



***Appendix D-1 Attachment C-1
Solar MFS Bidder Questions***

for

2022 Request for Proposals

for

***Renewable Resources
For Entergy Arkansas, LLC***

Entergy Arkansas, LLC

June 20, 2022

**APPENDIX D
PRELIMINARY DUE DILIGENCE LIST**

ATTACHMENT C-1

This Attachment C-1 to Appendix D (Preliminary Due Diligence List) to the RFP includes select questions from Appendices 1, 2, 3, 4, and 9 (Attachment 2) of Appendix B-2 (Scope Book) to the RFP. This Attachment C-1 applies to proposals for BOT transactions and Self-Build or Affiliate Options.

PERFORMANCE GUARANTEES (FROM APPENDIX 1 OF APPENDIX B-2)

The following table requests inputs regarding performance guarantees for the Facility. Bidder is required to fill out and provide all information requested in the table. If Bidder's data differs from that specified in the table, Bidder must provide Bidder's corrected data and the justification for the change.

| PERFORMANCE GUARANTEES | | | | |
|-------------------------------|--|--------------|-------------|---|
| N° | CHARACTERISTICS | UNITS | DATA | NOTES |
| 1 | MINIMUM CRITERIA | | | |
| 1.1 | Guaranteed PV Plant Capacity (@ Electrical Interconnection Point (EIP)) | MWac | | |
| 1.2 | Minimum PV Plant Capacity (@Electrical Interconnection Point (EIP)) | MWac | | |
| 1.3 | Guaranteed Run Requirement | Duration | | Uninterrupted operation during the Project Performance Test for PV Plant Capacity subject to the Failure Mode Guidelines as set forth in Appendix 5 of the Scope Book |
| 1.4 | Project Net Electricity Production (P50) in Year 1 (starting at the Substantial Completion Payment | MWh | | |

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| | | | | |
|------|---|--------|-------|---------|
| | Date) @ Electrical Interconnection Point (EIP)) | | | |
| 1.5 | Guaranteed BESS Power Rating (@Electrical Interconnection Point (EIP)) | MWac | | |
| 1.6 | Minimum BESS Power Rating (@Electrical Interconnection Point (EIP)) | MWac | | |
| 1.7 | Guaranteed BESS Energy Storage Capacity (@Electrical Interconnection Point (EIP)) | MWh ac | | DC & AC |
| 1.8 | Minimum BESS Storage Capacity Electrical Interconnection Point (EIP)) | MWh ac | | |
| 1.9 | BESS RT Efficiency (@ BESS) | % | | |
| 1.10 | Minimum BESS RT Efficiency (@ BESS) | % | | |
| 1.11 | Minimum BESS Availability (Required / As Bid) | % | 99% / | |
| 1.12 | Long-Term BESS Availability (Required / As Bid) | % | 97% / | |

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ENERGY MODEL (PV_{SYST}) (FROM APPENDIX 2 TO APPENDIX B-2)

The following table requests inputs to and results from the Energy Model (PV_{SYST}). Bidder is required to fill in and provide all information requested in the table. If Bidder's data differs from that specified in the table, Bidder must provide Bidder's corrected data and the justification for the change.

| N° | CHARACTERISTICS | UNITS | DATA |
|----------|---|--------------------|------|
| 1 | REFERENCE SITE CONDITIONS | - | |
| 1.1 | Global Horizontal Irradiation (GHI) @ ground level | kWh/m ² | |
| 1.2 | Diffuse Horizontal Irradiation (DHI) @ ground level | kWh/m ² | |
| 1.3 | Ambient temperature | °C | |
| 1.4 | Altitude (above sea level) | Ft | |
| 2 | WEATHER DATA | - | |
| 2.1 | Data source | - | |
| 2.2 | Period of data collection | Months | |
| 2.3 | Distance from site or spatial resolution | Km | |
| 2.4 | Uncertainty | % | |
| 3 | MODEL PARAMETERS | - | |
| 3.1 | Installed Capacity (DC) | MW _p | |
| 3.2 | Nominal Power (AC) | MW | |
| 3.3 | Nominal Power at Electrical POI (AC) | MW | |
| 3.4 | DC/AC ratio | - | |
| 3.5 | PV _{SYST} Software Version | | |
| 3.6 | Transposition Model | | |
| 3.7 | Meteorological File Parameters | | |
| 3.8 | Post Processed Losses | % | |
| 3.9 | PV Modules | - | |
| 3.9.1 | PV module manufacturer and model | - | |
| 3.9.2 | PV module power at STC | W _p | |
| 3.9.3 | Technology | - | |
| 3.9.4 | Number of PV Modules per string | - | |
| 3.9.5 | Total number of PV Modules installed | - | |
| 3.9.6 | Total number of strings | - | |
| 3.10 | Inverters | - | |
| 3.10.1 | Inverter manufacturer and model | - | |
| 3.10.2 | Input voltage rating | VDC | |

