

**REQUEST FOR PROPOSALS**  
**FOR**  
**TEXAS COMMUNITY SOLAR PROJECT**

**EL PASO ELECTRIC COMPANY**

P.O. Box 982  
El Paso, Texas 79960

**ISSUE DATE: February 1, 2022**



# TABLE OF CONTENTS

## Contents

1.0	OVERVIEW .....	4
1.1	.....Purpose .....	4
1.2	.....Communications .....	5
1.3	.....Confidentiality of Responses .....	5
2.0	EL PASO ELECTRIC COMPANY SYSTEM DESCRIPTION .....	6
2.1	.....Company Overview .....	6
2.2	.....Existing Generation Resources .....	6
2.3	.....El Paso Electric Property .....	8
3.0	ELIGIBLE PROJECT INFORMATION .....	9
3.1	.....Eligible Project Structures .....	9
3.2	.....Eligible Generation Resources .....	9
3.3	.....Project Sites .....	9
4.0	BIDDER TERMS .....	10
4.1	.....Pricing .....	10
4.2	.....Collusion .....	10
5.0	RFP SCHEDULE .....	10
5.1	.....RFP Issuance .....	11
5.2	.....Notice of Intent to Bid .....	11
5.3	.....Final Submission of Bidder Questions .....	12
5.4	.....Proposal Due Date .....	12
5.5	.....Tentative Date for Selection of Projects .....	13
5.6	.....Tentative Date for Contract Discussions .....	13
5.7	.....Proposal Validity .....	13
5.8	.....EPE Purchase of Bidder’s Facility .....	13

5.9 .....Interconnection Requirements ..... 14

6.0 SUBMITTAL PREPARATION INSTRUCTIONS ..... 15

7.0 EVALUATION PROCESS..... 21

7.1 .....EPE’s Selection of Bids and Discussions with Bidders ..... 23

8.0 ATTACHEMENTS..... 26

8.1 Notice of Intent to Bid.....27

8.2 Data for All Projects.....28

8.3 Project Requirements and Technical Specifications.....29

8.4 Energy Profile Spreadsheet.....47

## 1.0 OVERVIEW

El Paso Electric Company (“EPE” or the “Company”) is soliciting turnkey proposals for the engineering, procurement, and construction (“EPC”) of a utility-scale solar energy generating facility to include an **optional** AC-coupled Battery Energy Storage System (“BESS”), land, and interconnection infrastructure, collectively, the (“Project”). Bidders are responsible for acquiring the land for the proposed Project and will ensure that all necessary land rights, as well as ownership rights in the Project, are assignable to EPE. Although **EPE has a preference for EPC proposals**, EPE will also consider a long-term Power Purchase Agreement (“PPA”) with a term of no less than thirty years for solar energy that may include a BESS. The proposed Project location may be located either within EPE’s Texas or New Mexico service territories, but preference will be given to projects sited in Texas. **THIS IS A SOLAR ENERGY AND OPTIONAL BESS PROJECT REQUEST FOR PROPOSALS (“RFP”) ONLY.** EPE desires to fulfill this requirement as described below.

The Project shall be composed of the facility, land rights, and interconnection infrastructure. Bidders will submit a proposal for EPE’s purchase of the Project and must include terms allowing for such in the PPA. The Project proposed can be the solar facility only or the solar facility coupled with a BESS. Proposals must include itemized costs or PPA prices for each option with the ratings below. Bidders can choose to submit pricing for only one option.

- 10 megawatts (MW) alternative current (AC) Solar
- 10 MW<sub>AC</sub> Solar with 3MW/4-hour BESS

EPE will evaluate all proposals taking into consideration overall EPC costs or PPA prices and Bidder experience. EPE also requires that the proposals utilize local distributors and contractors where possible, and that Bidders provide details on how they will accomplish this requirement.

### 1.1 Purpose

EPE seeks a competitive proposal (“Proposal”) for either a PPA or the complete design, procurement of all material and equipment, construction, and startup of the Project. The Project should target maximum energy output and minimum levelized cost of energy. In the case of an EPC Proposal, the Project will be owned by EPE and EPE intends to take advantage of the price benefit provided by any applicable tax credits effective at the end of 2023. For PPA Proposals, EPE requests terms facilitating the transfer of the Project to EPE as soon as economically reasonable for the Project with a preference given to those transfers occurring on or before year seven of the PPA term. The BESS must be charged by the solar photovoltaic (“PV”) facility 100% of the time on an annual basis for the first five years to claim the full value of the federal Investment Tax Credit. The

Project must be on-line and generating electricity as stated in the RFP Schedule (i.e., May 7, 2024). EPE will take into consideration the overall cost of the Project or PPA price, Bidder's experience including megawatts of financed projects, partnerships with financial entities, and Bidder's use of local distributors/manufacturers and contractors.

### Eligibility of Sites

For the purpose of this solicitation, EPE will **NOT** consider any proposal without a proposed site for the Project to be developed. EPE reserves the right to provide a site to Bidders should it have an acceptable parcel within its portfolio.

## **1.2 Communications**

All communications from Bidders to EPE, including questions regarding this RFP, must be submitted via email. Based upon the nature and frequency of the questions EPE receives, EPE will choose to respond to individual Bidders either directly, share the response with all bidders, or address the question through a conference call.

All submittals, inquiries, and communications related to this RFP should be directed solely to the following EPE point of contact:

Louie Gonzalez  
Contract Negotiator  
P.O. Box 982  
El Paso, Texas 79960  
Fax: (915) 543-4073  
E-mail: [louie.gonzalez@epelectric.com](mailto:louie.gonzalez@epelectric.com)

**All communications between Bidders and EPE shall be conducted via email. Oral communications are discouraged and shall not be binding upon EPE.**

## **1.3 Confidentiality of Responses**

EPE will consider proposals and associated information submitted by Bidders to be confidential. It is the Bidders' responsibility to clearly indicate in its proposal what information it deems confidential. Bidders may not mark an entire proposal as confidential, but instead must mark specific information on individual pages to be confidential in order to receive confidential treatment. Except as required by regulatory reviews, subpoena, or court order, EPE will use reasonable efforts to avoid disclosure of information designated as confidential to persons other than those involved with the evaluation, selection, and any subsequent negotiations. To the extent that Bidders receive information from EPE, Bidders

shall maintain the confidentiality of such information and such information shall not be available to any entity before, during, or after this RFP process unless required by law or regulatory order.

Bidders should be aware that information received in response to this RFP will be subject to the review of applicable local, state, and/or federal regulatory agencies, specifically including, but not limited to, the Public Utility Commission of Texas (“PUCT”), the New Mexico Public Regulation Commission (“MNPRC”), and the Federal Energy Regulatory Commission (“FERC”). All Bidders must cooperate with EPE in making technological descriptions, pricing, and other contract terms available for review as part of any regulatory approval process as EPE deems necessary or appropriate. EPE will follow applicable orders and rules of the PUCT, NMPRC, and/or other applicable agency, including any protective orders issued, such as disclosure of price, terms, or other information as required; therefore, EPE cannot promise that information marked as confidential will not be publicly disclosed, and, as such, EPE cannot be held liable for any information that is ordered to be released or that is inadvertently released. EPE will endeavor to provide reasonable notice to a Bidder if a Bidder’s confidential information is requested through a regulatory proceeding, subpoena, court order, or other such legal proceeding in order to provide the Bidder an opportunity to prevent or limit the disclosure of the requested information.

Information submitted in response to this RFP may become subject to federal or state laws pertaining to public access to information as a result of any reviews conducted by the aforementioned agencies. EPE shall not be liable for the release of any information subject to disclosure under any laws pertaining to public access to information.

## **2.0 EL PASO ELECTRIC COMPANY SYSTEM DESCRIPTION**

### **2.1 Company Overview**

EPE is a public utility engaged in the generation, transmission and distribution of electricity in an area of approximately 10,000 square miles in the Rio Grande Valley in West Texas and south-central New Mexico as illustrated in Figure 1. As of September 2021, EPE serves approximately 444,300 residential, commercial, industrial, and wholesale customers. EPE distributes electricity to retail customers, principally in El Paso, Texas, and Las Cruces, New Mexico, utilizing remote and local generating stations.

### **2.2 Existing Generation Resources**

As of 2021, EPE owns approximately 2,039 MW of net dependable capacity. EPE owns 622 MW of generating capacity at the Palo Verde Nuclear Generating Station. Of EPE’s net total installed capacity, EPE owns local natural gas fired generating resources, which include 63 MW at its Copper Generating Station, 273

MW at its Rio Grande Generating Station, 729 MW at its Newman Generating Station, and 352 MW at Montana Power Station. EPE also receives a total of approximately 115 MW of solar capacity from several solar projects located in its service territory.

