Request for Proposal

PALI MICROGRID – PHASE I

TO BID ON RESIDENTIAL SOLAR ENERGY AND/OR BATTERY SYSTEMS

September 2021

Contact: sheryl@resilientpalisades.org
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BACKGROUND

Founded in 2020, Resilient Palisades (RP) is a 501(c)(3) organization which aims to unite residents of Pacific Palisades to change our behavior in order to combat the global climate emergency. The name was chosen because we aim to become more sustainable and resilient – both within our community, as well as to partner with and assist the resiliency efforts of less advantaged Los Angeles communities. With several hundred members, RP has already formed four active community teams:

- Zero Waste, which has launched the Cut Out Cutlery campaign
- Clean Air and Water, which has launched the Green Gardens campaign
- Plant-based Solutions, which two weeks ago brought vegan food trucks to the Village
- And Clean Energy, which is launching the Pali Microgrid

The Pali Microgrid is a multi-year project to develop a community microgrid in the Palisades. A community microgrid can involve installing solar + battery storage across hundreds of homes, businesses, and congregations, then connecting them via advanced control systems. A microgrid not only can lower electricity bills and reduce emissions, but in the event of blackouts or natural disasters, it has the ability to island itself off from the grid, thereby improving our resilience. Given limited LADWP distribution resources in our community, the Palisades experiences a high number of blackouts (3-4x more frequent than other parts of L.A.), putting some of our most vulnerable neighbors at risk and costing businesses and residents millions of dollars. If we’re successful, the Pali Microgrid will be one of the first of its kind in California or the country.

Phase I of the Pali Microgrid is all about maximizing installation of solar + storage. RP is seeking proposals submitted by qualified firms to participate in a program to install residential photovoltaic (PV) systems and/or battery systems for a cohort of Palisadian residents, all located within LADWP’s service territory, based upon the scope of work contained in this Request for Proposals (RFP). Some homeowners may also wish to improve their homes with energy efficiency upgrades, remove gas-powered appliances, and/or install electric vehicle chargers.

Resilient Palisades invites proposals from companies specializing in the design and installation of solar photovoltaic systems and/or battery systems (“Contractor”) to participate in Phase I of the Pali Microgrid.

Our intention is to select one or more firms that will provide these services to residents in the Pacific Palisades (the “Project Area”).
PROGRAM OVERVIEW AND INTENT

The intent of Phase I of the Pali Microgrid is to:

- Lower the cost of solar energy and battery storage installations through the power of bulk-purchasing, reduce contractor acquisition costs, and transfer savings to homeowners and business owners of the Palisades.
- Solicit participation from homeowners through coordinated outreach and education programs.
- Substantially increase the number of solar energy systems and battery storage installations in a way that can be sustained beyond the timeframe of Phase I.
- Help homeowners receive the education they need to feel comfortable about the cost and the commitment to make an investment in solar power and battery storage.
- Collect, through the selected contractor(s) a per watt fee ($0.15/W) for solar installations and a per watt/hour fee for battery storage ($.02/Wh) that will help pay for project management, outreach, and microgrid design.
- Select one or more firms with a record of integrity in business practices and responsiveness to customers.
- Select one or more firms that will provide a reliable single point of contact so that participants feel comfortable and confident with the process of purchasing high quality PV solar arrays and battery storage.
- Assist and educate homeowners regarding saving money, improving home comfort, generating clean electricity, and reducing greenhouse gas emissions.
- Establish a referral system with selected contractor(s), to begin after the program closes, and to continue for an additional 12 months, wherein RP will refer interested community members to the selected contractor(s), and the selected contractor(s) will pay RP a flat rate of $500 for every completed project that results from said referrals.

RP recognizes that a community-wide scaled group purchase model is likely to generate a great deal of demand. In order to meet this demand, RP may select more than one contractor. If more than one contractor is chosen, selected contractors will be asked to agree upon a negotiated price and service delivery model for program consistency.

RP recognizes that the group purchase program should offer a discounted price as compared to typical solar and battery sales, in order to incentivize homeowner participation. Selected contractors must agree to offer Pali Microgrid pricing as the lowest price/watt for comparable installations within the time-frame and Project Area of the program.

Interested homeowners will pledge by May 1, 2022 to install a system at the Pali Microgrid price. RP intends to have installations complete by December 31, 2022.
# PROJECT TIMELINE

*Dates are approximate and subject to change*

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 21, 2021</td>
<td>RFP Announced</td>
</tr>
<tr>
<td><strong>September 29, 2021 @ 12:00 noon</strong></td>
<td>Installer meeting</td>
</tr>
<tr>
<td>October 6, 2021 @ 4:00 pm</td>
<td>Questions on RFP due (submitted in writing)</td>
</tr>
<tr>
<td>October 20, 2021</td>
<td>Responses to RFP questions released</td>
</tr>
<tr>
<td><strong>November 3, 2021 @ 5:00 pm</strong></td>
<td>Proposals due from installers (see terms below)</td>
</tr>
<tr>
<td>November 17, 2021</td>
<td>Interviewees notified/installer interviews*</td>
</tr>
<tr>
<td>December 1, 2021</td>
<td>Installer selection</td>
</tr>
<tr>
<td>December 6, 2021</td>
<td>Tentative program launch</td>
</tr>
<tr>
<td>May 1, 2022</td>
<td>Deadline for sign-ups</td>
</tr>
<tr>
<td><strong>December 31, 2022</strong></td>
<td>Installations completed</td>
</tr>
</tbody>
</table>