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| N° | CHARACTERISTICS | UNITS | DATA |
|--------|--|-----------------------------|----------------------------|
| 3.10.3 | Number of strings per inverter | - | |
| 3.10.4 | Number of inverters | - | |
| 3.11 | Mounting System | - | |
| 3.11.1 | Tilt angle of fixed tilt system or rotation limits of tracking system | ° | |
| 3.11.2 | Backtracking | Yes / No | |
| 3.11.3 | Orientation of PV Modules (azimuth) | ° | |
| 3.11.4 | Installation type (portrait / landscape) | - | |
| 3.11.5 | Rows and columns per mounting structure | - x - | |
| 3.11.6 | Ground Coverage Ratio | % | |
| 3.12 | Array losses | - | |
| 3.12.1 | Module quality loss | % | |
| 3.12.2 | Module mismatch losses | % | |
| 3.12.3 | String mismatch losses | % | |
| 3.12.4 | Light induced degradation losses | % | |
| 3.12.5 | IAM losses defined by manufacturer | Yes / No | |
| 3.12.6 | Constant thermal loss factor | W/m ² /k | |
| 3.12.7 | Wind loss factor | W/m ² /k/ m/s | |
| 3.12.8 | Soiling losses January February March April May June July August September October November December | % | Average Annual and Monthly |
| 3.12.9 | Ground Albedo January February March | | Average Annual and Monthly |

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| N° | CHARACTERISTICS | UNITS | DATA |
|-------------|--|----------|------|
| | April May June July August September October November December | | |
| 3.12.1 0 | Spectral correction applied | Yes / No | |
| 3.13 | Cabling | - | |
| 3.13.1 | DC ohmic losses @STC (Max/Calculated) | % | |
| 3.13.2 | AC ohmic losses @STC (Max/Calculated) | % | |
| 3.14 | Transformers | - | |
| 3.14.1 | Transformer type | - | |
| 3.14.2 | Number of transformers | - | |
| 3.14.3 | Constant Loss | W | |
| 3.14.4 | Peak Power Loss | W | |
| 3.15 | System losses | - | |
| 3.15.1 | Year 1 (starting at the Substantial Completion Payment Date) degradation | % | |
| 3.15.2 | Annual degradation | % | |
| 3.15.3 | Light soaking effect | % | |
| 3.15.4 | Inverter losses | % | |
| 3.15.5 | Auxiliary losses | % | |
| 3.15.6 | Unavailability | % | |
| 3.15.7 | Combined Uncertainty | % | |

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| N° | CHARACTERISTICS | UNITS | DATA | |
|----------|--|----------------|-----------------------|----------------------|
| 4 | ANNUAL PERFORMANCE RESULTS | - | PVsyst Results | Final Results |
| 4.1 | Net electricity production | MWh/yr | | |
| 4.1.1 | Year 1 (starting at the Substantial Completion Payment Date) P50 | MWh/yr | | |
| 4.1.2 | Year 1 (starting at the Substantial Completion Payment Date) P90 | MWh/yr | | |
| 4.1.3 | 30-year average, P50 | MWh/yr | | |
| 4.1.4 | 30-year average, P90 | MWh/yr | | |
| 4.2 | Specific Yield (Year 1, starting at the Substantial Completion Date, P50) | kWh/k Wp/yr | | |
| 4.3 | Specific Yield (Year 1, starting at the Substantial Completion Date, P90) | kWh/k Wp/yr | | |
| 4.4 | Performance Ratio (Year 1, starting at the Substantial Completion Date, P50) | % | | |
| 4.5 | Performance Ratio (Year 1, starting at the Substantial Completion Date, P90) | % | | |