2.3 El Paso Electric Property

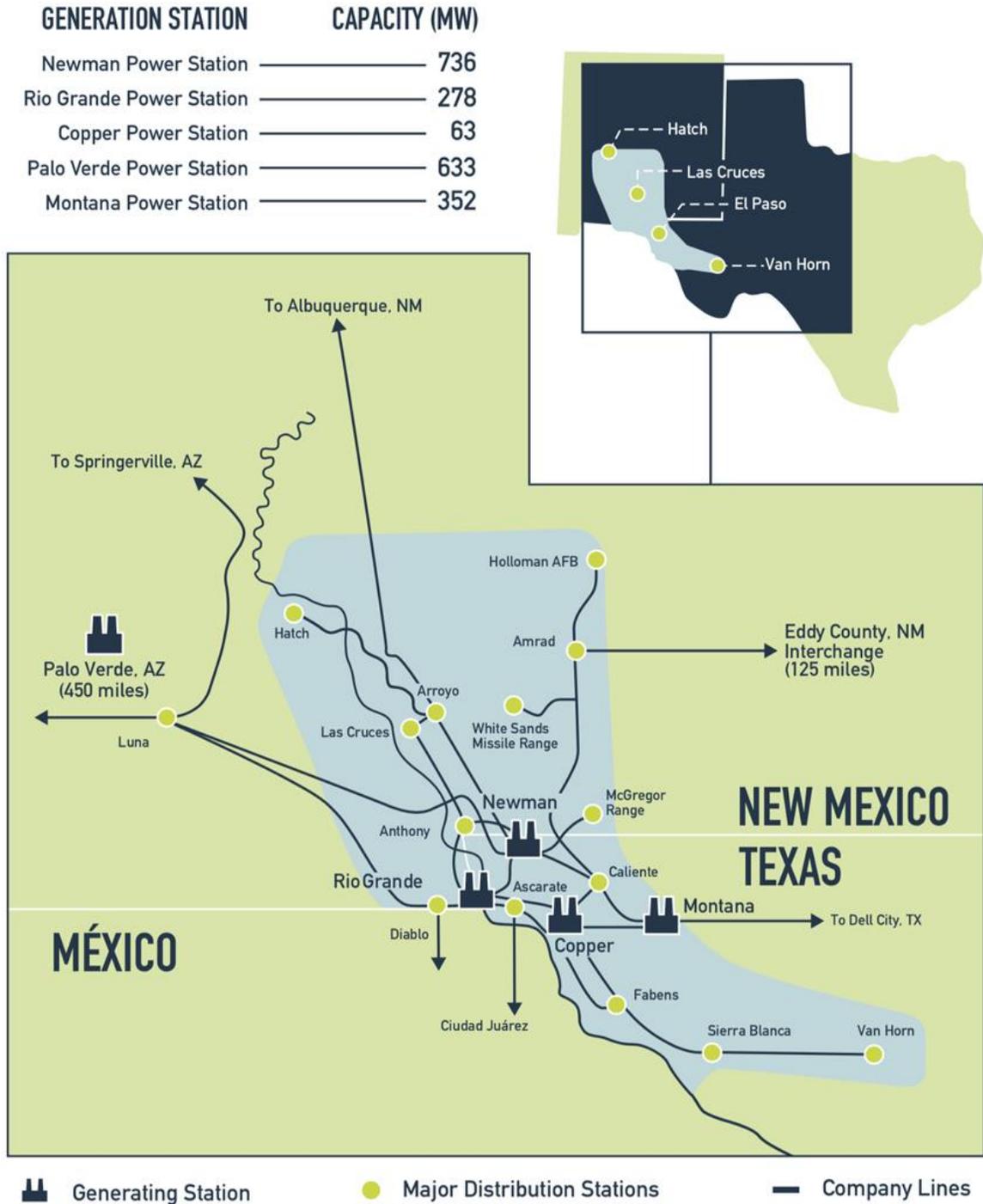


Figure 1 - EPE Service Territory and Electric System

## **3.0 ELIGIBLE PROJECT INFORMATION**

### **3.1 Eligible Project Structures**

EPE will own the EPC Project contracted through this solicitation process. For PPA Proposals, EPE requires an option to facilitate the purchase of the Project preferably no later than year seven of operation. EPE is interested in selecting offers for the project that provides the best value for EPE to include bidder experience in building similar types of utility-scale facilities, quality of major equipment, and lowest total cost over the life of the facility for the expected energy output. Bidders should demonstrate sufficient resources to effectively manage the proposed project.

### **3.2 Eligible Generation Resources**

The Project must utilize a proven reliable form of solar technology; including PV systems. For PV submittals, the facilities must utilize either crystalline or thin-film solar PV technology in a single axis tracking configuration. All major equipment and components must be tier-one rated. In order to be considered, the type of technology and key components proposed must have a minimum of 24 months of established production and use at a single plant location at a scale greater than or equal to the capacity of the facility to be built.

The solar net capacity must represent the expected capacity during the first year of operation, less any losses once the energy is delivered to the facility meter on the project site. The Standard Test Conditions (“STC”) for the solar panels must be a solar irradiance of 1000 Watts per square meter and a module cell temperature of 25° Celsius. Bidders should also identify the expected annual degradation factor.

The standards in Attachment 8.3 apply to the Project.

### **3.3 Project Sites**

EPE is requiring Bidders to have and provide evidence to EPE of a feasible site(s) selected and at a minimum have a firm option to purchase or lease to demonstrate site control with landowner(s) and other stakeholders that may impact the execution of the land purchase or lease. For sites on federal or state land, alternate documentation may be considered. Each proposal should include a proposed site for the location of the Project. Bidders are responsible for complying with all permitting requirements. At the completion of the Project any land rights must be transferable and assignable to EPE.

EPE reserves the right to offer Bidders a site within its portfolio.

**4.0 BIDDER TERMS**

**4.1 Pricing**

- a. Proposals must include all costs necessary to deliver capacity and energy from the facility to the EPE system including, but not limited to, construction and interconnection of the facility. Bidders are allowed to submit more than one proposal, suggesting different Project site location(s); however, pricing should be kept separate. Bidders are also allowed to submit both an EPC Proposal and a PPA Proposal. All proposal terms, conditions, and pricing are binding through the final selection notification, subsequent negotiations, as well as regulatory approvals.
- b. By submitting a Proposal, each Bidder agrees to make available to the Company at any point in the bid evaluation process any financial data associated with the Bidder and its proposed project so the Company may independently verify the Bidder submitted information. Financial data may include, but shall not be limited to, data supporting the economic life of the facility, the fair market value of the facility, and any and all other costs (including debt specific to the asset being proposed) associated with the Bidder’s Proposal. The Company may also use financial data contained in Bidder financial statements (e.g., income statements, balance sheets, etc.) as necessary.

**4.2 Collusion**

By submitting a proposal to EPE in response to this RFP, the Bidder certifies that the Bidder has not divulged, discussed, or compared its Proposal with any other Bidder(s) and has not colluded whatsoever with any other Bidder or third parties with respect to this or other Proposals.

**5.0 RFP SCHEDULE**

The following schedule and deadlines apply to this solicitation:

RFP Issuance Date	February 1, 2022
Notice of Intent to Bid Due Date	February 22, 2022
Pre-Bid Meeting	March 8, 2022
Final Submission of Questions Date	March 22, 2022

Response to Questions	March 28, 2022
<b>Proposal Due Date</b>	April 4, 2022
Shortlisted Bidders Notification Date	April 25, 2022
Best and Final Proposals Due	May 9, 2022
EPE Selection of Project(s) Tentative Date	May 31, 2022
Contracts Negotiations Tentative Date	September 30, 2022
Regulatory Approvals, Rate Approval	May 1, 2023
Notice to Proceed	May 8, 2023
Target Commercial Operation Date	May 7, 2024

EPE reserves the right to modify, cancel, or withdraw this RFP and to revise the schedule specified above if, at EPE's sole discretion, such changes are necessary. To the extent reasonably possible, EPE will inform Bidders that have filed a Notice of Intent to Bid of any schedule change.

## 5.1 RFP Issuance

EPE will post its Texas Community Solar Project RFP on EPE's website (<https://www.epelectric.com/company/request-for-proposals>) on the RFP issuance date.

Bidders who intend to bid must confirm receipt of the RFP invitation via e-mail to EPE's point of contact, Louie Gonzalez at the following email address:

[louie.gonzalez@epelectric.com](mailto:louie.gonzalez@epelectric.com)

## 5.2 Notice of Intent to Bid

Bidders must submit a Notice of Intent to Bid, included as Attachment 8.1, by 5:00 pm Mountain Daylight Time (MDT) on February 22, 2022. The Notice of Intent to Bid may be submitted via email or facsimile to Louie Gonzalez at [louie.gonzalez@epelectric.com](mailto:louie.gonzalez@epelectric.com) or (915) 543-4073. Failure to submit a Notice of Intent to Bid will result in exclusion from participation in the bidding process.

It is the sole responsibility of the Bidder to ascertain that the Notice of Intent to Bid is received by EPE prior to the date and time specified.

Receipt of the Notice of Intent to Bid will be confirmed via e-mail response from EPE to the Bidder.

