

Appendix 5

to

Solar BOT Scope Book

Rev. 1

June 6, 2024

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| --- | --- | --- | --- |
| REVISION RECORD | | | |
| Revision No. | Approval Date | Section / Page Revised | Reason / Description of Change |
| 0 | 9/14/2023 | All | Initial Issue |
| 1 | 6/6/24 | All | Integrated Risk appendix into design basis |
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|  |  |  |  |
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|  |  |  |  |

# Appendix 5: Design BASIS and Operational Data

The following table sets forth certain design basis and operational requirements for the overall Project. Seller shall update items in Appendix 5 as noted below. Once Seller and Buyer agree to the inputs, any Seller change in the inputs that may decrease performance must be approved by Buyer.

| **1** | **DESIGN CONDITIONS** | **UNITS** | **DATA** | **COMMENTS / CLARIFICATIONS** |
| --- | --- | --- | --- | --- |
| 1.1 | Project Location | - |  | City, State (County/Parish) |
| 1.2 | Main Access Road | - |  |  |
| 1.3 | Governing Building Code | - |  |  |
| 1.4 | Design lifetime of the plant | years |  | 30 years specified |
| 1.5 | Average site elevation | ft a.s.l. |  |  |
| 1.6 | Ambient Temperature Recorded (Minimum/Average/Maximum) | °F |  |  |
| 1.7 | Design Temperature for Operation (Minimum/Maximum) | °F |  |  |
| 1.8 | Design Humidity Ratio (Minimum/Maximum) | grams of water vapor / grams of dry air |  |  |
| 2.31.9 | ASCE 7 Risk Category | - |  | Per IBC and ASCE 7 |
| 1.10 | Design wind speed normal operation / storm safe position | Mph / Mph |  | Design per IBC and ASCE 7 |
| 1.11 | Rainfall (Annual Avg/Annual Max/1-day Max/Design Basis Rainfall Event) | inch |  |  |
| 1.12 | Maximum 500-year flood elevation | ft a.s.l. |  |  |
| 1.13 | Designed flood elevation without equipment damage | ft a.s.l. |  |  |
| 1.14 | Typical meteorological year (GHI) | kWh/m² |  |  |
| 1.15 | Allowable Seismic Ground Accelerations, Ss and S1 | g |  | Ground acceleration values shall be confirmed by the Project’s geotechnical study |
| 1.16 | Available Area required (approx.) | acres |  |  |
| 1.17 | Snow Load normal operation / storm safe position | Psf / psf |  | Design per IBC and ASCE 7 |
| 1.18 | Ice thickness normal operation / storm safe position | Inch / inch |  | Design per IBC and ASCE 7 |
| 1.19 | Design vegetation height in the array assumed for site design performance characteristics or minimizing fire heat release will adversely affect PV array. | inches |  | The lesser of the two values Referenced ASTM-E2908-12 |
| 1.20 | Responding Fire department distance | Miles |  | Include address and contact number in data |
| 1.21 | Nearest water point or draft location used by fire department for this location. | Miles |  | Address in data |
| 1.22 | PV array fire mitigation strategy: non-combustible fire break via full perimeter roads and internal segregated by access roads. | Y/N |  | List deviations in data |
| 1.23 | Transformer fire mitigation:  Confinement of oil and fire to transformer of origin per codes. Self-extinguishing oil impoundment. | Y/N |  | List deviations in data |
| 1.24 | Other physically occupiable structures, Noncombustible construction per IBC (international building code) edition adapted by state. | Y/N |  | List deviations in data |
| 1.25 | Adequate spatial separation to other exposures as needed to prevent secondary damage per NFPA-80a assume no fire department mitigation. | Y/N |  | List deviations in data |

| **2** | **GENERAL PLANT DATA** |  |  |  |
| --- | --- | --- | --- | --- |
| 2.1 | PV technology type |  |  |  |
| 2.2 | Installed Capacity (total DC peak power) | MWp |  |  |
| 2.3 | Nominal Power (AC) (total nominal inverter output) | MW |  |  |
| 2.4 | Nominal Power at Electrical POI (AC) | MW |  |  |
| 2.5 | DC/AC ratio |  |  | May not be modified after Agreement date without permission of both parties |
| 2.6 | Nighttime Auxiliary Power (Average/Peak) | MW |  |  |
| 2.7 | Annual Nighttime Auxiliary Power | MWh |  | Year 1 (starting at the Substantial Completion Payment Date) based on TMY |
| 2.8 | Total area covered by PV arrays | acres |  |  |
| 2.9 | Total area of Project | acres |  |  |
| 2.10 | Row to row spacing | ft |  |  |
| 2.11 | Ground Coverage Ratio | % |  |  |
| 2.12 | Shading losses due to internal row spacing | % |  |  |
| 2.13 | Total number of PV panels | Qty |  |  |
| 2.14 | Total number of strings | Qty |  |  |
| 2.15 | Total number of racking system tables | Qty |  |  |
| 2.16 | Total number of combiner boxes | Qty |  |  |
| 2.17 | Total number of inverters | Qty |  |  |
| 2.18 | Total number of LV/MV transformers | Qty |  |  |

| **3** | **MONTHLY PERFORMANCE RATIOS** | - |  |  |
| --- | --- | --- | --- | --- |
| 3.1 | January | % |  |  |
| 3.2 | February | % |  |  |
| 3.3 | March | % |  |  |
| 3.4 | April | % |  |  |
| 3.5 | May | % |  |  |
| 3.6 | June | % |  |  |
| 3.7 | July | % |  |  |
| 3.8 | August | % |  |  |
| 3.9 | September | % |  |  |
| 3.10 | October | % |  |  |
| 3.11 | November | % |  |  |
| 3.12 | December | % |  |  |
| 3.13 | PR Base | % |  |  |