*The need for interviews will be determined by the RFP evaluation team.*
PROPOSAL INSTRUCTIONS

Bidders shall contact the Pali Microgrid Program Manager, Sheryl Rosenbaum, via email with their intent to submit a proposal at sheryl@resilientpalisades.org. Proposers are invited, but not required to attend a virtual program overview meeting on Wednesday, September 29 at 12:00 noon on Zoom. Register here (https://resilientpalisades.org/events/installer-meeting/) for the event and meeting information will be sent to you, along with Appendix C below. Please register for the program overview meeting by 3:00 pm on Tuesday, September 28.

After the program overview meeting, proposers may contact the Program Manager in writing with any questions or requests for additional information needed to submit a proposal. The deadline for submitting such questions/clarifications is October 6 at 4:00 pm. An addendum will be issued by October 20 to all recorded holders of the RFP if substantive clarification is in order.

Proposal Due Date
The Program Manager must receive electronically submitted proposals no later than November 3, 2021 at 5:00 pm. Proposals must be submitted electronically (.pdf format).

The electronic submission must be sent to sheryl@resilientpalisades.org. All emailed proposals will generate an emailed response within 24 hours confirming receipt of the proposal. If you do not receive a confirmation email, please contact Sheryl Rosenbaum at sheryl@resilientpalisades.org.

Faxed proposals and late proposals will not be accepted. Proposals may be withdrawn at any time before the due date and time noted above via an emailed request.

In order to maintain the fairness and integrity of the selection process, proposals must conform to the requirements of this RFP. All communications shall be through sheryl@resilientpalisades.org. RP has created a technical committee with experts from the solar, construction, and financial sectors, as well as the community at large to select contractors to serve the program.

Communication with members of the technical committee for the purpose of influencing the outcome of this RFP may be cause for the Proposer’s proposal to be rejected and disqualified from further consideration.

RP is not liable for any costs incurred by a firm in the preparation and/or submission of a proposal. Any material submitted by a proposer will become the property of RP.

RP may modify the RFP at any time prior to the RFP due date by issuance of a written addendum to all identified proposers. RP may also cancel, delay, or suspend this solicitation if in the best interest of the community represented. RP may reject any or all proposals, in whole or in part, if in the best interest of the community as determined by the RFP Project Manager.
PROPOSAL FORMAT AND EVALUATION CRITERIA

(Total possible points: 200)

Proposals must use a minimum 11-point font size. Proposals shall be submitted electronically as .pdf files. Proposals shall not exceed 50 pages, including any appendices, but excluding Sample System design (Appendix D) and spec sheets.

A. Cover Letter (0 points)
   The cover letter shall discuss the highlights, key features and distinguishing points of the Proposal. The cover letter must be prepared and signed by a manager having the authority to make offers and enter into agreements on behalf of the firm.

B. Proposing firm profile (20 points)
   This section shall include a brief description of the Proposer's firm size, financial stability, and capacity and local organizational structure. Please indicate how you secure guaranteed inventory for successful and timely project completion. Include the following information:

   - Company 2020 financials (balance sheet and P&L).
   - Credit references including bank lines of credit and credit facilities with vendors, insurance, and bonding.
   - Proof of Workers’ Compensation, Liability, and Vehicle insurance in minimum amounts of $1,000,000 each.
   - Copy of California Contractor’s License (please note that we will be checking to ensure all licenses are in good standing).
   - List of any pending litigation and circumstances surrounding the litigation against your company.
   - Firm’s health and safety record and practices including company safety plan.
   - Provide project and company information on provided forms Appendix A and Appendix C.

Describe the demonstrated experience of the firm in developing, designing, and installing residential solar and/or battery electric systems addressing all potential aspects of the project, including but not limited to: roofing, electrical upgrades, solar, batteries, home energy management systems/panel upgrades, and electric vehicle chargers. Focus particularly on any community-wide solar+storage installations, microgrid projects, or any experience on previous projects that might relate to Phase I of the Pali Microgrid. As part of Appendix C, list five recent residential installations with size and location (preferably within the Project Area) and the contact name and telephone number of each customer. Describe experience with performing energy efficiency analyses and upgrades, replacing gas appliances with electric, and installation of electric vehicle chargers (it is acceptable to bring in a subcontractor with such experience).

Provide a statement describing the firm’s capability to complete the project within the
time schedule including permitting and product availability, office location(s), number of employees, maximum capacity of installations operating at a single point in time, current scheduling backlogs, etc.