### **5.3 Final Submission of Bidder Questions**

All questions related to the RFP must be submitted by March 22, 2022, via email to the following EPE representative to ensure a response prior to the proposal due date.

Louie Gonzalez  
Contract Negotiator  
100 North Stanton Street  
El Paso, Texas 79901  
Fax: (915) 543-4073  
E-mail: [louie.gonzalez@epelectric.com](mailto:louie.gonzalez@epelectric.com)

EPE will prepare responses to questions received and distribute the questions and responses to Bidders that filed a timely Notice of Intent to Bid. Responses will be distributed to such Bidders with the question included but will not identify who originally submitted the question. Any questions related to the RFP must be submitted in writing via email.

### **5.4 Proposal Due Date**

Proposal must be received at EPE's offices to the attention of Louie Gonzalez, Contract Negotiator, 100 North Stanton Street, Location #121, El Paso, Texas 79901 and uploaded to Kiteworks Secure Workspace by 5:00 pm MDT on **April 4, 2022**. Any proposal submitted after the due date will be excluded from consideration.

Two hard copies of the Proposal must be submitted. In addition, a soft copy of the Proposal must be uploaded to Kiteworks Secure Workspace. The email address supplied on the Notice of Intent to Bid (Attachment 8.1) will be used to provide access to Kiteworks Secure Workspace. A link to upload Proposal will be provided by EPE in a timely manner, any issues when accessing or uploading the Proposal should be communicated to EPE by email: [louie.gonzalez@epelectric.com](mailto:louie.gonzalez@epelectric.com) before the deadline. Facsimile submittals will be excluded from consideration.

Bidder is solely responsible for ensuring the Proposal is received by EPE in accordance with the RFP instructions prior to the date and time specified, and at the place specified. EPE will not be responsible for any delays in mail, or by common carriers, by transmitting errors, or mislabeling.

## 5.5 Tentative Date for Selection of Projects

Following a review of technical, economic, and potential environmental factors, EPE will make a determination if the project best meets its objectives and may initiate negotiations with Bidder. EPE intends to select a project and notify selected bidder by May 31, 2022.

## 5.6 Tentative Date for Contract Discussions

Should EPE choose to initiate negotiations with Bidder, the tentative date for completion of contract negotiations with the Bidder is **September 30, 2022**. Any contract between EPE and Bidder will be conditioned upon approval by EPE's board of directors and regulatory approval by the PUCT or other regulatory bodies. EPE, at its sole discretion, reserves the right to reject any proposed contract(s) that result from this RFP for any reason including if subsequently issued regulatory approvals or authorizations are subject to conditions, including ratemaking treatments, which are unacceptable to EPE.

## 5.7 Proposal Validity

Each Bidder must hold its proposal open and valid for a period of 365 days following the submittal and during the time necessary to complete state regulatory approvals.

## 5.8 EPE Purchase of Bidder's Facility

Flexibility is afforded to Bidders regarding the facility's characteristics, as may be necessary to meet the requirements of the RFP. Proposals for Projects whose production bid amounts would exceed EPE's required AC capacity will not be considered.

EPE is requiring Bidders to have a feasible site(s) selected and at a minimum have and provide evidence to EPE of site control with the landowner(s) and other stakeholders that may impact the execution of the land purchase or lease in the form of an option to purchase or lease. For sites on federal land, alternate documentation may be considered. EPE has a preference for projects on land owned by the Bidder, but EPE may, at its sole discretion, consider proposals based on projects built on leased land.

EPE is not and will not be responsible for site selection, land acquisition, environmental permitting, and water upgrades/infrastructure fundamental to the Project's successful completion. The entirety of an EPC Project shall be transferable and assignable to EPE upon completion, while PPAs shall provide for

the transferability of the Project as soon as economically reasonable for the Project but no later than year seven of Project operation.

Proposals must also provide an available energy profile (MWh or kWh) on an hourly basis for an average day in each month using the template provided by EPE as Attachment 8.4. EPE reserves the right to request additional information from the Bidder regarding limitations or any other details related to the proposal.

EPE is responsible for obtaining any required regulatory approvals, but Bidder agrees to provide necessary information and cooperation to facilitate such approval. Bidders are responsible for acquiring and maintaining all applicable present and future federal, state, and local approvals, licenses, permits, or variances and for meeting specific requirements to engineer, procure, and construct any generation facility and any associated interconnection facilities.

For EPC Proposals, Bidders must provide a specific cost forecast for ongoing operations and maintenance (“O&M”). An O&M manual must be provided to EPE that details the maintenance schedule and cycle for the solar facility’s components. EPE is also interested in receiving proposals that include ongoing O&M performed by Bidders or a third-party contractor under an O&M contract. Bidder should specify contract terms and operating cost guarantees for this option. Preference will be given to those EPC Proposals that include a guaranteed energy output and capacity coupled with three years of O&M services for the Project.

Bidders must provide specific plans and processes for decommissioning the facility when the end-of-life stage of the units is achieved. The decommissioning plan should include any options and/or services offered by manufacturers of the equipment for safe disposal or recycling of PV/BESS, and processes to remove the facility and restore the premises to its former condition. The decommissioning plan should provide a specific cost forecast for decommissioning and removal of the facility at the end of year 30 of production.

## **5.9 Interconnection Requirements**

A meeting will be scheduled with the selected Bidder to discuss the interconnection requirements and associated costs.

For EPC Proposals, the Project must deliver capacity and energy by directly interconnecting to EPE’s distribution system (dependent on location and feeder/system characteristics), further information to be discussed with short list Bidders. EPE is indifferent as to the type of interconnection utilized by the Project for PPA Proposals, but Bidders interconnecting at a transmission level must demonstrate the ability to secure firm transmission paths to EPE’s local transmission system.

For interconnection inquiries relating to this RFP, Bidder must pose questions via email or facsimile to EPE's point of contact:

Louie Gonzalez  
Contract Negotiator  
Fax: (915) 543-4073  
E-mail: louie.gonzalez@epelectric.com

## 6.0 SUBMITTAL PREPARATION INSTRUCTIONS

### 6.1 General Information

#### a. Currency

Prices and dollar figures must be clearly stated in nominal United States Dollars.

#### b. Schedule

Proposals shall be submitted in strict accordance with the RFP schedule.

#### c. Extensions

EPE is not obligated to grant any extensions to the RFP schedule nor is it obligated to accept late proposals. Any proposal received after the scheduled date may not be considered and the Bidder will be notified of its elimination.

#### d. Reservation of Rights

EPE reserves the right to accept or reject, at its sole discretion, any or all proposals for any reason at any time after submittal. EPE also reserves the right to select an offer that is not the lowest price, if EPE determines that to do so would result in the greatest value to EPE's customers.

#### e. Failure to Comply

Failure to comply with all requirements of this RFP may result in the rejection of the applicable proposal at EPE's sole discretion.

#### f. No Liability

Bidders that submit Proposals do so without legal recourse against EPE or its directors, management, employees, agents, contractors, or independent monitor based on EPE's rejection of any proposal or for failure to execute any agreement in connection with this RFP. EPE will not be liable to any Bidder or to any other party in law or equity, for any reason whatsoever relating to EPE's acts or omissions arising out of or in connection with this RFP. EPE further declares that it will incur no financial liability or obligation for Bidder's costs in preparing proposals.

#### g. Return of Documents

None of the materials received by EPE from Bidders in response to this RFP will be returned. All proposals and exhibits will become the property of EPE, subject to the provisions for confidentiality described in this document.

## **6.2 Proposal Content**

The Proposal must be prepared in accordance with the guidelines set forth in this section. Failure to follow the preparation instructions may result in the exclusion of the Proposal from consideration. EPE reserves the right to conduct any further due diligence it considers necessary to fully understand and evaluate the proposal.

The Proposal should be organized by section as described below. Each page of the Proposal shall have the following information in the top right-hand corner.

- 2022 Texas Community Solar Project RFP
- Bidder Name

All of the following sections shall be completed or identified as “Not Applicable”.

A complete Proposal will include a thorough written discussion about the project, assembled in the following format:

- Tab 1 - Executive Summary
- Tab 2 - Project Description and Technical Information
- Tab 3 - Project Costs
- Tab 4 - Experience and Qualifications
- Tab 5 - Distribution and Interconnection
- Tab 6 - Land Description
- Tab 7 - Company Financial Information

### **Tab 1 - Executive Summary**

The Executive Summary should provide an overall description of the Proposal. The description should include details whether the Proposal is for an EPC or PPA and about the type of solar energy Project being proposed and key benefits to EPE. At a minimum the summary should specify the technology, size of Project, first year energy output, Project location, Project cost or PPA prices, and an explanation of how and to what extent the Bidder intends to use local distributors, manufacturers, and contractors, where possible, to construct the solar generating facility.

### **Tab 2 – Project Description and Technical Information**

All Proposals must include a thorough description of the project including, but not limited to, the following:

**Project Description**

All Proposals must provide a comprehensive description of the Project, including the Project name, proposed location, nameplate AC capacity rating, accredited capacity, in-service date, equipment and configuration, permitting, interconnection plan, milestones, meteorological studies/performance simulation data, and any other pertinent information.