DESIGN AND OPERATIONAL DATA (FROM APPENDIX 3 TO APPENDIX B-2)

The following table details design and operational requirements for the Facility. Bidder is required to fill out and provide all information requested in the table. If Bidder's data differs from that specified in the table, Bidder must provide Bidder's corrected data and the justification for the change.

| N° | CHARACTERISTICS | UNITS | DATA |
|----------|--|-------------------------|------|
| 1 | DESIGN CONDITIONS | - | |
| 1.1 | Design lifetime of the plant (Required / As Bid) | years | 30 / |
| 1.2 | Average elevation | ft a.s.l. | |
| 1.3 | Ambient Temperature Recorded (Minimum/Average/Maximum) | °F | |
| 1.4 | Design Temperature for Operation (Minimum/Maximum) | °F | |
| 1.5 | Design Humidity Ratio (Minimum/Maximum) | Grams of water vapor | |

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| N° | CHARACTERISTICS | UNITS | DATA |
|----------|--|--------------------|------|
| | | / Grams of dry air | |
| 1.6 | Design wind speed (per ASCE 7, Risk Category III) | Mph | |
| 1.7 | Rainfall (Annual Avg/Annual Max/1-day Max/Design Basis Rainfall Event) | In | |
| 1.8 | Typical meteorological year (GHI) | kWh/m ² | |
| 1.9 | Seismic Zone | - | |
| 1.10 | Available Area required (approx.) | Acres | |
| 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 | | |
| 2.6 | Nighttime Auxiliary Power (Average/Peak) | MW | |
| 2.7 | Annual Nighttime Auxiliary Power (starting at the Substantial Completion Payment Date) | MWh | |
| 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 | % | |

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| N° | CHARACTERISTICS | UNITS | DATA |
|-----------|--|--------------|-------------|
| 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 | % | |

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| N° | CHARACTERISTICS | UNITS | DATA |
|-----------|--|--------------|-------------|
| 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 | % | |
| 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 | % | |

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| N° | CHARACTERISTICS | UNITS | DATA |
|-----------|--|--------------|-------------|
| 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 | |

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KEY EQUIPMENT DATASHEETS (FROM APPENDIX 4 TO APPENDIX B-2)

The following table details requirements for the designated equipment. Bidder is required to fill and provide all information requested in the table. If Bidder's data differs from that specified in the table, Bidder must provide Bidder's corrected data and the justification for the change.

| MODULE | | | |
|---------------|------------------------------------|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 1 | GENERAL | | |
| 1.1 | Manufacturer | | |
| 1.2 | Type/Model | | |
| 1.3 | Cell type | | |
| 1.4 | Cell configuration | | |
| 2 | ELECTRICAL DATA | | |
| 2.1 | Nominal maximum power | W | |
| 2.2 | Power tolerance | W | |
| 2.4 | Module efficiency | % | |
| 2.5 | Rated voltage (Vmp) | V | |
| 2.6 | Rated current (Imp) | A | |
| 2.7 | Open-Circuit voltage | V | |
| 2.8 | Short-Circuit voltage | V | |
| 2.9 | Maximum system voltage | VDC | |
| 2.10 | Series fuse rating | A | |
| 2.11 | Annual degradation factor | % | |
| 2.12 | Grounding requirements | | |
| 3 | TEMPERATURE CHARACTERISTICS | | |
| 3.1 | Power | %/K | |
| 3.2 | Voltage | %/K | |
| 3.3 | Current | %/K | |
| 4 | MECHANICAL DATA | | |
| 4.1 | Cell type | | |
| 4.2 | Cell arrangement | | |
| 4.3 | Dimensions | Mm | |
| 4.4 | Front cover | | |
| 4.5 | Frame material, if applicable | | |
| 4.6 | Junction box | | |
| 4.7 | Cable | | |
| 4.8 | Weight | Kg | |