| **4** | **YEARLY PERFORMANCE RATIOS** |  | - |  |
| --- | --- | --- | --- | --- |
| 4.1 | Year 1 (starting at the Substantial Completion Payment Date) |  | % |  |
| 4.2 | Year 2 |  | % |  |
| 4.3 | Year 3 |  | % |  |
| 4.4 | Year 4 |  | % |  |
| 4.5 | Year 5 |  | % |  |
| 4.6 | Year 6 |  | % |  |
| 4.7 | Year 7 |  | % |  |
| 4.8 | Year 8 |  | % |  |
| 4.9 | Year 9 |  | % |  |
| 4.10 | Year 10 |  | % |  |
| 4.11 | Year 11 |  | % |  |
| 4.12 | Year 12 |  | % |  |
| 4.13 | Year 13 |  | % |  |
| 4.14 | Year 14 |  | % |  |
| 4.15 | Year 15 |  | % |  |
| 4.16 | Year 16 |  | % |  |
| 4.17 | Year 17 |  | % |  |
| 4.18 | Year 18 |  | % |  |
| 4.19 | Year 19 |  | % |  |
| 4.20 | Year 20 |  | % |  |
| 4.21 | Year 21 |  | % |  |
| 4.22 | Year 22 |  | % |  |
| 4.23 | Year 23 |  | % |  |
| 4.24 | Year 24 |  | % |  |
| 4.25 | Year 25 |  | % |  |
| 4.26 | Year 26 |  | % |  |
| 4.27 | Year 27 |  | % |  |
| 4.28 | Year 28 |  | % |  |
| 4.29 | Year 29 |  | % |  |
| 4.30 | Year 30 |  | % |  |

| **5** | **ANNUAL DEGRADATION FACTOR** |  | - |  |
| --- | --- | --- | --- | --- |
| 5.1 | Year 1 (starting at the Substantial Completion Payment Date) |  | % |  |
| 5.2 | Year 2 (max 0.5% for years 2 -30) |  | % |  |
| 5.3 | Year 3 |  | % |  |
| 5.4 | Year 4 |  | % |  |
| 5.5 | Year 5 |  | % |  |
| 5.6 | Year 6 |  | % |  |
| 5.7 | Year 7 |  | % |  |
| 5.8 | Year 8 |  | % |  |
| 5.9 | Year 9 |  | % |  |
| 5.10 | Year 10 |  | % |  |
| 5.11 | Year 11 |  | % |  |
| 5.12 | Year 12 |  | % |  |
| 5.13 | Year 13 |  | % |  |
| 5.14 | Year 14 |  | % |  |
| 5.15 | Year 15 |  | % |  |
| 5.16 | Year 16 |  | % |  |
| 5.17 | Year 17 |  | % |  |
| 5.18 | Year 18 |  | % |  |
| 5.19 | Year 19 |  | % |  |
| 5.20 | Year 20 |  | % |  |
| 5.21 | Year 21 |  | % |  |
| 5.22 | Year 22 |  | % |  |
| 5.23 | Year 23 |  | % |  |
| 5.24 | Year 24 |  | % |  |
| 5.25 | Year 25 |  | % |  |
| 5.26 | Year 26 |  | % |  |
| 5.27 | Year 27 |  | % |  |
| 5.28 | Year 28 |  | % |  |
| 5.29 | Year 29 |  | % |  |
| 5.30 | Year 30 |  | % |  |

| **6** | **YEARLY PRODUCTION** | - |  |
| --- | --- | --- | --- |
| 6.1 | Year 1 (starting at the Substantial Completion Payment Date) | MWh/yr |  |
| 6.2 | Year 2 | MWh/yr |  |
| 6.3 | Year 3 | MWh/yr |  |
| 6.4 | Year 4 | MWh/yr |  |
| 6.5 | Year 5 | MWh/yr |  |
| 6.6 | Year 6 | MWh/yr |  |
| 6.7 | Year 7 | MWh/yr |  |
| 6.8 | Year 8 | MWh/yr |  |
| 6.9 | Year 9 | MWh/yr |  |
| 6.10 | Year 10 | MWh/yr |  |
| 6.11 | Year 11 | MWh/yr |  |
| 6.12 | Year 12 | MWh/yr |  |
| 6.13 | Year 13 | MWh/yr |  |
| 6.14 | Year 14 | MWh/yr |  |
| 6.15 | Year 15 | MWh/yr |  |
| 6.16 | Year 16 | MWh/yr |  |
| 6.17 | Year 17 | MWh/yr |  |
| 6.18 | Year 18 | MWh/yr |  |
| 6.19 | Year 19 | MWh/yr |  |
| 6.20 | Year 20 | MWh/yr |  |
| 6.21 | Year 21 | MWh/yr |  |
| 6.22 | Year 22 | MWh/yr |  |
| 6.23 | Year 23 | MWh/yr |  |
| 6.24 | Year 24 | MWh/yr |  |
| 6.25 | Year 25 | MWh/yr |  |
| 6.26 | Year 26 | MWh/yr |  |
| 6.27 | Year 27 | MWh/yr |  |
| 6.28 | Year 28 | MWh/yr |  |
| 6.29 | Year 29 | MWh/yr |  |
| 6.30 | Year 30 | MWh/yr |  |

**\*\*\* END OF APPENDIX 5 \*\*\***