**Equipment Description**

At a minimum, Proposals should indicate for all major equipment the (1) manufacturer; (2) model name and number; (3) key metrics and characteristics of the equipment; (4) performance history of the equipment; (5) terms of product, workmanship, performance, and any other warranties and/or guarantees; (6) contracting status; and (7) availability of equipment and planned delivery dates. Bidders must highlight any smart inverter features that add operational and resilience value to the project.

The following technical information should be discussed in this section, as applicable for the project proposed.

- Equipment data sheets
- Major equipment manufacturers' point of contact
- Description of technology and configuration
- Status of site control consistent with minimum requirements
- Site layout map and characteristics (such as lease agreements, waste disposal, etc.)
- Summary of the commercial operating experience of the equipment used or to be chosen
- Solar/BESS system layout and characteristics
- Electrical interconnection metering
- Level of efficiency
- Solar DC and AC ratings
- BESS DC and AC ratings, charge/discharge ratings
- Annual degradation rate, BESS life cycle
- Communications, control, instrumentation, and protective devices
- Facility limitations that may constrain operation
- Hourly energy profile spreadsheet (Attachment 8.4)
- Proposed construction period
- Project Management
- Quality assurance plans
- Performance guarantees and warranties
- Start-up standard testing
- Factory and performance tests

- Design life loading (wind, seismic, etc.)
- Description of pre-operational milestones (i.e., construction financing, land lease/purchase completion, commencement, installation, testing and completion dates)
- Description of frequency and duration of scheduled maintenance of facility
- Provide any information that could impact the cost, construction schedule or output capability of the project

### **Project Schedule**

All Proposals must provide a detailed schedule of Project development activities and target completion dates for financing, engineering, permitting, notice to proceed, equipment procurement, construction, startup, and commissioning. Proposals must also describe the overall development strategy and work plan that will ensure that the project can be developed in time to meet the proposed commercial operation date.

Bidders must provide a high-level project development and completion schedule along with key milestone dates for the Proposal submitted. Bidder must provide a project schedule which demonstrates how the Bidder intends to mobilize its workforce and resources to complete the Project within the proposed schedule.

The project schedule shall include identifying milestones in PDF, compiled from Microsoft Project.

### **Risk Management and Insurance Program**

Bidders shall provide a list of existing insurance contracts, listing policies by coverage, expiration date, insurer and limits per policy. Also, on a per coverage basis, provide current experience modifier and prior Loss History for the last three (3) years. Bidders shall also describe their Risk Management program if insurance coverage will derive from a parent company. Additional information may be requested based on information provided with the original proposal.

### **Operations and Maintenance (“O&M”) Plan**

Bidders shall describe the operations and maintenance plans or services for the generation facilities associated with their Proposals. Bidder should discuss the current or expected O&M plan, including staffing, budget, management and control over any facility, authority over the O&M budget, and guarantees on O&M costs. Additionally, Bidder should provide a description of the basic philosophy for performing O&M and include a discussion of contracting for outside services, if applicable. For EPC Proposals, Bidders are required to submit the cost of a three-year O&M service plan with the option to extend.

### **Decommissioning Plan**

Bidders shall describe decommissioning plans or services for the generation facilities associated with their Proposals. Bidders should discuss current and/or expected decommissioning plans, including staffing, budget, processes, etc. The decommissioning plan should guarantee that the premises will be restored to its former condition. Bidders are required to submit a cost forecast for decommissioning and removal of the facility at the end of year 30.

### **Permitting Status**

Proposals must describe all federal, state, and local permits that will be required for the Project and state whether any permits have been secured, and if not, whether applications have been filed. Proposals must report on the status of any pending applications and any feedback from permitting agencies and describe the expected time frame to obtain the necessary permits after application submittal to agencies.

### **Regulatory and Environmental Compliance**

Bidders are exclusively responsible for meeting all required federal, state, and local permits, licenses, approvals and/or variances, current or future. Bidders are required to demonstrate that all required permits have been attained or provide a specific timeline for future permit approval.

Provide information on the following as applicable.

- Regulatory permits
- Environmental Clearance for sensitive resources (such as cultural, protected species, etc.)
- Other applicable permits

### **Tab 3 –Project Cost**

EPC Proposals must clearly state the solar and optional BESS installed facility cost, land cost, and interconnection costs separately. EPC Proposals must include an itemized breakout of the Project costs including, but not limited to, solar only, solar plus battery option, land, distribution system, modules, inverters, transformers, balance of plant, installation labor, engineering, O&M service plan, decommissioning plan, taxes, etc. Bidders must offer project costs valid for at least 365 days following the proposal due date and during the time required for EPE to obtain any regulatory approvals.

PPA Proposals must clearly state the PPA price. EPE will only consider fixed PPA pricing options for energy (at a cost per megawatt hour) and/or capacity (cost per kilowatt per month). Bidders shall provide a specific formula for contract energy and capacity pricing and include a description of the proposed price formula for each component (e.g., if the Project includes a BESS, what is the fixed price for solar energy and what is the fixed capacity charge for the battery

storage). Additionally, to the extent possible, the purchase price for the Project on the option date or a formula for determining the purchase price that facilitates a transfer within the desired time period.

#### **Tab 4 – Experience and Qualifications**

The capability and experience of any Bidder must be demonstrated to provide assurance that the Bidder, and any other party involved in the Proposal, has adequate competence, resources and skill. Each Proposal must include the following information as a minimum.

- Description of technical experience, specifically with respect to solar energy facilities similar to those proposed and collaboration efforts with electric utilities, if any
- Description of operations and maintenance experience including megawatts monitored and maintained, years providing O&M services, experience with different types of panels and technologies, and number of team members dedicated to O&M services
- Description of completed projects, total megawatts installed and customers with a specific identification of projects on which the Bidder has served as an EPC contractor, PPA provider, or similar role.
- Years in business
- Description of financial backing
- Description of major components directly manufactured by bidder and those that will be procured from another company
- Description of licenses applicable at project location
- References for similar projects

#### **Tab 5 – Transmission, Distribution and Interconnection**

EPC Projects must interconnect at distribution grid voltage level with the EPE System, while PPA Projects may interconnect at either the distribution or transmission grid voltage level. Bidders should describe and include possible point(s) of interconnection with the EPE system and/or list any possible upgrades needed/recommended to be able to interconnect the Project at the proposed point. Proposals should include a listing, description, and associated timing for required permitting up to the interconnection point/facilities.

#### **Tab 6 – Land Description**

Provide legal description and location of the proposed land. Include current site control and plan to provide site control to EPE. EPE is requiring Bidders to have and provide evidence to EPE of a feasible site(s) selected and at a minimum have

a firm option to purchase or lease to demonstrate site control with landowner(s) and other stakeholders that may impact the execution of the land purchase. Bidder is to provide a KMZ file of the property outlining the available area.

### **Tab 7 – Financial Information**

The financial viability of any proposal must be demonstrated to provide assurance that the Bidder, and any other party involved in the proposal, has adequate financial capability. Each proposal must include the following information at a minimum:

- Most recent financial report for the Bidder and any other parties involved, or most recent copy of Certified Public Accountant (“CPA”) audited (or Reviewed) income statement, balance sheet and cash flow statement
- Provide Annual reports for the three most recent fiscal years that include CPA audited (or Reviewed) financial statements or CPA audited (or Reviewed) consolidated income statement and balance sheet for the three most recent fiscal years
- Investment rating of Bidder or its parent company by Moody’s and/or Standard & Poor’s as applicable
- Description of any current credit issues raised by rating agencies, banks, or accounting firms
- Partnerships within the financial community
- Description of construction financing for the project, include any financing commitments and available lines of credit
- Megawatts of past financed projects
- Financial guarantees from affiliates or others, as appropriate

Note: EPE will request that the selected Bidder provide points of contact for financing partners/institutions and manufacturers providing lines of credit, a list of all lawsuits, regulatory proceedings, or arbitration in which the Bidder or its affiliates or predecessors have been or are engaged in that could affect Bidder’s performance of its bid. Identify the parties involved in such lawsuits, proceedings, or arbitration, and the final resolution or present status of such matters.

## **7.0 EVALUATION PROCESS**

EPE will assess the proposal, pursuant to the requirements of the RFP and the evaluation criteria developed by EPE. EPE will evaluate bids based on all-in turnkey installed cost, overall cost or PPA price per kWh and life cycle cost on a net present value basis, utilization of local inputs, and other relevant factors. The assessment will consider economic and technical factors. **EPE does have a preference for EPC Proposals and will assess Proposals accordingly.**

## **Proposal Review**

EPE will use both quantitative and qualitative criteria to evaluate Proposals. EPE will first determine if each Proposal satisfies the threshold requirements summarized below. Only those Proposals that satisfy the requirements of the screening evaluation will be further evaluated. If at any time during the evaluation process, EPE determines that a Proposal does not meet its requirements, including timely submission of all documents pursuant to this RFP, such Proposal will no longer be considered for this RFP and EPE will notify the Bidder accordingly during its notification process.

