38.80% | | 38.80% | |
| Flip Dates | | | | | | | | |
| Flip Date | 05/31/27 | 10.00 yrs | 05/31/27 | 10.00 yrs | 05/31/27 | 10.00 yrs | 05/31/27 | 10.00 yrs |
| Targeted Flip Date | 05/31/26 | 9.00 yrs | 05/31/26 | 9.00 yrs | 05/31/26 | 9.00 yrs | 05/31/26 | 9.00 yrs |
| Investor Returns | | | | | | | | |
| Realized Flip Date After-Tax IRR | 7.65% / 8.76% | | 7.65% / 8.79% | | 7.65% / 8.70% | | 7.65% / 8.72% | |
| 20 Yr. All-in After-Tax IRR | 9.80% / 10.59% | | 8.91% / 9.77% | | 9.76% / 10.50% | | 8.90% / 9.70% | |
| All-in 20 Yr. Pre-Tax & ITC IRR | 3.73% | | 2.28% | | 4.34% | | 3.00% | |
| All-in 25 Yr. Pre-Tax & ITC IRR | 4.10% | | 2.52% | | 4.68% | | 3.21% | |
| Sponsor Returns | | | | | | | | |
| 30 Yr. After-Tax IRR | 2.49% | | (1.66%) | | 2.53% | | 0.00% | |
| 30 Yr. After-Tax Cash NPV (8% Discount Rate) | (\$125,085) | | (\$184,073) | | (\$125,988) | | (\$186,189) | |
| HLBV Accounting | | | | | | | | |
| HLBV Rate | 7.65% | | 7.65% | | 7.65% | | 7.65% | |
| FVO Discount Rate Pre / Post ITC Period | 8.32% | | 8.32% | | 8.32% | | 8.32% | |
| Match Funded COF | 2.43% | | 2.43% | | 2.43% | | 2.43% | |
| Basel III ROE | 24.08% | 33.85% | 19.41% | 30.74% | 24.69% | 35.33% | 20.00% | 31.60% |
| Basel III ROA | 2.48% | 3.50% | 2.01% | 3.18% | 2.55% | 3.65% | 2.07% | 3.27% |
| SVA (\$'000) | \$9,572 | \$17,717 | \$5,958 | \$13,603 | \$10,200 | \$18,945 | \$6,479 | \$14,482 |
| 2017 Annual SVA (\$'000) | \$7,662 | | \$5,951 | | \$7,641 | | \$5,858 | |
| 2018 Annual SVA (\$'000) | (\$279) | | (\$842) | | \$95 | | (\$479) | |
| Flip Term Avg SVA (% of Avg RWA) | 1.44% | | 0.96% | | 1.50% | | 1.02% | |
| Spread Inc. Asset Bal. | | | | | | | | |
| 2017 | \$14,345 | \$147,920 | \$11,597 | \$145,324 | \$14,312 | \$147,887 | \$11,447 | \$145,173 |
| 2018 | 2,747 | 131,191 | 1,958 | 128,226 | 3,116 | 133,850 | 2,359 | 130,901 |
| 2019 | 2,275 | 103,577 | 2,119 | 100,414 | 2,354 | 106,021 | 2,187 | 102,887 |
| 2020 | 1,993 | 75,501 | 1,746 | 72,034 | 2,045 | 77,705 | 1,803 | 74,277 |
| 2021 | 1,680 | 46,827 | 1,373 | 43,005 | 1,700 | 48,764 | 1,419 | 44,984 |
| 2022 | 1,339 | 29,620 | 1,010 | 25,394 | 1,361 | 31,252 | 1,040 | 27,078 |
| 2023 | 1,275 | 24,972 | 885 | 20,272 | 1,281 | 26,259 | 900 | 21,814 |
| 2024 | 1,134 | 19,887 | 682 | 14,642 | 1,118 | 20,782 | 676 | 15,596 |
| 2025 | 947 | 14,305 | 427 | 8,435 | 908 | 14,755 | 398 | 8,950 |
| 2026 | 727 | 8,178 | 140 | 1,605 | 661 | 8,127 | 86 | 1,624 |
| 2027 | 474 | 5,570 | 1,459 | (0) | 418 | 5,339 | 1,568 | (0) |
| Total Thru Yr. 2027 | 28,918 | | 23,396 | | 29,276 | | 23,883 | |
| Total Thru Flip | 28,632 | | 22,539 | | 29,024 | | 22,962 | |
| Total Thru Flip as % of JPMCC Equity | 15.70% | | 12.36% | | 15.91% | | 12.59% | |
| DROs & Excess Distributions | | | | | | | | |
| JPM Max DRO / % of JPM Equity | \$90,632,361 | 49.69% | \$100,651,578 | 55.16% | \$90,658,510 | 49.70% | \$100,676,994 | 55.19% |
| Year of JPM Max DRO / Year of DRO Reversal | 2022 | 2031 | 2022 | 2038 | 2022 | 2032 | 2022 | 2039 |
| JPM DRO at Year 10 / % of JPM Equity | \$46,617,419 | 25.56% | \$81,009,488 | 44.41% | \$48,527,548 | 26.80% | \$82,918,814 | 45.46% |
| ITC | | | | | | | | |
| Total Portfolio ITC | \$125,840,587 | | \$125,840,587 | | \$125,840,587 | | \$125,840,587 | |
| Actual Investor ITC / % of total | \$124,582,181 | 99.00% | \$124,582,181 | 99.00% | \$124,582,181 | 99.00% | \$124,582,181 | 99.00% |