At the time of the proposal submission, the Contractor shall possess a **valid and pertinent State of California contractor construction license**. A minimum of one of the following: B license, C-10, and/or C-46 Contracting Licenses. The mentioned licenses shall be current and in good standing at the time of proposal.

C. Qualifications of the project team (30 points)

Identify the key project team members and crew(s) scheduled to work on Phase I of the Pali Microgrid by name and position, and provide qualifications and experience. Address skill sets in roofing, electrical, solar, and battery work. Provide names, addresses, contact information, and contractor license numbers for all specified subcontractors the firm intends to employ for the project. If you do subcontract, please describe the specific duties of each subcontracted party.

Note that the proposing firm is responsible for the solar and/or battery installation, including but not limited to supply, engineering, and design of the system, but may sub out ancillary work for the system, such as roofing and installation. Any subcontractors must be listed in this section along with California contractor construction licenses and proof of liability insurance. Subcontractors are subject to the same minimum insurance requirements: Proof of Workers’ Compensation, Liability, and Vehicle insurance of at least $1,000,000 each. **All subcontractors will be subject to the same vetting process as the proposing firm.** Proposing firm is responsible for all warranties for the project regardless of who performs the work or supplies the materials. Proposer shall identify workmanship and material warranties in the submitted proposal.

The Contractor shall have established access to a Professional Engineer for all structural, seismic, and wind-loading requirements for each installation. Provide names, addresses, contact information, and Professional Engineer license number.

D. Local office (10 points total)

**Local Offices** (5 points)

Please list any offices within 30 miles of the Palisades that would serve Phase I of the Pali Microgrid. Please identify the location of the proposing firm’s headquarters. Please identify the address of the nearest office if there is no office located within 30 miles of the Palisades and give distance (in miles) to the Palisades.

**Local Employees** (5 points)

Provide documentation of Palisades-based key employees, consultants or subcontractors. Please list the responsibilities and qualifications of these employees as well as the length of their employment and/or partnership with the firm.
E. Employment practices (5 points)

Provide information about employment practices, including benefits, apprenticeships and mentoring programs. Describe employee benefits for full-time and part-time employees. Identify and describe any use of temporary labor that the firm employs.

F. Scope of services and schedule (40 points)

Provide a detailed scope of service addressing the requirements listed in Appendix B: Scope of Work. Address all necessary work tasks in narrative form and prepare a project schedule showing the timeline for work completion. (Begin schedule with receipt of lead.)

Describe methodology for bid preparation and sales, including but not limited to methodology for evaluating size, design parameters, and pricing in bids. Describe the interactions and processes that occur between the sales and engineering team in developing bid proposals and in ensuring quality control in the bidding and sales process. Please describe a customer’s typical payment schedule and financing options.

Describe how the proposing firm will establish and maintain quality control through the project work, as well as the firm’s process for permitting and inspections. Describe how the proposing firm will assist customers applying for federal, state, local, and utility, incentives, as applicable. Also note if there is any additional cost to the customer for such assistance.

Provide details outlining number of residential systems per week that your firm is capable of installing, and what factors are accounted for in these estimates. Describe the data management system the firm will use to track customers in order to ensure a high level of customer service.

Describe any energy efficiency programs, services, or education the firm provides to the customer including energy efficiency audits like Xerohome and if there are associated costs of such audits. Identify any HERS raters or BPI Certified technicians on staff.

Similar projects in other communities have had as many as 250 registered participants. Describe how the firm is prepared to manage the volume of calls and questions associated with this volume and how the firm’s customer service model handles a customer’s experience from original contact through installation and follow through the life of the system. Provide the number of assessments and sales visits the firm is capable of completing per week. Describe firm’s installation capacity in terms of both number of installed systems per month as well as kW. Describe a contingency plan if the Phase I workload exceeds your expectations and staff capacity. Provide the firm’s average number of days from contract signing to interconnection. Describe how the firm will communicate clear participation timelines with its customers.

For systems installed under a lease or PPA contract, installer will confirm that there will be no limitations on any customer participating in any microgrid or virtual power
plant arrangements.

Please describe how the proposing firm will provide superior customer service and maintenance during the life of the system. Examples of this include, but are not limited to, customer service protocols, annual/bi-annual checkups, monitoring, prioritization to service customers promptly, service charges, and use of subcontractors to perform service.

Please provide firm’s mode of performing a full system check upon connection by the utility to ensure all inverters and solar panels are functional. Describe how firm conducts a simulated power outage and check that the battery system will supply power if there is a power outage. Provide a sample checklist that is used to conduct the system check.

Please describe in detail policies and protocols regarding warranties and specify how they may relate to existing roof warranties. If a roof is not under warranty, what warranty does firm offer for roof leaks? Does firm warranty installation service and labor? Include all warranty information for solar PV modules, inverters, and batteries.

Please list and describe any information, materials, manuals, or references the proposing firm leaves with the customer upon installation completion.