Favorable proposal characteristics include:

- Solar Projects – EPE seeks Projects utilizing established solar energy technologies
- Low Cost – EPE seeks Proposals that will provide low-cost energy
- High Efficiency and Performance – Proposals that provide high efficiency and performance will provide additional value to EPE
- Completeness and Responsiveness – Proposals must meet all criteria set forth in the RFP. A thorough explanation of all aspects of the proposal should be included. Detailed Project Engineering should be provided.
- Financial Viability and Creditworthiness – Success of the Project relies on the financial capabilities of all parties involved; Bidders should have a proven financial track record and be able to provide documentation that demonstrates access to financial resources required to complete the Project
- Experience – EPE seeks Proposals from Bidders that possess extensive engineering, construction, technical, operating and maintenance experience, and a history of successful projects of a similar nature
- Compliance with Texas and New Mexico regulations

## **Threshold Evaluation**

### **Step 1 – Bid Eligibility Determination**

Each Proposal will be reviewed to determine if it meets the requirements outlined in this RFP. The Company reserves the right to reject any, all, or portions of any Proposal received for failure to meet any criteria set forth in this RFP. The Proposal must be submitted on time and comply with the submission instructions.

### **Step 2 – Initial Bid Screening Process**

The Company will calculate the levelized cost per megawatt hour (“\$/MWh”) for each bid based on information provided in the Proposal and will rank the results from lowest cost to highest cost. A reasonable number of the lowest priced Proposals will be identified for further evaluation efforts. Bidders are advised that PPA price and total life cycle cost will be a major factor in EPE’s evaluation,

but EPE will also consider other qualitative and quantitative factors. Proposals with prices significantly above the others may not receive further screening evaluation.

### **Step 3 – Due Diligence**

The Company will conduct due diligence efforts on those proposals that pass through the initial screening process described in Step 2.

#### Other Due Diligence

The Company will conduct other due diligence as part of the overall bid evaluation process, including, but not limited to, consideration of the following Proposal characteristics:

- Bidder or developer experience
- Financial strength/credit worthiness of the bidder
- Reasonableness of the generation profile proposed
- Financing plan · Development, construction and operation experience
- Solar technology, availability, and warranties
- Risk Management, coverages, loss histories, description of program
- Environmental permitting and compliance
- Safety record · QA/QC experience
- Project operational characteristics
- Supply-Chain risk
- Counterparty viability
- Transmission or distribution access plan feasibility and arrangements
- Transmission or distribution upgrades schedule assessment
- Construction and equipment supply plans and arrangements
- Operations & Maintenance Plan
- Project execution planning
- Bidder’s ability to complete project within the proposed schedule
- Environmental impact and profile
- Contract risk related to the development of the project
- Bidder’s performance on previous projects with the Company

### **Step 4 – Best and Final Proposal**

Subsequent to short-list selection and due diligence by EPE, short-listed Bidders will be allowed to submit a best and final proposal. EPE will evaluate the best and final Proposals submitted and select the final Proposal that will be subject to contract negotiations.

## **7.1 EPE’s Selection of Bids and Discussions with Bidders**

### a. Meetings with Shortlisted Parties

EPE may conduct meetings with shortlisted Bidders to gain a greater understanding of the structure and components of each proposal. EPE may also

require the shortlisted Bidders to submit project and/or Bidder-specific pro forma financial statements by year for the applicable facility development and construction period, including income statements, balance sheets and statements of cash flows. EPE will reevaluate any significant changes to the Proposal based on new understanding of each shortlisted Bidder's Proposal as a result of the shortlist meetings.

b. Final Evaluation and Selection

After conclusion of Bidder meetings and detailed evaluation of the best and final Proposals, EPE may select a Proposal for negotiation of the PPA or EPC and/or O&M Agreements. EPE will notify shortlisted Bidders whose Proposals are eliminated from further consideration in accordance with the RFP schedule.

c. Right to Terminate Negotiations

If EPE cannot reach acceptable purchased power or EPC and/or O&M agreement terms with the final selected Bidder or Bidders, EPE reserves the right to terminate negotiations with such Bidders and begin discussions with other Bidders, begin a new solicitation, or cancel this RFP. Furthermore, EPE at its sole discretion, reserves the right to not select any Proposals for negotiation of purchased power or EPC and/or O&M agreements if warranted by its evaluation.

## Notice of Disclaimer

EPE has prepared the information provided in this RFP to assist interested persons and entities in making a decision whether to respond with a proposal. EPE reserves the right to modify, change, supplement or withdraw the RFP at its sole discretion. No part of this document or any other correspondence from EPE, its employees, officers or consultants shall be taken as legal, financial, or other advice, nor as establishing a contract or any contractual obligations. All communication between Bidders and EPE shall be conducted in writing.

EPE makes no representations or warranties regarding the completeness of the information contained within the RFP and does not purport that this RFP contains all of the information needed for Bidders to determine whether to submit a proposal. Neither EPE nor its employees, officers or consultants will make, or will be deemed to have made, any current or future representation, promise or warranty, expressed or implied, as to the accuracy, reliability or completeness of the information contained within the RFP or any other information provided to Bidders.

Bidders who submit proposals do so without legal recourse against EPE, or EPE's directors, management, employees, agents or contractors, due to EPE's rejection, in whole or in part, or their proposal or for failure to execute any agreement with EPE. EPE shall not be liable to any Bidder or to any other party, in law or equity, for any reason whatsoever related to EPE's acts or omissions arising out of, or in connection with, the RFP process.

EPE reserves the right to reject, for any reason, any and/or all proposals. EPE further reserves the right to waive any irregularity or technicality in proposals received, or to consider alternatives outside of this solicitation, at its sole discretion, to satisfy its capacity and energy needs. In addition, EPE reserves the right, at its sole discretion, to modify or waive any of the criteria contained herein and/or the process described herein.

No Bidder will have any claim whatsoever against EPE, its employees, officers, or consultants arising from, in connection with, or in any way relating to this RFP. Without limiting the generality of the foregoing, each Bidder agrees, by and through its submission of a proposal, that rejection of a proposal will be without liability on the part of EPE, its employees, officers, or consultants, nor shall a Bidder seek recourse of any kind against any of the foregoing on account of such rejection. The filing of a proposal shall constitute an agreement of the Bidder to each and all of these conditions. Each Bidder and recipient of this RFP is responsible for all costs incurred in evaluating, preparing and responding to this RFP. Any other costs incurred by any Bidder during negotiations are also the responsibility of the Bidder.

## 8.0 ATTACHEMENTS

**8.1 Notice of Intent to Bid  
(Complete the Notice of Intent for each Project to be proposed)**

1. Company Name: \_\_\_\_\_

2. Company Address: \_\_\_\_\_  
\_\_\_\_\_

3. Contact Person Information:

Name	
Title/Position	
Mail Address	
Courier Address (if different)	
Telephone Number	
Fax Number	
E-mail Address	

4. Project Facilities Proposed: \_\_\_\_\_  
\_\_\_\_\_

5. Project Location: \_\_\_\_\_

6. Authorized Signature: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

7. Date: \_\_\_\_\_

The Notice of Intent to Bid may be submitted via e-mail or facsimile to Louie Gonzalez at [louie.gonzalez@epelectric.com](mailto:louie.gonzalez@epelectric.com) or (915) 543-4073, or mailed to Louie Gonzalez, Contract Negotiator, at P.O. Box 982, Location 121, El Paso, Texas 79960. Receipt of the Notice of Intent to Bid will be confirmed in an e-mail from EPE to the Bidder. **This form should be delivered to the above address no later than 5pm Mountain Prevailing Time (MPT) on February 22, 2022.**

**8.2 Project Data**

1. Provide a detailed description of each solar project:

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## 8.3 Solar PV Project Requirements and Technical Specifications

### 8.3.1 General:

- 8.3.1.1 Project must be able to comply with curtailment capabilities to serve in the California Independent System Operator (CAISO) Energy Imbalance Market (EIM)
  - 8.3.1.1.1 Ability to curtail on 30 second notice
  - 8.3.1.1.2 Ability to release curtailment on 30 seconds notice to return to as-available generation
  - 8.3.1.1.3 Curtailment can be as short as 5 minutes and can occur at any time of day/year
- 8.3.1.2 System designed per latest NEC and referenced sections adopted in the state where the site is located.
- 8.3.1.3 Prior to equipment procurement and construction activities, Contractor shall submit to Owner the project drawings and design documents, and equipment specifications for approval. The design shall comply with state and local codes and have a 30-year system design life.
- 8.3.1.4 System must be ground mounted.
- 8.3.1.5 Facility DC capacity is defined as the sum of the DC nameplate capacities of the solar modules under Standard Test Conditions.
- 8.3.1.6 Facility AC capacity is defined as the sum of the nameplate AC capacities of the inverters.
- 8.3.1.7 Installation of all system components will be carried out in accordance with manufacturer warranty and recommendations as well as to the requirements listed in this document. All systems and components installed must be compatible.
- 8.3.1.8 Certified stamped electrical, mechanical, and civil drawings must be provided by professional engineer(s) who are licensed in the state where the site is located.
- 8.3.1.9 EPE's electric service requirements can be found in EPE's "Blue Book" using the link below.