Post Flip percentage through year 20 is set to target the 20-year All-in AT IRR in the Funding Case P50
Tax Rate Change sensitivities beginning in year 2018 assume that Class A cash step-up does not occur until 2019

APPENDIX B - PIOC Return on Capital Template

Switch Station Solar Project 234 MW (DC)

PIOC Return on Capital Template

TOI Energy - Switch Station Solar Project 234 MW (DC)

| | | | |
|--|--|-----------|--------------------------|
| Asset | Switch Station Solar Project 234 MW (DC) with projects located in Clark County, Nevada | | |
| Investment Structure | Partnership flip structure, targeting a 9.67 year Flip with a 7.65% IRR after-tax (generic 35% tax rate) | | |
| TOI Energy Investment | \$182,408,005 expected to be funded by 09/30/2017 over a period of six months | | |
| JPMCC 20yr all-in IRR | 9.84% | after-tax | 15.64% pretax equivalent |
| Flip Constraint | Under P95 Severe Downside Case (including lower production, higher degradation and lower availability), flip rate is achieved at yr 10 years, with an 8.83% % all-in AT IRR (35% generic tax rate) | | |
| Average Basel III ROA thru flip | 2.19% | | |
| Average Basel III ROA all-in | 3.12% | | |
| Average Basel III ROE thru flip | 21.16% | | |
| Average Basel III ROE all-in | 30.16% | | |

| Annual Estimates (\$'000) | Cash | | ITC | Revenue | Earnings | SVA | Cumulative | | Annual | | Year-End |
|---------------------------|---------------|----------------|-----|---------------|---------------|--------------|---------------|---------------|--------------|--|----------|
| | Distributions | | | | | | Basel III ROE | Basel III ROA | Book Balance | | |
| 2017 | 848 | 124,582 | - | 14,366 | 8,675 | 7,675 | 87.3% | 7.8% | 147,942 | | |
| 2018 | 4,527 | - | - | 1,289 | 104 | (1,391) | 35.4% | 0.1% | 120,696 | | |
| 2019 | 4,536 | - | - | 1,808 | 573 | (626) | 25.5% | 0.6% | 93,554 | | |
| 2020 | 4,600 | - | - | 1,610 | 589 | (310) | 21.8% | 0.8% | 66,104 | | |
| 2021 | 4,735 | - | - | 1,313 | 547 | (42) | 20.5% | 1.0% | 38,178 | | |
| 2022 | 4,812 | - | - | 1,040 | 493 | 156 | 20.1% | 1.5% | 21,852 | | |
| 2023 | 4,893 | - | - | 1,029 | 541 | 318 | 20.2% | 2.2% | 18,299 | | |
| 2024 | 5,039 | - | - | 964 | 519 | 335 | 20.5% | 2.4% | 14,479 | | |
| 2025 | 5,188 | - | - | 863 | 476 | 336 | 20.8% | 2.7% | 10,348 | | |
| 2026 | 5,342 | - | - | 738 | 420 | 327 | 21.1% | 3.4% | 5,873 | | |
| 2027 | 1,633 | - | - | 505 | 289 | 230 | 21.4% | 3.4% | 4,828 | | |
| Total | 46,153 | 124,582 | | 25,525 | 13,225 | 7,009 | | | | | |