G. Equipment and Installation (25 points)

For purposes of evaluation, equipment will be evaluated as six (6) subsystems. These systems are: 1) flashing and racking; 2) electrical components; 3) photovoltaic modules; 4) inverter/microinverters/optimizers 5) battery systems (optional); and 6) monitoring systems/home energy management systems (optional). See also Appendix B: Scope of Work for guidelines for equipment specifications and installation.

Provide following information for each subsystem. If this information is contained in product specification sheets, you may just include the spec sheets and supplement with the additional information requested. (Spec sheets will not be counted towards page limitations.)

NOTE: If firm is able to install multiple brands of solar PV, inverters, batteries or home energy management systems at the same installation cost (albeit not the same unit price), please indicate this.

1) Flashing and Racking
   • Racking and flashing brand, and list of all components.
   • Minimum roof anchor spacing.
   • Sample structural calculations.
   • Electrical pass-through enclosure brand.
   • Spec sheets and installation instructions.

2) Electrical Components
• Wire.
• Boxes.
• Conduit.
• Breakers.

3) PV Modules
• PV module description and brand and model number.
• PV module number of cells, bypass diodes, dimensions, frame thickness.
• PV module wind load capacity in pounds/square foot PV module performance.
• Watts/square foot (STC rating).
• Manufacturing data sheets for the proposed PV modules.
• Country of manufacturer.

4) Inverters
• Inverter brand, model, and CA Energy Commission rated efficiency (in %).
• Provide manufacturing data sheets for the proposed inverters.
• Indicate if inverter complies with LADWP requirements.
• Indicate if inverter includes hardware and software necessary for wireless data communication capability.

5) Battery Systems – optional feature
• Brand.
• Power Rating.
• Chemistry (Li-Ion, LFP, etc.).
• Cycle Life.
• Capacity.
• Dimensions (HxWxD).
• Round-trip Efficiency.
• Production Warranty.
• Equipment Warranty.
• Country of Origin.
• PV+ Battery System Monitoring.
• AC or DC Coupling.

6) Home Energy Management Systems – optional feature
• Include a link to a sample website for HEMS, showing full system functionality.

H. Pricing schedule and Financing Options (40 points)
Provide proposed pricing schedule in dollars per rated watt for solar PV modules and dollars per rated Wh for batteries as well as a lease/PPA option in dollars per kWh. Pricing schedules should conform to the format outlined in Appendix C.

Firms may also provide pricing for an “efficiency panel” option, which includes a more efficient panel and may include a different inverter technology.

Home Energy Management Systems and electric vehicle chargers, if
offered, should also be listed, with pricing in the “Pricing Proposal” tab.

Include any micro-inverter or optimization technology options in the “Price Adders” tab in Appendix C, or note that they are included in the base price/watt. Itemize structural, access, roof, electrical, or other conditions that would increase system costs for participants, and provide estimates for these additional costs per installation on either a per watt or per system basis. Identify who would be engaged or recommended to provide these required pre-solar improvement services.

In order to provide reviewers with a comprehensive picture of the Lease/PPA option, complete the pricing model scenarios for a 20-year term including system size, price, any prepay options, and escalators.

Include information regarding any financing options provided to customers. In order to provide reviewers with an understanding of these options, whether through a third party or internal financing offerings, provide typical lease terms that are presented to customers, including APR and credit score requirement.

Pricing must include all materials, engineering, equipment, labor, transportation, permits, warranties and services required to complete the project in accordance with all applicable laws, codes, and interconnection requirements. Additional services and features not stipulated by these requirements, such as extended warranties, maintenance contracts or ancillary monitoring equipment, may be listed and priced separately.

Pricing should be presented as all-inclusive price per AC and DC rated watt of installed capacity, before any eligible federal tax credits. Pricing should include the RP fee of $0.15 / watt for solar PV and $.02 / Wh for batteries. Final pricing for the program will be determined once contractor selection is made. In the event more than one contractor is selected to provide services, a single price will be negotiated between the selected firms to provide uniformity in program marketing.

Please specify where your suppliers and distributors are located (for panels, inverters, BES equipment, etc.).

I. Sample Project Design (30 Points)

Submission should also include the following documents as they relate to the Sample Project: Appendix D:

- Design of the project including a narrative of work, system design (including a panel upgrade), expected yield (kWh from solar and storage), days of autonomy in islanded mode, and cost (upfront OR lease) in total dollars. Indicate if the system is AC coupled.
- Proposal that firm would provide to a homeowner, including system size, project energy production, and expected financial savings, and including any incentives or tax credits including SGIP (if applicable), clearly stating all assumptions, including utility price and utility price escalator.
- Example of a direct purchase contract and lease or PPA agreement with the customer, specifying all terms and conditions for a customer under the Pali
Microgrid campaign.