<https://www.epelectric.com/business/customer-service/new-construction/electric-service-requirement-book>

8.3.2 Equipment:

8.3.2.1 Contractor shall provide all required equipment, materials, and services for the successful completion of the project.

8.3.2.1.1 Contractor shall provide spec sheets, technical data, and/or shop drawings with proposed dimensions, name plate that include NEMA ratings, UL listings, etc. prior to procuring the equipment for EPE review.

8.3.3 Solar PV Modules:

8.3.3.1 PV modules compliant with UL1703.

8.3.3.2 Crystalline modules IEC 61215 certified.

8.3.3.3 Thin film modules IEC 61646 certified.

8.3.3.4 Latching or locking type connectors compliant with UL8703.

8.3.3.5 Manufacturer ISO9001 and ISO14001 certified.

8.3.3.6 Front glass shall include anti-reflective coating.

8.3.3.7 Acceptable vendors are the following:

8.3.3.7.1 Canadian Solar

8.3.3.7.2 First Solar

8.3.3.7.3 Hanwha

8.3.3.7.4 JA Solar

8.3.3.7.5 Jinko Solar

8.3.3.7.6 Kyocera

8.3.3.7.7 LG

8.3.3.7.8 REC Solar

8.3.3.7.9 ReneSola

8.3.3.7.10 SolarWorld

8.3.3.7.11 SunPower

8.3.3.7.12 Trina

8.3.3.7.13 Yingli

8.3.3.7.14 Other equivalent

#### 8.3.4 Tracking Systems:

8.3.4.1 The tracking system shall include the racking structure, mounting hardware, drive motors, controller system, and weather stations equipped with wind speed and irradiance sensors at minimum.

8.3.4.2 Tracking systems must be compliant with UL3703.

8.3.4.3 Racking structure, mounting hardware, grounding/bonding components and clamping and retention must be compliant with UL2703. EPC Contractor shall supply and manage the installation of the mounting system for the solar modules sufficient to support all solar modules and meet all applicable licensing and Permit requirements. The system shall be composed of galvanized steel or aluminum. The racking manufacturer will supply a minimal 10 year warranty for the installed structure and the racking design will be certified by the racking manufacturer. The tracking system should have a 30-year design lifetime.

8.3.4.4 The tracking system must have the “stow” feature to meet wind loads design requirements. A backup energy source shall be installed for the trackers to stow during excess winds and grid power outage.

8.3.4.5 Tracking system vendor shall have installed a minimum of 50 MW of capacity in utility-scale projects. Acceptable tracking system vendors are the following:

8.3.4.5.1 Arctech Solar

8.3.4.5.2 Array Technologies

8.3.4.5.3 NexTracker

8.3.4.5.4 Soltec

8.3.4.5.5 SunPower

8.3.4.5.6 Other equivalent

### 8.3.5 Combiner Boxes:

- 8.3.5.1 Combiner boxes shall be rated for maximum system voltage and maximum system continuous and short-circuit currents.
- 8.3.5.2 Combiner boxes must comply with the latest NEC adopted in the state the site is located.
- 8.3.5.3 Enclosures shall be NEMA 4 rated and have integral key lock or provisions for padlocking.
- 8.3.5.4 DC inputs shall be fused and fuses shall have a blown fuse indication.
- 8.3.5.5 Combiner box output shall have a means to be externally disconnected.
- 8.3.5.6 Combiner box must have lightning protection device, the device should include a visual trip indicator.

### 8.3.6 Inverters:

- 8.3.6.1 Inverters shall be central inverters with smart capabilities, utility grade, be specifically designed for PV installations, and meet the following minimum standards.
- 8.3.6.2 UL1741 – Standard for Inverters, Converters, Controllers, Software, and Interconnection System Equipment for Use with Distributed Energy Resources.
- 8.3.6.3 IEEE 929-2000 Recommended Practice for Utility Interface of Photovoltaic Systems.
- 8.3.6.4 Inverters and their functionality as distributed resources in planned electrical islands shall comply with applicable provisions described in IEEE 1547 (latest applicable revision) – IEEE Standard for Interconnecting Distributed Resources with Electric Power Systems.
- 8.3.6.5 Inverters shall be multi-mode DC to AC capable of switching between grid-interactive mode and microgrid mode. Inverters shall have voltage and frequency ride-through functionalities, as well as be capable of actively regulating voltage levels by adjusting active and reactive power.

- 8.3.6.6 Have a maximum harmonic distortion of less than 3% of the total harmonic distortion at rated power output.
- 8.3.6.7 Have an efficiency greater than 97.5% without MV step-up transformer.
- 8.3.6.8 Be capable of reaching rated output at 50 degrees Celsius or higher.
- 8.3.6.9 Have a 30-year design life and carry a minimum 5-year standard warranty with options of at least 20-year extended warranty.
- 8.3.6.10 Inverters shall be equipped with data collection and communications to EPE's SCADA system.
- 8.3.6.11 Inverter blocks shall be configured in identical MW increments, when applicable.
- 8.3.6.12 Skid mounted systems containing inverters, step-up transformers, and other power conditioning equipment and systems are preferred.
- 8.3.6.13 Inverter vendor shall be certified to ISO 9001 and ISO 14001 standards and have supplied a minimum of 50 MW capacity in utility-scale projects.
- 8.3.6.14 Acceptable inverter vendors are the following:
  - 8.3.6.14.1 ABB
  - 8.3.6.14.2 Eaton
  - 8.3.6.14.3 General Electric
  - 8.3.6.14.4 Schneider Electric
  - 8.3.6.14.5 SMA
  - 8.3.6.14.6 Other equivalent

8.3.7 Transformers:

- 8.3.7.1 Step-up transformers must comply with **EPE specification G&I 088-010 to 088-400** (to be provided to chosen Bidder) except for any variances noted in this section.

- 8.3.7.2 Interconnecting transformers shall step-up inverter output voltage to the Site nominal voltage.
- 8.3.7.3 The end of the transformer(s) series connection shall have surge arrestors on the high voltage side with a voltage rating suitable for the application.
- 8.3.7.4 Transformers shall meet C57.12.34 – IEEE Standard Requirements for Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers.
- 8.3.7.5 Transformer warranty to be provided by Contractor once the transformer is selected, which shall be from El Paso Electric Co.’s list of approved transformers:
  - 8.3.7.5.1.1 ABB
  - 8.3.7.5.1.2 EATON – Cooper
  - 8.3.7.5.1.3 ERMCO
  - 8.3.7.5.1.4 Howard
- 8.3.7.6 Step-up transformer(s) configuration shall be: Primary wye-grounded, secondary delta.
- 8.3.7.7 Transformer(s) shall comply with the 2016 DOE standard efficiency or latest applicable revision.
- 8.3.7.8 Transformer(s) color shall be Munsell 7GY3.29/1.5 pad-mount green.
- 8.3.7.9 Transformer(s) shall accommodate a padlock on top of the required pentahead security bolts.
- 8.3.7.10 Transformer(s) shall be compatible with EPE transformer pad (Pad B - 80”x88”).
- 8.3.7.11 The high side bushings shall comply with IEEE C57.1234 Figure 16 (loop configuration).
- 8.3.7.12 The low-voltage terminal location and arrangement shall conform to Figure 8(a) of IEEE C57.12.34.
- 8.3.7.13 The transformer shall be supplied with a sticker stating the nature of the coolant.

- 8.3.7.14 Required warning stickers are shown in Figure 2 on page 14 of **EPE Specification G&I 088-010 to 088-400** (to be provided to chosen Bidder).
- 8.3.7.15 The primary voltage, secondary voltage, and kVA rating shall be located on the outside of the transformer. These stenciled numbers shall be 1 ¾" in height. See page 14 of **EPE Specification G&I 088-010 to 088-400** (to be provided to chosen Bidder).
- 8.3.7.16 The transformer shall include two nameplates (one inside, and one outside) with the following information: KVA, primary voltage, secondary voltage, serial number, date of manufacture, Impedance, X/R ratio, gallons of oil, weight, and shall state that the transformer oil contains less than 1 ppm PCB.
- 8.3.7.17 The transformer shall include the approved Non-PCB sticker. See section 7.8 on page 5 and figure 1A on page 14 of **EPE Specification G&I 088-010 to 088-400** (to be provided to chosen Bidder).
- 8.3.7.18 A ground lug should be included in the ground provision on the high-voltage side of the tank.
- 8.3.7.19 The low voltage terminals shall be suitable for the application of bushing mounted current transformers. The transformer secondary compartment shall contain studs, to be used for mounting current transformers.
- 8.3.7.20 EPE minimum clearances shall be met regarding the LV and HV bushing distance with respect to the HV-LV barrier and the cabinet wall. Refer to Figure 3 in **EPE Specification G&I 088-010 to 088-400** (to be provided to chosen Bidder).
- 8.3.7.21 EPE has a preference for non-load break 200 A bushings.
- 8.3.7.22 Tap changer shall be rated for operation under load.
- 8.3.7.23 Secondary terminations: 12-hole spades.
- 8.3.7.24 Only the last step-up (MV) transformer (going downstream) will be equipped with surge arrestors.
- 8.3.7.25 Envirotemp FR3 preferred but Mineral Oil is also accepted.
- 8.3.7.26 S Taps – two 2.5% taps below nominal and two above nominal.