APPENDIX C - JPMCC P50 Pro Forma Summary

Switch Station Solar Project 234 MW (DC)
(\$000's)

| Portfolio Economics | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | Total | | |
|--|----------|-----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|-----------|----------|
| Installed Capacity (MW) | 186.3 | | | | | | | | | | | | | | | | | | | | | | 9,815,688 | |
| Net Capacity Factor (10 yrs) | 28.81% | | | | | | | | | | | | | | | | | | | | | | 508,157 | |
| Power Generation (MWh) | 210,587 | 512,604 | 511,640 | 507,072 | 502,273 | 498,179 | 495,025 | 491,825 | 488,582 | 485,298 | 481,975 | 478,617 | 475,226 | 471,805 | 468,361 | 464,894 | 461,406 | 457,891 | 454,345 | 450,763 | 447,161 | | 9,815,688 | |
| Blended Power Price (\$/MWh) | 35.89 | 39.16 | 40.33 | 41.54 | 42.79 | 44.07 | 45.40 | 46.78 | 48.19 | 49.61 | 51.09 | 52.63 | 54.21 | 55.83 | 57.51 | 59.23 | 61.01 | 62.84 | 64.73 | 66.67 | 68.67 | 70.73 | 806,167 | |
| Total Revenue | 7,559 | 20,069 | 20,644 | 21,065 | 21,492 | 21,926 | 22,372 | 22,828 | 23,290 | 23,758 | 24,232 | 24,712 | 25,200 | 25,696 | 26,200 | 26,712 | 27,232 | 27,758 | 28,290 | 28,828 | 29,372 | 29,922 | 366,836 | |
| Operating Expenses | (1,600) | (5,320) | (5,535) | (5,721) | (5,898) | (6,068) | (6,232) | (6,393) | (6,550) | (6,703) | (6,852) | (7,000) | (7,144) | (7,285) | (7,422) | (7,556) | (7,688) | (7,817) | (7,944) | (8,068) | (8,189) | (8,307) | (85,072) | |
| Tax Depreciation | (42,383) | (128,496) | (77,873) | (47,431) | (29,630) | (18,113) | (10,813) | (6,417) | (3,813) | (2,149) | (1,264) | (752) | (421) | (238) | (135) | (75) | (43) | (25) | (15) | (9) | (6) | (4) | (24,160) | |
| Taxable Income | (36,433) | (113,747) | (62,766) | (32,087) | (19,974) | (12,972) | (8,508) | (5,387) | (3,430) | (2,149) | (1,388) | (860) | (509) | (293) | (167) | (97) | (55) | (32) | (19) | (11) | (7) | (5) | (31,169) | |
| Total Distributable Cash (incl. 1-Mth Leg) | 6,957 | 15,091 | 15,100 | 15,317 | 15,768 | 16,098 | 16,566 | 17,019 | 17,480 | 17,948 | 18,424 | 18,908 | 19,400 | 19,899 | 20,406 | 20,921 | 21,444 | 21,975 | 22,515 | 23,063 | 23,619 | 24,184 | 360,836 | |
| Total ITC | 124,582 | | | | | | | | | | | | | | | | | | | | | | 124,582 | |
| Partnership Allocations | | | | | | | | | | | | | | | | | | | | | | | Total | |
| Sponsor Cash (excl RECs) | 4,519 | 10,563 | 10,572 | 10,718 | 11,023 | 11,166 | 11,205 | 11,516 | 11,831 | 12,151 | 12,476 | 12,806 | 13,140 | 13,478 | 13,820 | 14,167 | 14,518 | 14,873 | 15,232 | 15,595 | 15,962 | 16,333 | 207,634 | |
| Investor Cash (excl RECs) | 848 | 4,527 | 4,536 | 4,600 | 4,735 | 4,842 | 4,933 | 5,039 | 5,168 | 5,342 | 5,483 | 5,633 | 5,790 | 5,954 | 6,126 | 6,304 | 6,488 | 6,677 | 6,871 | 7,070 | 7,274 | 7,483 | 83,102 | |
| Sponsor Net Taxable Income | (384) | (37,537) | (20,778) | (10,866) | (9,131) | (5,486) | (3,882) | (2,788) | (2,013) | (1,512) | (1,113) | (811) | (588) | (421) | (313) | (231) | (171) | (127) | (94) | (69) | (51) | (38) | 23,688 | |
| Investor Net Taxable Income | (39,067) | (76,211) | 2,072 | 4,800 | 4,735 | 4,812 | 4,893 | 5,039 | 5,168 | 5,342 | 5,483 | 5,633 | 5,790 | 5,954 | 6,126 | 6,304 | 6,488 | 6,677 | 6,871 | 7,070 | 7,274 | 7,483 | (96,793) | |
| Sponsor ITC Used | | | | | | | | | | | | | | | | | | | | | | | 1,256 | |
| Investor ITC Used | | | | | | | | | | | | | | | | | | | | | | | 124,582 | |
| JPMCC After-Tax Cash Flow | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | Total | | |
| JPMCC Total Investment | 182,408 | | | | | | | | | | | | | | | | | | | | | | 182,408 | |