J. Supporting Information

Supporting information may include, but not be limited to, resumes, references, marketing materials or other data that will support your firm as the best Contractor for the project.
PROPOSAL EVALUATION

RP may invite top ranked proposers to make a brief oral presentation and/or be interviewed by the evaluation team. Criteria for oral interviews will be provided upon invitation.

After evaluation of proposals and any interviews, RP will select one or more firms to provide the services described herein. The selected contractor(s) will be required to sign a license agreement with Resilient Palisades for the use of the RP and Pali Microgrid names in order to use and promote the program throughout the program duration. Selected contractors will also be required to sign a contract with RP related to proof of insurance, guarantee of products and services delivered as described, commitment of payment based on total watts/watt hours installed through program, participation in marketing and outreach, etc.

Please feel free to contact me directly with any questions concerning this RFP at sheryl@resilientpalisades.org.

Sincerely,

Sheryl Rosenbaum
Program Manager
Appendix A: Proposer Information

1. LICENSE

A. Does the entity hold one or more of the following California contractor's licenses, which is (are) current and in good standing with the California Contractors State License Board?

<table>
<thead>
<tr>
<th>Classification</th>
<th>License Code</th>
<th>License Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Building Contractor</td>
<td>B</td>
<td>(License Code)</td>
</tr>
<tr>
<td>Electrical Contractor</td>
<td>C-10</td>
<td>(License Classification)</td>
</tr>
<tr>
<td>Solar Contractor</td>
<td>C-46</td>
<td>YES</td>
</tr>
</tbody>
</table>

B. If YES, provide the following information about the entity’s contractor's license.

1. Name of license holder exactly as on file with the California Contractors State License Board.
2. License classification(s):
3. License code(s):
4. License number(s):
5. Date(s) issued: Expiration date(s):

C. Has the entity’s contractor’s license been suspended or revoked by the California Contractors State License Board within the last 10 years?

YES | NO

2. CONSTRUCTION EXPERIENCE (IN COMPARABLE PROJECTS)

A. What was the largest amount of work completed in one year?
   1. Provide dollar amount, number of jobs, and the year.

B. Has the entity successfully completed at least 3 projects in the Palisades within the last year?
3. **INSURER** (also see requirements in Proposal section)
   
   A. Does the Contractor have Workers’ Compensation, Liability and Vehicle insurance in minimum amounts of $1,000,000 each?

   □ YES □ NO

4. **LIQUIDATED DAMAGES**

   In the last five (5) years, has the firm been assessed liquidated damages of more than $100,000 on a contract with either a public or private owner?

   □ YES □ NO

5. **DISCIPLINARY MEASURES HISTORY**

   Has the entity (nor any member of the entity if a joint venture or partnership) been disqualified or otherwise barred from doing business within the last five (5) years?

   □ YES □ NO
Appendix B: Scope of Work

INTRODUCTION

The selected firm will provide turnkey service for the design and installation of residential solar and battery storage electric systems for a cohort of Pacific Palisades homeowners, in accordance with the general scope of services outlined below. Contractor will have a direct relationship with the homeowner with regard to installation, warranties, rebates, configuration and performance of the system, performance of the workers, aesthetic configuration, size of the system, cost, insurance claims, etc. Contractor will have a contractual relationship with RP with regard to proof of insurance, guarantee of products and services delivered as described, commitment of payment based on total watts/watt hours installed through program, participation in marketing and outreach, etc.

GENERAL SCOPE OF WORK

The purpose of this project is to install photovoltaic and/or battery systems on homes in Pacific Palisades at a per-watt price lower than the typical residential installation. Homeowner participants in the project will be solicited by Resilient Palisades through an initiative called the Pali Microgrid.

Between the months of November 2021 and May 2022, RP may deliver multiple educational workshops in person and/or via Zoom. The selected firm(s) is expected to have staff available to answer questions and provide an interface to the community at these workshops. Other neighborhood outreach opportunities will be created that selected firm(s) may participate in if they wish.

As available, a list of homeowners who wish to proceed with an installation will be provided to the selected firm(s). If more than one firm is selected per project, RP will refer homeowners to the firms in an equitable manner as established by the technical committee. Resilient Palisades will collect basic information from homeowners to determine eligibility. Selected firm(s) will provide site assessments and system design proposals for each homeowner on the list, to establish each site’s suitability for solar and/or battery systems, identify the appropriate system size for the home and homeowner, and finalize the total installation cost. Selected firm(s) shall serve as the prime contractor for all aspects of the solar project including roofing and electrical work and serve as a single point of contact for the homeowner. Site assessments performed by the selected firm(s) will include a shading impact analysis proposed array location, tilt, and orientation discussion with the homeowner, annual energy production estimates, and notation of any electrical, mechanical, or structural considerations that may incur costs above and beyond the per-watt pricing schedule for the project.

Individual system designs should be aesthetically pleasing, taking into consideration the preferences of a given homeowner, while minimizing project costs and maximizing solar energy production.

Installations will be carried out by selected firm(s) in conformance with all applicable laws and
codes, interconnection requirements for net-metered installations, and existing rules and timelines.