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| MODULE | | | |
|---------------|---|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 5 | TESTED OPERATION CONDITIONS | | |
| 5.1 | Operating temperature | °C | |
| 5.2 | Max load | Pa | |
| 5.3 | Impact resistance | | |
| 6 | WARRANTIES | | |
| 6.1 | Product warranty period (Required / As Bid) | Yrs | 10 / |
| 6.2 | Power warranty (Required / As Bid) | Yrs | 25 / |
| 6.3 | Certifications | | |

| INVERTER | | | |
|-----------------|---|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 1 | GENERAL | | |
| 1.1 | Manufacturer | | |
| 1.2 | Type/Model | | |
| 1.3 | N° machines | | |
| 2 | INPUT RATING | | |
| 2.1 | Rated power | kW | |
| 2.2 | Max. DC Input voltage | V | |
| 2.3 | MPP voltage range | V | |
| 2.7 | N° of MPP trackers | | |
| 2.8 | Input overvoltage protection | | |
| 3 | OUTPUT RATING | | |
| 3.1 | Rated output power | kW | |
| 3.2 | Rated grid voltage | V | |
| 3.3 | Voltage range | V | |
| 3.4 | Max. output current | A | |
| 3.5 | Contributory fault current | A | |
| 3.6 | Rated frequency | hz | |
| 3.7 | Nominal power factor and adjustable range | % | |
| 3.8 | THD (rated power) | % | |
| 3.9 | Output fuse rating | A | |
| 3.10 | Output overvoltage protection | | |
| 4 | OPERATING PERFORMANCE | | |
| 4.1 | Maximum efficiency | % | |

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| INVERTER | | | |
|-----------------|--|---------------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 4.3 | CEC weighted efficiency | % | |
| 4.4 | Max. standby consumption | W | |
| 4.5 | Max. self-consumption (operation) | W | |
| 5 | ENVIRONMENT | | |
| 5.1 | Operating temperature range | °C | |
| 5.2 | Noise level | dB(A) | |
| 5.3 | Maximum installation altitude without derating | m a.s.l. | |
| 5.4 | Maximum acceptable temperature at Pn | °C | |
| 5.5 | Installation type | indoor / outdoor | |
| 5.6 | Dimensions/machine (width/height/depth) | | |
| 5.7 | Weight/machine | Kgs | |
| 5.8 | Galvanic isolation | | |
| 6 | COOLING | | |
| 6.1 | Cooling method | | |
| 6.2 | Cooling air requirement | cfm | |
| 6.3 | Heating system | | |
| 7 | OTHERS | | |
| 7.1 | Communication | | |
| 7.2 | Emergency stop | | |
| 7.3 | Positive earth soft connection | | |
| 7.4 | External auxiliary power for inverter machine | | |
| 7.5 | Additional circuits for tracker motors | | |
| 7.6 | Disconnect parameter adjustable | | |
| 7.7 | All pole sensitive RCB | | |
| 7.8 | Isolation monitoring | | |
| 7.9 | Overload behavior | | |
| 7.10 | Internal DC switch | | |
| 8 | WARRANTIES | | |
| 8.1 | Product warranty period (Required / As Bid) | yrs | 5 / |
| 8.2 | Certifications | | |

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| TRACKER | | | |
|----------------|---|----------------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 1 | GENERAL | | |
| 1.1 | Manufacturer | | |
| 1.2 | Type | Fixed / Tracking | |
| 2 | BASIC DATA | | |
| 2.1 | Ground Coverage Ratio | % | |
| 2.2 | Type of foundations | | |
| 2.3 | Corrosion protection | Yes / No | |
| 2.4 | Type of corrosion protection | | |
| 2.5 | Design wind speed (per ASCE 7, Risk Category III) | Mph | |
| 2.6 | Tilt | ° | |
| 2.7 | Module positions | landscape / portrait | |
| 2.8 | Module arrangement | | |
| 2.9 | kWp per table | kWp | |
| 2.10 | Number of tables | | |
| 2.11 | Dimensions (length/width/height) | M | |
| 3 | TRACKER SYSTEM | | |
| 3.1 | Maximum slope | | |
| 3.2 | Type of tracking system | | |
| 3.3 | Tracking range | | |
| 3.4 | Backtracking | Yes / No | |
| 3.5 | Rows per tracker actuator | | |
| 3.6 | Strings per row | | |
| 3.7 | Power per tracker | kWp | |
| 3.8 | Drive type | | |
| 3.9 | Power consumption | kWh/MWp/yr | |
| 3.10 | Stow Wind Speed | Mph | |
| 3.11 | Motors per MWp | | |
| 4 | WARRANTIES | | |
| 4.1 | Manufacturer's material & workmanship (Required / As Bid) | yrs | 10 / |
| 4.2 | Motor, gear, battery, controller (Required / As Bid) | yrs | 5 / |