8.3.8 Metering:

- 8.3.8.1 EPE will provide metering equipment.
- 8.3.8.2 General metering characteristics:
  - 8.3.8.2.1 Meter Accuracy class at least 0.2
  - 8.3.8.2.2 Meter storage of data at least 60 days
  - 8.3.8.2.3 Meter data polling:
    - 8.3.8.2.3.1 Single primary head-end system (i.e MV-90)
  - 8.3.8.2.4 Meter data interval size:
    - 8.3.8.2.4.1 At least 5-minute intervals
  - 8.3.8.2.5 CTs at least +/- 0.3% accuracy at burden of 0.1 - 1.8 ohms, 10% - 100% rated current
  - 8.3.8.2.6 PTs at least +/- 0.3% accuracy through burden rating ZZ (400 Volt-Amperes secondary at 0.85 power factor) at 90% through 110% of nominal voltage

8.3.9 Communications and Data Acquisition System:

- 8.3.9.1 Contractor shall design and specify all communications hardware and software required for system protection and remote monitoring and control.
  - 8.3.9.1.1 Control signals include but are not limited to dispatch and curtailment capabilities.
  - 8.3.9.1.2 Controls must be capable of output regulation/curtailment for load following, frequency response and voltage support in one-hour increments via EPE's SCADA controls.
- 8.3.9.2 The design shall include utility grade metering and monitoring provisions equipped with weather station(s) including remote "real time" monitoring of system performance and data collection over the internet via the Data Acquisition System ("DAS").
- 8.3.9.3 The monitoring system shall provide real time energy generation data, historical data and meteorological data. The contractor shall provide meteorological station(s) that will provide real time weather data.
- 8.3.9.4 The data shall be collected at hardwired locations and transmitted wirelessly via a cellular modem to be provided and installed by the Contractor.

8.3.9.5 The monitoring system(s) shall include a web-based interface available for Owner to access remotely. The interface shall display site status and equipment status e.g. inverters, trackers. It shall also display alarms and send automatic e-mail notifications in cases of emergency i.e. system outages.

8.3.9.6 The Contractor shall test the installed communications systems to demonstrate its ability to meet the requirements. Testing shall be conducted when the final system connections have been made.

8.3.9.7 Communications must be NERC Critical Infrastructure Protection (“CIP”) compliant as applicable.

8.3.10 Switchgear:

8.3.10.1 The switchgear shall be composed of three vacuum fault interrupters. One on the line side (utility side) and two on the load side (solar/storage).

8.3.10.2 The switchgear shall use solid dielectric technology as the insulation medium. SF6 gas and oil are not allowed.

8.3.10.3 The switchgear shall provide a visual break for all ways.

8.3.10.4 All ways shall be loadbreak and rated for the maximum amperage required by the system.

8.3.10.5 All ways shall have an interrupting rating short circuit sized for the system.

8.3.10.6 1000:1 or 500: 1 internally mounted current transformers used for over current protection. The CT ratio would be selected based on the size of the solar system.

8.3.10.7 All ways shall be equipped with internal/external voltage sensors rated for the line to ground voltage of the installation. EPE prefers internal sensors.

8.3.10.8 Deadbreak Apparatus Bushings per IEEE 386 figure 11.

8.3.10.9 Front and back access to switch operators and bushings on front and back

8.3.10.10 Welded stainless steel mechanism cover painted light gray (ANSI 70).

8.3.10.11 Galvanized steel frame.

- 8.3.10.12 Parking stands for all bushings.
- 8.3.10.13 12-gauge galvanized steel padmount enclosure with 30" cable compartment. Meets ANSI C37.72 & C57.12.28 standards.
- 8.3.10.14 Enclosure painted Padmount Guardian Green, Munsell #7.0GY3.29/1.5.
- 8.3.10.15 36" minimum bushing height.
- 8.3.10.16 ½" Diameter with 13 NC Thread (National Course) grounding provisions.
- 8.3.10.17 Padlockable operating mechanism.
- 8.3.10.18 Green/ OPEN – Red/ CLOSED labeling.
- 8.3.10.19 12-gauge galvanized steel low voltage enclosure.
- 8.3.10.20 The switch must fit EPE approved concrete pad (Pad B - 80"x88").
- 8.3.10.21 All ways shall be equipped with quantity one auxiliary Form C contacts wired to the control cabinet for use by the control.
- 8.3.10.22 NEMA 4 control cabinet, including: SEL751 feeder protection relay (751402BCBCBOX810621) to provide three phase overcurrent protection(50/51), under voltage protection(27), over voltage protection (59), frequency protection (81U, 81O), directional power, IEC cable/line thermal, vector shift, sensitive earth fault (SEF), and load encroachment elements; Provisions for mounting CISCO 2520 connected grid switch of dimensions 1.75 "H X 17.50 "W X 14.00 "D; 24 V DC Provisions for powering the CISCO 2520 connected grid switch; (2), Two-strain reliefs and necessary accessories for installing fiber based on diameter of fiber to be used. An SEL-751 relay will be required per way.
- 8.3.10.23 All ways shall include a motor operator to permit remote closing via de SEL-751. The SEL-751 shall also be configured and wired to trip all breakers remotely. Motors shall be able to operate under battery power.
- 8.3.10.24 The switch shall be equipped with a 120 VAC Power supply, PWR-IE170W-PC-AC and 55 AH batteries used for battery backup;
- 8.3.10.25 Applicable Industry Standards: Load Break Switch Ratings, IEEE C37.74; Fault Interrupter Ratings, IEEE C37.60; Bushings: IEEE 386; Padmount Enclosure: IEEE C57.12.28.

8.3.10.26 Solar Switch Termination must conform with **EPE Distribution Standard DSU-554** (to be provided to chosen Bidder).

8.3.10.27 Switchgear Vault to be constructed in conformance with **EPE Distribution Standards UD300 and DSU 1235** (to be provided to chosen Bidder).

8.3.10.28 Approved switchgear vendors:

8.3.10.28.1 G&W Electric

8.3.10.28.2 S&C Electric

8.3.10.28.3 Elastimold

8.3.11 Communication Field Switches:

8.3.11.1 Switch: CISCO IE-2000-16PTC-G-E

8.3.11.2 Software: (Lan Base License)

8.3.11.3 Power Supplies: 2 x PWR-IE170W-PC-DC=

8.3.11.4 Optics: SFP-GE-L=1000BASE-LX/LH

8.3.12 SCADA Points:

8.3.12.1 Switchgear status (Open/Closed) and local/remote control

8.3.12.2 Any MOD Status that would be used for isolation (Open/Closed)

8.3.12.3 Analogs – Revenue and PQ meter, Power Stations meters, and Energy Storage meter

8.3.12.3.1 MW

8.3.12.3.2 MVA

8.3.12.3.3 MVAR

8.3.12.3.4 Phase Currents

8.3.12.3.5 Phase Voltages

8.3.12.4 Accumulators – Revenue and PQ meter, Power Stations meters, and Energy Storage meter

- 8.3.12.4.1 MWh-In
- 8.3.12.4.2 MWh-Out
- 8.3.12.4.3 MVARh-In
- 8.3.12.4.4 MVARh-Out

8.3.12.5 Weather Station Signals

- 8.3.12.5.1 Ambient Temp
- 8.3.12.5.2 Solar Irradiance
- 8.3.12.5.3 Back Panel Temp
- 8.3.12.5.4 Wind Speed
- 8.3.12.5.5 Wind Direction

8.3.12.6 Tracker Data Points

- 8.3.12.6.1 Tilt Angle
- 8.3.12.6.2 Tracker Status

8.3.12.7 Transformer

- 8.3.12.7.1 Alarms/Status Indicators
- 8.3.12.7.2 Oil temperature

8.3.12.8 Energy Storage

- 8.3.12.8.1 Local/Remote control
- 8.3.12.8.2 Mode of Operation
- 8.3.12.8.3 Charge/Discharge and State of Charge
- 8.3.12.8.4 kW/kVAR setpoints
- 8.3.12.8.5 Alarms/Status

8.3.12.9 Two isolated networks will provide site data access

- 8.3.12.9.1 Monitoring entity to have direct access to field data; transferred to EPE via DNP3

8.3.12.9.2 Field data to be provided to monitoring entity via Modbus after being collected through an EPE secure data connection to site

8.3.12.10 UPS powering SCADA server and weather station(s) required

8.3.13 Battery Energy Storage System (BESS):

8.3.13.1 The design and installation of the ESS shall be in accordance to UL 9540 Standard for Energy Storage Systems and Equipment.