Contractor will provide support to ensure timely interconnection with LADWP. RP will provide Contractor with a designated contact at LADWP that LADWP has assigned to RP in order to expedite interconnections for this project.

Battery systems should be designed to be capable of load shifting and qualify for SGIP, if applicable. Solar + storage proposals should also include an analysis for financial savings based on the modeled performance of the solar+battery systems. Firms will assist participants in applying for SGIP benefits, if applicable.

For each participating home, selected firm(s) will be responsible for securing all required permits. The selected firm(s) will also apply for and complete any net-metering agreements with LADWP. The firm(s) will also provide each homeowner appropriate documentation and guidance for applying for the federal energy tax credit. Complete system warranties shall be provided in writing.

Certain neighborhoods and HOAs may prevent the installation of street-facing photovoltaic panels. RP encourages contractors to be familiar with these designations and to understand the limitations that homeowners may have in installing solar.

In all marketing and sales materials, Selected installers must use the current utility rate for the customer class (e.g., residential) and a set escalator rate for predicted utility price and payback, and clearly state these and all other assumptions used.

RP and Selected installers must clearly present to potential Pali Microgrid participants that, before signing a contract with the selected installers, they are free to independently seek other offers.

The Contractor will agree to market only under the RP/Pali Microgrid brand in the Project Area for the duration of the campaign RFP period and through the completion of all installations. All participants must be offered the finalized discounted Pali Microgrid pricing via the tiered pricing schedule, when applicable.

Installer is responsible for all maintenance and servicing for the first 10 years of the project at no cost to the customer. For systems installed under a Lease or PPA contract, all service and maintenance will be covered as per the language specified in the customer agreement. Installer is also responsible for servicing solar panels should they fail or show signs of underperformance within the warranty period (no less than 20 years). It is understood and should be communicated to the customer that if this should occur, a service fee will likely be administered unless this cost is covered by the manufacturer.
For systems installed under a lease or PPA contract, installer will confirm that there will be no limitations on any customer participating in any microgrid or virtual power plant arrangements.

GUIDELINES FOR EQUIPMENT SPECIFICATIONS AND INSTALLATION

Inverters and electrical components shall be installed to minimize the visual impact on the residence. Whenever possible, inverters shall be installed in a garage or other qualified indoor space. To the extent possible, conduit shall be hidden under PV modules, within attic spaces, or within walls. Price quotes shall clearly state the maximum number of feet of electrical conduit that will be visible on the roof of the structure and on exterior walls and the exact location of the inverter.

Flashing and Racking:
Flashing and racking components shall be designed to be used together as a structural system. All components shall be constructed of corrosion resistant aluminum or stainless steel. Roof anchors shall be designed with an integrated flashing system that is certified to comply with International Building Codes (IBC) & International Residential Codes (IRC) by IAPMO-ES. Mechanical testing conformed to the standard for Testing and Analysis of Joist Hangers and Miscellaneous Connectors (EC002-2011), and rain testing conformed to the Underwriters Laboratory Standard for Gas Vents (UL 441-96 Section 25).

Electrical Components:
All electrical components (i.e., wire, boxes, conduit, breakers) shall comply with the National Electrical Code, 2017 Edition; Underwriters Laboratories standards for each component; National Electrical Manufacturers Association Standards. The roof penetration shall be provided by a UL approved pass-through enclosure.

Photovoltaic Modules:
All photovoltaic (PV) modules shall be tested and listed by UL and shall meet the requirements specified in UL 1703 to ensure compliance with applicable safety standards, including but not limited to safe operation and disconnection from the electrical distribution system in the event of internal equipment failure, or separation from the distribution system.

California Energy Commission Certification: Modules shall have a minimum STC rating of 260 watts/panel, 15 watt/ft2 and minimum PTC/STC ratio of -88, and a minimum of 3 bypass diodes. PV modules shall be rated using the positive electrical tolerance method (rating based on tolerance of plus zero to plus ten percent).

The manufacturer of the PV modules must have had at least 10 years of successful operating experience in producing PV modules with an aggregate successful operating capacity of at least 5 MW per year.
PV Module Warranty: All PV modules shall have a warranty period that begins at the date of start-up.

PV Module(s) produce a power output of ninety percent (90\%) or greater at the end of 10 years. PV Module(s) produce a power output of eighty percent (80\%) or greater at the end of 20 years.

State if the warranty is based on PTC or STC.

PV Module(s) must possess at least a ten-year workmanship warranty.

**Inverters:**
Power Quality: The inverter shall meet the IEEE-519 recommended limits for total harmonic current distortion.

Safety: The inverter shall meet the UL-1741, IEEE 929, 1547 and ANSI 62.41 requirements to the performance, operation, testing, safety considerations and maintenance of inter-connection and the latest applicable FCC standards and addenda dated prior to the award of the purchase order for this procurement.