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| TRACKER | | | |
|----------------|------------------------|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 4.3 | Certifications | | |

| LV/MV TRANSFORMER | | | |
|--------------------------|---|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 1 | GENERAL | | |
| 1.1 | Manufacturer | | |
| 1.2 | Type/Model | | |
| 1.3 | N° of units | | |
| 1.4 | Intellectual Properties | | |
| 1.5 | Design - manufacture standards | | |
| 1.6 | Name of datasheet attached | | |
| 2 | TRANSFORMER CHARACTERISTICS | | |
| 2.1 | Type of Transformer | | |
| 2.2 | 3 x single phase or three-phase | | |
| 2.3 | Core or shell | | |
| 2.4 | Type of tank | | |
| 2.5 | Type of cooling | | |
| 2.6 | Vector group | | |
| 2.7 | Winding material LV/HV | Al/Cu | |
| 2.8 | Rated frequency | hz | |
| 2.9 | Transformer life value at IEC conditions | | |
| 2.10 | Rated power based @ 20°C | kW | |
| 2.11 | Higher grid voltage | kV | |
| 2.12 | Insulation voltage level | kV | |
| 2.13 | Short duration withstand voltage | kV | |
| 2.14 | Test voltage (60 hz 1min) | kV | |
| 2.15 | Transformation ratio | | |
| 2.16 | Primary rated current | A | |
| 2.17 | First Secondary rated current | A | |
| 2.18 | Second Secondary rated current | A | |
| 2.19 | Primary no load current | A | |
| 2.20 | Excitation current (rated V/110% rated V) | A | |
| 2.21 | Maximum inrush current HV | A | |
| 2.22 | Maximum withstand short-circuit current | kA | |

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| | | | |
|----------|---|-----|---------|
| 2.23 | Duration of short-circuit current | S | |
| 2.24 | Tappings | | |
| 2.25 | Load losses at 75°C | W | |
| 2.26 | No-load losses | W | |
| 2.27 | Short-circuit impedance | % | |
| 2.28 | Environmental class | | |
| 2.29 | Climatic class | | |
| 2.30 | Fire behavior class | | |
| 2.31 | Thermal class | | |
| 2.32 | Dimensions (width/height/depth) | In | |
| 2.33 | Weight of complete transformer | lbs | |
| 3 | accessories | | |
| 3.1 | Accessories oil type | | |
| 3.2 | Shock tightness degree | | |
| 3.3 | Salt-fogtight | | |
| 3.4 | T ^a resistance | | |
| 3.5 | Max. Rated pressure | | |
| 3.6 | Pressure range | | |
| 3.7 | Oil level | | |
| 3.8 | T ^a range | | |
| 3.9 | PT 100, Dry type | | |
| 3.10 | T ^a range | | |
| 3.11 | Output signal | | |
| 3.12 | Other technical characteristics | | |
| 4 | OTHERS | | |
| 4.1 | Temperature rising windings | °F | |
| 4.2 | Terminals (location) | | |
| 4.3 | LV | | |
| 4.4 | MV | | |
| 4.8 | Accessories | | |
| 5 | WARRANTIES | | |
| 5.1 | Product Warranty Period (Required / As Bid) | mo | 18-36 / |

| BATTERY | | | |
|----------------|------------------------|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 1 | GENERAL | - | |