| JPMCC Share | 100.00% | | | | | | | | | | | | | | | | | | | | | | 100.00% | |
| JPMCC Tax Rate | 37.54% | | | | | | | | | | | | | | | | | | | | | | 37.54% | |
| Project Cash % Allocations | 15.80% | 30.00% | 30.02% | 30.03% | 30.05% | 30.12% | 30.39% | 30.44% | 30.48% | 31.13% | 9.82% | 9.48% | 9.48% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 6.58% | |
| Project Tax and ITC % Allocations | 99.90% | 67.00% | 67.00% | 67.00% | 67.00% | 67.00% | 67.00% | 67.00% | 67.00% | 67.00% | 13.04% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 7.11% | |
| Cash Distributed from LLC (incl RECs) | 848 | 4,527 | 4,536 | 4,600 | 4,735 | 4,812 | 4,893 | 5,039 | 5,168 | 5,342 | 5,483 | 5,633 | 5,790 | 5,954 | 6,126 | 6,304 | 6,488 | 6,677 | 6,871 | 7,070 | 7,274 | 7,483 | 63,102 | |
| ITC | 124,582 | | | | | | | | | | | | | | | | | | | | | | 124,582 | |
| Tax Benefits (Liabilities) | 12,824 | 26,674 | (725) | (1,610) | (1,657) | (1,884) | (1,713) | (1,764) | (1,816) | (1,870) | (1,921) | (1,971) | (2,021) | (2,071) | (2,121) | (2,171) | (2,221) | (2,271) | (2,321) | (2,371) | (2,421) | (2,471) | 19,878 | |
| Total ATCF to JPMCC | 138,654 | 31,201 | 3,810 | 2,990 | 3,078 | 3,128 | 3,180 | 3,276 | 3,372 | 3,472 | 3,572 | 3,672 | 3,772 | 3,872 | 3,972 | 4,072 | 4,172 | 4,272 | 4,372 | 4,472 | 4,572 | 4,672 | 207,562 | |
| JPMCC Book Incomes | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | Total | | |
| Year-End Book Value | 147,942 | 120,696 | 93,554 | 68,104 | 38,178 | 21,852 | 16,289 | 14,479 | 10,348 | 5,873 | 4,828 | 3,987 | 3,341 | 2,751 | 6,314 | 7,388 | 6,064 | 4,632 | 3,005 | 1,106 | | | 1,106 | |
| Asset Amortization | (34,066) | (27,246) | (27,142) | (27,450) | (27,826) | (16,326) | (3,553) | (3,220) | (4,131) | (4,475) | (1,046) | (630) | (658) | (590) | 5,563 | (926) | (1,304) | (1,452) | (1,628) | (1,840) | (1,166) | | 63,102 | |
| Cash Distributions | 848 | 4,527 | 4,536 | 4,600 | 4,735 | 4,812 | 4,893 | 5,039 | 5,168 | 5,342 | 5,483 | 5,633 | 5,790 | 5,954 | 6,126 | 6,304 | 6,488 | 6,677 | 6,871 | 7,070 | 7,274 | 7,483 | 83,102 | |
| Pre-Tax Book Income | (33,818) | (22,719) | (22,606) | (22,850) | (23,151) | (11,513) | 1,340 | 1,220 | 1,057 | 867 | 687 | 587 | 519 | 452 | 784 | 719 | 658 | 590 | 521 | 452 | 386 | 317 | 36,962 | |
| After-Tax Book Income 1 | (21,148) | (14,292) | (14,221) | (14,374) | (14,589) | (7,243) | 843 | 767 | 665 | 545 | 369 | 414 | 452 | 500 | 4,433 | 466 | 422 | 360 | 282 | 180 | 116 | | (76,052) | |
| Book-Tax Depreciation Diff Benefit | 23,106 | | | | | | | | | | | | | | | | | | | | | | 23,106 | |
| Net After-Tax Income | 1,957 | (14,292) | (14,221) | (14,374) | (14,589) | (7,243) | 843 | 767 | 665 | 545 | 369 | 414 | 452 | 500 | 4,433 | 466 | 422 | 360 | 282 | 180 | 116 | | (51,946) | |
| Pre-Tax Equivalent 2 | 3,112 | (22,719) | (22,606) | (22,850) | (23,151) | (11,513) | 1,340 | 1,220 | 1,057 | 867 | 687 | 587 | 519 | 452 | 784 | 719 | 658 | 590 | 521 | 452 | 386 | 317 | 184 | (62,576) |
| ITC Deferred Income | 11,955 | 24,916 | 24,916 | 24,916 | 24,916 | 12,962 | | | | | | | | | | | | | | | | | 124,582 | |
| COF | (700) | (909) | (502) | (458) | (413) | (408) | (311) | (258) | (194) | (128) | (63) | (69) | (58) | (49) | (87) | (124) | (105) | (85) | (62) | (35) | (9) | | (5,044) | |
| JPMCC Spread Income | 14,366 | 1,289 | 1,808 | 1,910 | 1,313 | 1,040 | 1,029 | 984 | 863 | 738 | 505 | 588 | 662 | 746 | 6,860 | 617 | 564 | 487 | 387 | 290 | 175 | | 36,962 | |