California Energy Commission Certification and Utility Interconnection: Inverters shall be California Energy Commission certified. They shall also comply with all utility interconnection requirements. Inverters must be on the California Energy Commission list of approved products (see: www.gosolarcalifornia.ca.gov/equipment/index.html).

Inverter Operating Experience: The manufacturer of the inverter must have had at least 5 years of successful operating experience in inverters, with a combined capacity of at least 2 MW per year.

Inverter Specification:
- Inverter shall comply with LADWP regulations.
- Inverter efficiency > 96\% at full load.
- Minimum 10-year workmanship warranty.
- Warranty extension options are encouraged and should be detailed in Appendix C, Pricing Structure.

**Batteries:**

All battery options should be suitable for “load shifting” applications.

**Home Energy Management Systems:**

HEMS should be capable of load shifting applications and offer potential for maintaining critical loads in a power outage.
ELECTRICAL CODES, REFERENCES, AND STANDARDS

These codes, standards, and references are incorporated into the requirements of this RFP by reference. All materials and equipment furnished under this contract shall conform to or exceed the codes, standards and references listed below:

- Underwriters Laboratories (UL) 1703, 1741.
- IEEE Standards 519, 929, 1547.
- American National Standard (ANSI) 62.41.
- Federal Communications Commission (FCC) Part 15 Class B.
- National Electrical Manufacturers Association (NEMA).
- LA City/County Fire Department Solar Installation Standard.
- Compliance with LADWP’s electrical interconnection and Net Metering rules.

SERVICES TO BE PROVIDED BY RESILIENT PALISADES AND SUPPORTING PARTNERS

Resilient Palisades will provide a Program Manager who will be responsible for overall project management of the contractor selection process. The Program Manager will be reasonably available for meetings.

Resilient Palisades project partners and selected contractors will deliver educational workshops ranging from solar project basics to net-metering, technology, incentives & tax credits, financing options, and energy use analysis. In the five-month program period there may be at least three such in-person and Zoom meetings for the general public.

Resilient Palisades will publicize the program at one or more of the following: local events, via newsletters and newspapers, bulletins, flyers, yard signs, local newspapers, online through Facebook, Twitter, Nextdoor, Resilient Palisades’ Web site (www.resilientpalisades.org) and other community communication outlets, and through a door-to-door marketing campaign.
Appendix C: Pricing Structure

Pricing Structure will be provided in Excel format to all Contractors who indicate intent to propose by registering for the installer meeting on Wednesday September 29 at 12:00 noon on Zoom.

Register here

https://resilientpalisades.org/events/installer-meeting/
Appendix D: Sample Project

ZIP CODE

90272
ELECTRICAL PANEL

ELECTRICAL PANEL CAPACITY
ELECTRICAL METER

ROOF AGE AND TYPE
Installed 2017 (4 years)

Type: Standing seam metal roof
ROOF
ROOF FROM NORTH
ROOF FROM SOUTH
ROOF FROM WEST
EV CHARGER
# EV Charger Model

![Image of EV charger model]

## SQUARE FOOTAGE OF HOUSE
5,000 PLUS 2,500 SQ FT BASEMENT

TOTAL 7,500 SQ FT
MAJOR ELECTRICAL APPLIANCES/USES OTHER THAN EV CHARGER

- 1 refrigerator
- 1 freezer
- 1 combination refrigerator/freezer
- Internet (modem, router)
- 5 computers
- 2 televisions

NOT
- Hot water heater (gas)
- Furnace (gas)
- Stove (gas)
- Clothes dryer (gas)
- No swimming pool/pool heater
CRITICAL LOAD REQUIREMENTS

- 1 refrigerator
- 1 freezer
- 1 combination refrigerator/freezer
- Internet (modem, router)
- 2 computers
PLANS FOR ELECTRIFICATION

NONE AT PRESENT
LADWP BILLS (12 MONTHS)

Electric Charges

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<thead>
<tr>
<th>BILLING PERIOD</th>
<th>DAYS</th>
<th>ZONE</th>
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</thead>
<tbody>
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<td>5/4/21 - 7/1/21</td>
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RATE SCHEDULE
R-1 and R-1[i] Residential Electric - Rate A Standard Service

NEXT SCHEDULED READ DATE
8/30/21

HIGHEST MONTHLY KWH
1288.676470 Tier 3

SA #: 1851515697

USAGE HISTORY (Total kWh)

<table>
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<tr>
<th>APR</th>
<th>JUN</th>
<th>JUL</th>
<th>JUL</th>
<th>Aug</th>
<th>Oct</th>
<th>NOV</th>
<th>NOV</th>
<th>MAM</th>
<th>May</th>
<th>JUN</th>
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</table>

Prev Yr | Jul 21
---------|--------
Total kWh used | 2,120 2,379
Average daily kWh | 37 41
Days in billing period | 57 58
Your average daily cost of electricity | $10.86

<table>
<thead>
<tr>
<th>METER NUMBER</th>
<th>CURRENT READ</th>
<th>PREVIOUS READ</th>
<th>TOTAL USED</th>
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<tbody>
<tr>
<td>F00010-00014929</td>
<td>54187</td>
<td>51808</td>
<td>2379 kWh</td>
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</tbody>
</table>