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| BATTERY | | | |
|----------------|--|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 1.1 | Manufacturer | - | |
| 1.2 | Type/Model | - | |
| 1.3 | Quantity required | Qty | |
| 1.4 | Design – Manufacture Standards | - | |
| 2 | RATINGS | - | |
| 2.1 | Continuous Real Power - Discharge (Rated/Maximum) | MW | |
| 2.2 | Continuous Real Power - Charge (Rated/Maximum) | MW | |
| 2.3 | Continuous Apparent Power - Charge (leading and lagging) (Rated/Maximum) | MVA | |
| 2.4 | Continuous Apparent Power - Discharge (leading and lagging) (Rated/Maximum) | MVA | |
| 2.5 | Continuous Reactive Power (Rated/Maximum) | MVARs | |
| 2.6 | Rated Discharge Energy (BOL) | MWh | |
| 2.7 | Rated Continuous AC Current | A | |
| 2.8 | Output Voltage Range (AC grid voltage) | kV | |
| 2.9 | Output Frequency Range | hz | |
| 2.10 | Maximum Ramp Rate (charging/discharging) | MW/min | |
| 2.11 | Charge Time (Minimum/Typical/Maximum) | hr | |
| 2.12 | Recommended Charge Power | MW | |
| 2.13 | Typical Charge Time (include any rest period between charge and discharge cycle) | hr | |
| 2.14 | Expected Availability of System | % | |
| 2.15 | Typical Start Up Time / Shut Down Time | s | |
| 3 | EFFICIENCY AND CYCLE LIFE | - | |
| 3.1 | Cycle Life @ Full rated power. | qty | |
| 3.2 | Total Round Trip Efficiency, 100% DOD Cycles, Full rated power (BOL and EOL) | % | |
| 3.3 | Total Round Trip Efficiency, 100% DOD Cycles, 50% rated power (BOL and EOL) | % | |
| 3.4 | Total Round Trip Efficiency, 50% DOD Cycles, Full rated power (BOL and EOL) | % | |

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| BATTERY | | | |
|----------------|---|--------------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 3.5 | Total Round Trip Efficiency, 50% DOD Cycles, 50% rated power (BOL and EOL) | % | |
| 3.6 | Total Round Trip Efficiency, 25% DOD Cycles, Full rated power (BOL and EOL) | % | |
| 3.7 | Total Round Trip Efficiency, 25% DOD Cycles, 50% rated power (BOL and EOL) | % | |
| 4 | AUXILIARY POWER | - | |
| 4.1 | Average Auxiliary Power Required (continuous/peak) | kW | |
| 4.2 | Auxiliary Nominal Voltage | VAC | |
| 5 | ENVIRONMENT | - | |
| 5.1 | Rate Operating Temperature Range (Minimum-Maximum) | °F | |
| 5.2 | Noise Level (@ 3ft) | dba | |
| 5.3 | Rated Operating Relative Humidity Range (Minimum-Maximum) | % | |
| 5.4 | Maximum Installation Altitude Without Derating | ft a.s.l. | |
| 5.5 | Installation Type | indoor/ outdoor | |
| 5.6 | Battery Container/Enclosure Dimension (length/width/height) | in | |
| 5.7 | Weight per Battery Container/Enclosure | lbs | |
| 5.8 | Galvanic Isolation | - | |
| 6 | BATTERY CONTAINER/ENCLOSURE THERMAL MANAGEMENT | - | |
| 6.1 | Startup Time (Typical/Maximum) | s | |
| 6.2 | Shutdown Time (Typical/Maximum) | s | |
| 6.3 | Estimated Planned Outages | hr/yr | |
| 7 | BATTERY CONTAINER/ENCLOSURE THERMAL MANAGEMENT | - | |
| 7.1 | Cooling Method | - | |
| 7.2 | Configuration (i.e. 2 x 100%) | - | |

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| BATTERY | | | |
|----------------|--|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 7.3 | Cooling Air Requirement | cfm | |
| 7.4 | Heating System | - | |
| 8 | WARRANTIES | - | |
| 8.1 | BESS Product Warranty Period (Required / As Bid) | yrs | 10 / |
| 8.2 | BESS Performance Warranty Period (Required / As Bid) | yrs | 20 / |

| BALANCE OF PLANT | | | |
|-------------------------|---|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 1 | COMBINER BOXES | | |
| 3.1 | Rated output current | A | |
| 3.2 | Number of strings | | |
| 3.3 | Permissible DC voltage | Vdc | |
| 3.4 | Protection level, according to IS Codes | | |
| 3.5 | UV proof | Yes / No | |
| 3.6 | String voltage, temperature and surge protection monitoring | Yes / No | |
| 3.7 | String current monitoring | Yes / No | |
| 3.8 | Output DC switch | Yes / No | |
| 3.9 | Surge protection on DC side | | |
| 3.10 | Design Ambient Temperature (min/max) | °F | |
| 3.11 | Halogen-free and self-extinguishing housing | Yes / No | |
| 3.12 | Cooling system | Yes / No | |
| 3.13 | Earthing | Yes / No | |
| 3.14 | Warranties (Required / As Bid) | yrs | 2 / |
| 3.15 | Enclosure Rating | | |
| 2 | CABLES | | |
| 2.1 | Solar String Cable Voltage (rated/max) | | |
| 2.2 | Solar String Cable Material (conductor/insulator) | | |
| 2.3 | Solar String Cable Insulator Class | | |