1 After-Tax Book Income reduces the "Pre-Tax Book Income" by the "Pre-Tax Book Income" reporting rate of 37.05%
2 The "Pre-Tax Equivalent" calculation is a gross up of the "Net After-Tax Income" total (i.e. divided by 62.097%)

APPENDIX C - JPMCC P95 Pro Forma Summary

Switch Station Solar Project 234 MW (DC)

(\$000s)

| Portfolio Economics | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | Total | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|-----------|
| Installed Capacity (MW) | 189.3 | | | | | | | | | | | | | | | | | | | | | | |
| Net Capacity Factor (10 yr) | 25.65% | | | | | | | | | | | | | | | | | | | | | | |
| Power Generation (MWh) | 192,894 | 486,542 | 482,197 | 485,515 | 448,813 | 442,746 | 437,512 | 432,231 | 426,907 | 421,539 | 416,132 | 410,689 | 405,212 | 399,704 | 394,171 | 388,613 | 383,034 | 377,426 | 371,790 | 366,119 | 360,444 | | 8,469,920 |
| Blended Power Price (\$/MWh) | 35.89 | 39.16 | 40.17 | 41.54 | 42.47 | 44.07 | 44.90 | 46.76 | 47.49 | 48.81 | 50.22 | 52.83 | 53.09 | 55.83 | 58.11 | 59.23 | 59.28 | 62.84 | 62.84 | 66.81 | 68.67 | 61.01 | |
| Power Revenue | 6,893.2 | 18,289 | 18,588 | 18,923 | 19,082 | 19,513 | 19,644 | 20,210 | 20,274 | 20,910 | 20,888 | 21,813 | 21,513 | 22,318 | 22,117 | 23,018 | 22,707 | 23,717 | 23,280 | 24,408 | 21,991 | | 429,895 |
| Total Revenue | 6,912 | 18,299 | 18,598 | 18,923 | 19,092 | 19,513 | 19,644 | 20,210 | 20,274 | 20,910 | 20,888 | 21,813 | 21,513 | 22,318 | 22,117 | 23,018 | 22,707 | 23,717 | 23,280 | 24,408 | 21,991 | | 429,895 |
| Operating Expenses | (3,124) | (8,554) | (8,792) | (8,995) | (9,268) | (9,624) | (9,958) | (10,340) | (10,778) | (11,224) | (11,688) | (12,167) | (12,659) | (13,163) | (13,683) | (14,218) | (14,768) | (15,333) | (15,914) | (16,511) | (17,124) | | (212,828) |
| Tax Depreciation | (42,383) | (28,498) | (27,873) | (27,431) | (27,173) | (27,000) | (26,913) | (26,813) | (26,700) | (26,573) | (26,433) | (26,280) | (26,113) | (25,933) | (25,748) | (25,553) | (25,348) | (25,133) | (24,908) | (24,673) | (24,428) | | (364,190) |
| Taxable Income | (37,899) | (11,771) | (11,181) | (11,354) | (11,642) | (12,111) | (12,646) | (13,233) | (13,877) | (14,587) | (15,359) | (16,197) | (17,092) | (18,046) | (19,068) | (20,159) | (21,319) | (22,548) | (23,847) | (25,214) | (26,657) | | (167,165) |
| Total Distributable Cash (incl. 1-Mth Lag) | 4,382 | 12,009 | 11,823 | 11,868 | 12,140 | 12,062 | 11,796 | 12,009 | 12,249 | 12,116 | 11,811 | 11,229 | 11,069 | 10,966 | 10,826 | 10,684 | 10,542 | 10,400 | 10,258 | 10,116 | 9,974 | | 217,412 |
| Total ITC | 124,582 | | | | | | | | | | | | | | | | | | | | | | 124,582 |