8.3.13.2 Shall be rated at one MW of power and either two or four MWh of energy, AC-coupled to a three MW solar generating facility.

8.3.13.3 Maximum 100 millisecond response time from 100% charge to 100% discharge output and vice versa.

8.3.13.4 Total Harmonic Distortion (THD) shall be less than three percent at rated output. Recommended practices and requirements as per IEEE 519 shall be followed.

8.3.13.5 Shall be able to retain at least 80% of Beginning of Life (BOL) capacity rating at 10 years.

8.3.13.6 Noise emissions shall be less than 60 decibels (dB) measured at the fence line of the project site.

8.3.13.7 Shall be capable of providing services including but not limited to peak shaving, solar shifting, and curve smoothing and expected to fully with cycle once a day.

8.3.13.8 Shall be compatible EPE's SCADA system for real time monitoring and system control. Communications shall be Modbus RTU, Modbus TCP, or DNP3.

8.3.13.9 The Energy Management System (EMS) shall be designed to provide automatic, unattended operation but also local manual operation, remote operation, and dispatch of the ESS from SCADA system.

8.3.13.10 The EMS shall provide the ability to manage system operation to include but not limited to:

8.3.13.10.1 Interface with inverter controller

8.3.13.10.2 Controls for charging, discharging, and state of charge

8.3.13.10.3 Trigger alarms for conditions and malfunctions out of the specifications

8.3.13.10.4 Data logging

8.3.14 Conduit:

8.3.14.1 Above ground conduit, in places where conduit could be subject to physical damage, the conduit shall be Galvanized Rigid Metallic Conduit (RGC) or Intermediate Metal Conduit (IMC). Underground conduits are to be schedule 40 PVC with PVC rigid coated sweeps. Underground conduits may be direct buried in areas that do not require concrete encased duct banks for structural considerations. Underground conduit bank shall utilize conduit spacers.

8.3.14.2 All metal conduit must be hot dipped galvanized.

8.3.14.3 In no case shall conduit design be less than that called for by NEC 2014 or latest adopted in the state where the site is located.

8.3.14.4 Module-to-module interconnection wiring within a string and string home-run wiring to combiner boxes shall be neatly bundled and routed below modules such that it is protected from damage and decay. Exposed DC wire shall be compliant with UL4703.

8.3.14.5 For Power Cable Conduit up to 25kV refer to **EPE Distribution Standard DSU 1645 Duct Sizes For Use On Underground Cable Runs** (to be provided to chosen Bidder).

8.3.15 Wire & Conductors:

8.3.15.1 Underground Power Cable for operation at 60Hz three phase in solidly grounded wye systems rated up to 25kV phase to phase must conform with EPE specification **GI013-306 to 013-313** (to be provided to chosen Bidder).

8.3.15.2 Both DC Side and AC side underground conductors must be in conduit.

8.3.15.3 All conductors must be aluminum or copper (preferred) rated XHHW-2 or greater as required.

8.3.15.4 Single conductor wire and cable shall be rated 600 V or 1000 V, 90°C for XLP and 90°C or 105°C for EPR insulation. Single conductor 600 V or 1000 V tray cable greater than #1/0 AWG

shall have EPR insulation with a PVC, CPE or CSPE cable jacket. Non-jacketed FREP insulation with appropriate UL flame test may also be used for large single conductor cables.

- 8.3.15.5 Single pair instrument cable shall be rated 600 V or 1000 V, XLP or PVC insulation, twisted shielded pairs with drain wires and a PVC, CPE or CSPE cable jacket.
  - 8.3.15.6 Multi-pair instrument cable shall be rated 600 V or 1000V, XLP or PVC insulation, twisted shielded pairs with drain wires, overall shield, and a PVC, CPE or CSPE cable jacket.
  - 8.3.15.7 Wiring runs between major items of equipment and system modes (i.e., a string, combiner boxes, disconnects, inverters, utility interconnection, and energy monitoring system (EMS) devices shall be continuous, unless unavoidable. Pull boxes shall be located at 150-foot intervals. One run of conduit between pull boxes shall not contain more than 3 - 90-degree bends (270 degrees) including pull box bends.
  - 8.3.15.8 When in conduit, conductors shall be XHHW-2 or THWN-2 (Thermoplastic Heat and Water Resistant Nylon Coated wire is permitted) or of a higher standard.
  - 8.3.15.9 All conductors shall be sized per the most current NEC code.
  - 8.3.15.10 Conductors used for data communication shall be single pair, #16 AWG bare copper, PVC-NYL insulation, 600V (Belden 1120A or approved equivalent).
  - 8.3.15.11 Plastic zip ties used for exposed wire management must be UV stabilized.
- 8.3.16 Fuses:
- 8.3.16.1 Fuses for disconnects to be current limiting UL class J, RK1 or RK5 and of the appropriate voltage, delay or non-delay characteristic, and current rating to provide complete short circuit and overload protection per NEC sections regarding component selection.
  - 8.3.16.2 Fuses located in the combiner boxes protecting PV string branch circuits shall be UL listed, DC voltage rated based on branch circuit voltage, be in "finger-safe" type fuse holders providing load break disconnect capabilities when changing fuses. Midget fuses and fuse holders used in these circuits must be fully DC rated and adequate DC short circuit withstands and let-through

capability must be provided for all power situations including “back-fed” conditions.

8.3.17 Enclosures:

- 8.3.17.1 Indoor enclosures shall be NEMA 1.
- 8.3.17.2 Outdoor enclosures shall be rated NEMA 4.
- 8.3.17.3 Enclosures containing monitoring equipment such as dataloggers, meters, and network communications shall be located indoors if at all possible.
- 8.3.17.4 Switchgear, motor controls, inverters, battery and charger systems, DC and AC distribution panels shall be pad mounted.

8.3.18 Nameplates:

- 8.3.18.1 Engraved phenolic nameplates are required for all equipment, panels and enclosures. Proposed nameplates must be submitted for approval prior to installation and shall match drawing naming convention and comply with NEC Requirements.
- 8.3.18.2 Signs shall be weather-proof, corrosion-proof, UV-stabilized and fade-resistant. Signs shall be attached using non-corrosive materials throughout. Any degrading signage, or failing attachment mechanisms, will be subject to warranty replacement.
- 8.3.18.3 Signs must be installed at appropriate locations warning that the Project is operational and that there are potentially multiple onsite power sources.
- 8.3.18.4 DC power circuits shall be identified on switches and individual module strings shall be identified in DC combiner boxes. Positive DC circuit wire should be color coded red and negative DC circuit wire should be color coded black.
- 8.3.18.5 Signage shall include that called out in NEC (latest applicable revision) article 690, unless overridden by applicable local law or authorities having jurisdiction.
- 8.3.18.6 EPC Contractors or Subcontractor’s brand or contact information is allowed only on temporary construction signage, or on equipment or components of the Project manufactured by Contractor, Subcontractor or its affiliates.

### 8.3.19 Site Access:

- 8.3.19.1 The site shall have access roads through the arrays to facilitate construction activities and accommodate emergency vehicles such as fire trucks. The roads shall be built to accommodate crane access and no equipment shall be installed along the roads' surface causing obstruction of vehicular access. Roads shall remain clear of any temporary or permanent obstruction during construction activities and after commissioning to facilitate O&M services.

### 8.3.20 Fencing:

- 8.3.20.1 Contractor shall provide a permanent fencing structure around the perimeter of the project. The fencing shall include a 7-foot high chain link fence with a 1-foot top guard of three strands of nine-gage barbed wire.
- 8.3.20.2 The perimeter fence shall include two locked gates: one with a width of 24 feet for vehicles and one pedestrian entrance with a width of 4 feet. Fencing shall meet state and local codes.
- 8.3.20.3 Signage shall be installed along the fence every 65 feet and on all gates. Signage shall be installed five feet above ground level.

### 8.3.21 System Commissioning:

- 8.3.21.1 Commissioning tests, documentation, and inspection should comply with IEC 62446 at a minimum.
- 8.3.21.2 The solar system performance report shall include a PVSyst report, an 8760 output in Excel format, and a capacity test model based on ASTM E2848-13 (or later) Standard Test Method for Reporting Photovoltaic Non-Concentrator System Performance.
- 8.3.21.3 Once mechanical and electrical completion is achieved, and the system is energized and interconnected to Owner's grid, Contractor may start with test energy production (with Owner's consent). Once the system achieves rated capacity and all communications systems are complete, the 5-day capacity test may begin. The system must pass the capacity test to be commissioned and begin commercial operation.
- 8.3.21.4 The BESS performance report shall include testing data for 100% of the production cells to ensure compliance with design

requirements. At a minimum, the following capacity tests shall be performed.

8.3.21.4.1 Amp-hour

8.3.21.4.2 Watt-hour

## **8.4 Energy Profile**

Editable Electronic Excel to be provided to Bidder