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| BALANCE OF PLANT | | | |
|-------------------------|--|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 2.4 | LV Cable Voltage (rated/max) | | |
| 2.5 | LV Cable Material (conductor/insulator) | | |
| 2.6 | LV Cable Insulator Class | | |
| 2.7 | MV Cable Voltage (rated/max) | | |
| 2.8 | MV Cable Material (conductor/insulator) | | |
| 2.9 | MV Cable Insulator Class | | |
| 2.10 | HV Cable Voltage (rated/max) | | |
| 2.11 | HV Cable Material (conductor/insulator) | | |
| 2.12 | HV Cable Insulator Class | | |
| 3 | POWER CONVERSION AUXILIARY EQUIPMENT | | |
| 3.1 | General | | |
| 3.1.1 | Total number of step-up transformers per station | | |
| 3.1.2 | Total number of auxiliary transformers per station | | |
| 3.1.3 | Temperature range | °F | |
| 3.1.4 | Cooling System | | |
| 3.1.5 | Energy consumption | W | |
| 3.1.6 | Dimensions (length/width/height) | in | |
| 3.4 | UPS | | |
| 3.4.1 | Manufacturer | | |
| 3.4.2 | Type/Model | | |
| 3.4.3 | Rated Voltage | V | |
| 3.4.4 | Rated capacity | kVA | |
| 3.4.5 | Time Backup | hr | |
| 3.4.6 | Inverters and by pass switch redundant (2 x 100%) | Yes / No | |
| 3.4.7 | Protection class | | |
| 4 | INSTRUMENTATION AND CONTROL | | |
| 4.1 | Number of operator stations | Qty | |
| 4.2 | Meteorological Stations | Qty | |
| 4.2.1 | GHI Pyranometer | Qty | |

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| BALANCE OF PLANT | | | |
|-------------------------|---|--------------|-------------|
| N° | CHARACTERISTICS | UNITS | DATA |
| 4.2.2 | POA Pyranometer | Qty | |
| 4.2.3 | Ambient temperature | Qty | |
| 4.2.4 | Module temperature | Qty | |
| 4.2.5 | Wind speed (anemometer) | Qty | |
| 4.2.6 | Relative Humidity Sensor | Qty | |
| 4.2.7 | Soiling Monitoring System/Sensor | Qty | |
| 4.2.8 | Data Logger | Qty | |
| 4.2.9 | Battery Backup (required/as bid) | hr | 12 / |
| 4.2.10 | Cloud sensor | Qty | |
| 4.2.11 | Other | | |
| 5 | SPARE PARTS | | |
| 5.1 | List all recommended initial spare parts for 25 years operation | | |

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PROJECT SITE ENVIRONMENTAL CHARACTERISTICS (FROM ATTACHMENT 2 TO
APPENDIX 9 OF APPENDIX B-2)

The following table details Project Site environmental data that Seller shall use for the design of the Collector Substation. Bidder is required to fill and provide all information requested in the table. If Bidder's data differs from that specified in the table, Bidder must provide Bidder's corrected data and the justification for the change.

| DESCRIPTIONS | DATA (UNITS) |
|---|--------------|
| Elevation (substation) | |
| Contamination Level (light, medium, heavy, extra heavy)* | |
| Average Annual Temperature | |
| Average High Temperature | |
| Extreme High Temperature | |
| Average Low Temperature | |
| Extreme Low Temperature | |
| Average Annual Precipitation | |
| Maximum 24-hour Rainfall | |
| Maximum 1-hour Rainfall | |
| Maximum 24-hour Snowfall | |
| Ground Snow Load | |
| Design Ice Load | |
| Design Wind Speed | |
| Isokeraunic Level | |
| Seismic Referenced Code | |
| Mapped Spectral Response Acceleration at Short Period (0.2- Second) S_s | |
| Mapped Spectral Response Acceleration at 1-Second Period S_1 | |
| Site Class | |
| Seismic Design Category | |

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*All equipment external bushing creepage distance shall be based on this criterion. If not available, medium (35mm/kV) shall be used. This factor is applied to nominal line to ground voltage.

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