| Partnership Allocations | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | Total | |
|-----------------------------|----------|----------|----------|----------|----------|---------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|-------|-----------|
| Sponsor Cash (incl RECs) | 3,707 | 7,720 | 7,480 | 7,421 | 7,540 | 7,351 | 6,934 | 6,692 | 7,076 | 6,821 | 6,761 | 7,358 | 6,036 | 5,708 | 6,403 | 7,782 | 10,380 | 10,432 | 10,583 | 10,802 | 10,024 | | 163,102 |
| Investor Cash (incl RECs) | 875 | 4,349 | 4,343 | 4,447 | 4,600 | 4,711 | 4,863 | 5,016 | 5,172 | 5,285 | 2,289 | 772 | 633 | 599 | 872 | 814 | 1,090 | 1,094 | 1,111 | 1,112 | 862 | | 54,370 |
| Sponsor Net Taxable Income | (376) | (38,538) | (21,850) | (12,132) | (10,484) | (8,885) | (10,046) | (1,041) | (1,042) | (1,040) | (1,087) | (1,081) | (1,100) | (1,096) | (1,095) | (1,085) | (1,037) | (891) | (619) | (324) | 2,370 | | (101,527) |
| Investor Net Taxable Income | (37,219) | (77,873) | 4,343 | 4,447 | 4,600 | 4,711 | 4,863 | 5,016 | 5,172 | 5,285 | 2,289 | 772 | 633 | 599 | 872 | 814 | 1,090 | 1,094 | 1,111 | 1,112 | 863 | | (65,626) |
| Sponsor ITC Used | | | | | | | | | | | | | | | | | | | | | | | |
| Investor ITC Used | | | | | | | | | | | | | | | | | | | | | | | |

| JPMCC After-Tax Cash Flow | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | Total | | |
|---------------------------------------|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---------|--|
| JPMCC Total Investment | 182,468 | | | | | | | | | | | | | | | | | | | | | | | |
| JPMCC Share | 100.00% | | | | | | | | | | | | | | | | | | | | | | | |
| JPMCC Tax Rate | 37.54% | | | | | | | | | | | | | | | | | | | | | | | |
| Project Cash & Allocations | 15.41% | 38.04% | 38.73% | 37.47% | 37.89% | 38.05% | 41.22% | 41.78% | 42.23% | 43.70% | 20.52% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | | 6.37% | |
| Project Tax and ITC % Allocations | 89.00% | 87.00% | 87.00% | 87.00% | 87.00% | 87.00% | 89.00% | 89.00% | 90.00% | 98.00% | 52.80% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | 9.49% | | 7.21% | |
| Cash Distributed from LLC (incl RECs) | 875 | 4,349 | 4,343 | 4,447 | 4,600 | 4,711 | 4,863 | 5,016 | 5,172 | 5,285 | 2,289 | 772 | 633 | 599 | 872 | 814 | 1,090 | 1,094 | 1,111 | 1,112 | 862 | | 54,370 | |
| ITC Benefits (Utilities) | 124,582 | | | | | | | | | | | | | | | | | | | | | | | |
| Tax Benefits (Utilities) | 19,027 | 27,256 | (1,520) | (1,559) | (1,810) | (1,756) | (1,702) | (1,648) | (1,594) | (1,540) | (791) | (270) | (222) | (210) | (235) | (285) | (381) | (383) | (389) | (389) | (302) | | 124,582 | |
| Total ATCF to JPMCC | 138,284 | 31,865 | 2,823 | 2,881 | 2,990 | 3,062 | 3,161 | 3,261 | 3,362 | 3,442 | 1,469 | 502 | 411 | 389 | 437 | 529 | 708 | 711 | 722 | 723 | 380 | | 207,891 | |

| JPMCC Book Income | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | Total | |
|-----------------------------------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|-------|------|------|------|------|------|-------|-------|-------|-------|------|-------|----------|
| Year-End Book Value | 145,873 | 117,760 | 90,845 | 63,058 | 34,841 | 18,381 | 14,427 | 10,156 | 5,486 | 451 | | | | | | | | | | | | | |
| Asset Amortization | (36,735) | (27,814) | (27,114) | (27,389) | (28,115) | (10,580) | (3,934) | (4,271) | (4,800) | (5,045) | (451) | | | | | | | | | | | | |
| Cash Distributions | 675 | 4,349 | 4,343 | 4,447 | 4,600 | 4,711 | 4,863 | 5,016 | 5,172 | 5,285 | 2,259 | 772 | 633 | 599 | 872 | 814 | 1,090 | 1,094 | 1,111 | 1,112 | 862 | | 54,370 |
| Pre-Tax Book Income | (36,060) | (23,864) | (22,772) | (23,142) | (23,516) | (11,870) | (928) | (746) | (512) | (250) | 1,808 | 772 | 633 | 599 | 872 | 814 | 1,090 | 1,094 | 1,111 | 1,112 | 862 | | 54,370 |
| After-Tax Book Income 1 | (22,894) | (14,824) | (14,325) | (14,358) | (14,792) | (7,467) | (584) | (470) | (322) | (157) | 1,137 | 485 | 398 | 377 | 422 | 512 | 686 | 688 | 699 | 700 | 429 | | (60,583) |
| Book-Tax Depreciation Dfr Benefit | 23,106 | | | | | | | | | | | | | | | | | | | | | | |
| Net After-Tax Income | 422 | (14,824) | (14,325) | (14,358) | (14,792) | (7,467) | (584) | (470) | (322) | (157) | 1,137 | 485 | 398 | 377 | 422 | 512 | 686 | 688 | 699 | 700 | 429 | | (60,583) |
| Pre-Tax Equivalent 2 | 670 | (23,864) | (22,772) | (23,142) | (23,515) | (11,870) | (928) | (746) | (512) | (250) | 1,808 | 772 | 633 | 599 | 872 | 814 | 1,090 | 1,094 | 1,111 | 1,112 | 862 | | 54,370 |
| ITC Deferred Income | 11,855 | 24,916 | 24,916 | 24,916 | 24,916 | 12,862 | | | | | | | | | | | | | | | | | |
| COF | (651) | (853) | (1,446) | (1,411) | (365) | (358) | (255) | (194) | (125) | (51) | 2 | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | (1) | | (9,750) |
| JPMCC Speed Income | 11,944 | 499 | 1,898 | 1,384 | 1,037 | 738 | 873 | 552 | 387 | 199 | 1,810 | 771 | 632 | 597 | 670 | 812 | 1,088 | 1,082 | 1,110 | 1,110 | 881 | | 28,487 |

Footnotes:
 1 *After-Tax Book Income* reduces the *Pre-Tax Book Income* by the JB management reporting rate of 37.093%
 2 The *Pre-Tax Equivalent* calculation is a gross up of the *Net After-Tax Income* total (i.e. divided by 62.097%)

D. TOI Internal Compliance Materials (uploaded to EMS)

FINAL INVESTMENT COMMITTEE

E. Technical Review

FINAL INVESTMENT COMMITTEE