Power Access Charge Tier 3 45.40

Tier 1 Energy
700 kWh x $0.17464/kWh 122.25

Tier 2 Energy
1,400 kWh x $0.23324/kWh 326.53

Tier 3 Energy
279 kWh x $0.27975/kWh 78.05

Subtotal Energy Charges $572.23

City of Los Angeles Utility Tax
$572.23 x 10% 57.22

State Energy Surcharge
2,379 kWh x $0.0003/kWh 0.71

Total Electric Charges $630.16
Electric Charges

BILLING PERIOD	DAYS	ZONE
3/6/21 - 5/4/21	59	1

RATE SCHEDULE
R-1 and R-1[1] Residential Electric - Rate A
Standard Service

NEXT SCHEDULED READ DATE
6/30/21

HIGHEST MONTHLY KWH
1288.676470 Tier 3

SA #: 1851515697

USAGE HISTORY (Total kWh)

<table>
<thead>
<tr>
<th>Month</th>
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<th>Tier 3</th>
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<td>Nov</td>
<td>1100</td>
<td>1600</td>
<td>700</td>
</tr>
<tr>
<td>Dec</td>
<td>1200</td>
<td>1800</td>
<td>800</td>
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</tbody>
</table>

- Total kWh used: 2,019 Tier 1, 2,366 Tier 2, 2,366 Tier 3
- Average daily kWh: 33 Tier 1, 40 Tier 2, 40 Tier 3
- Days in billing period: 62 Tier 1, 59 Tier 2, 59 Tier 3
- Your average daily cost of electricity: $10.41

<table>
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<tr>
<th>METER NUMBER</th>
<th>CURRENT READ</th>
<th>PREVIOUS READ</th>
<th>TOTAL USED</th>
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</thead>
<tbody>
<tr>
<td>F00010-00014929</td>
<td>51808</td>
<td>49442</td>
<td>2366 kWh</td>
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</tbody>
</table>

Power Access Charge Tier 3: 45.40
Tier 1 Energy: 700 kWh x $0.17534/kWh = 122.74
Tier 2 Energy: 1,400 kWh x $0.23394/kWh = 327.52
Tier 3 Energy: 266 kWh x $0.23395/kWh = 62.23

Subtotal Energy Charges: $557.89
City of Los Angeles Utility Tax: $557.89 x 10% = 55.79
State Energy Surcharge: 2,366 kWh x $0.0003/kWh = 0.71

Total Electric Charges: $614.39
### Electric Charges

**BILLING PERIOD** 10/30/20 - 3/6/21
**DAYS** 127
**ZONE** 1

**RATE SCHEDULE**
R-1 and R-1[1] Residential Electric - Rate A Standard Service

**NEXT SCHEDULED READ DATE**
4/30/21

**HIGHEST MONTHLY KWH**
1288.676470 Tier 3

**SA #: 1851515697**

#### USAGE HISTORY (Total kWh)

<table>
<thead>
<tr>
<th>Month</th>
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<th>Mar 21</th>
</tr>
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<tbody>
<tr>
<td>JAN</td>
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<tr>
<td>MAR</td>
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<tr>
<td>APR</td>
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<tr>
<td>JUL</td>
<td>2,921</td>
<td>5,556</td>
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<tr>
<td>AUG</td>
<td>43</td>
<td>44</td>
</tr>
<tr>
<td>OCT</td>
<td>68</td>
<td>127</td>
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</tbody>
</table>

- Total kWh used: 2,921
- Average daily kWh: 44
- Days in billing period: 68
- Your average daily cost of electricity: $11.42

#### METER NUMBER

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<tr>
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<th>PREVIOUS READ</th>
<th>TOTAL USED</th>
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<tbody>
<tr>
<td>F00010-00014929</td>
<td>49442</td>
<td>43886</td>
<td>5556 kWh</td>
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</table>

- Power Access Charge Tier 3: 96.10
- Tier 1 Energy: 1,481.66667 kWh x $0.17679/kWh = 261.94
- Tier 2 Energy: 2,963.33333 kWh x $0.23537/kWh = 697.49
- Tier 3 Energy: 1,111 kWh x $0.23537/kWh = 261.50

**Subtotal Energy Charges**: $1,317.03

- City of Los Angeles Utility Tax - 127 days: $1,317.03 x 10% = 131.70
- State Energy Surcharge: 5,556 kWh x $0.0003/kWh = 1.67

**Total Electric Charges**: $1,450.40
Electric Charges

BILLING PERIOD      DAYS     ZONE
10/30/20 - 1/4/21   66       1

RATE SCHEDULE
R-1 and R-1[i] Residential Electric - Rate A
Standard Service

NEXT SCHEDULED READ DATE
3/3/21

HIGHEST MONTHLY KWH
1288.676470 Tier 3

SA #: 1851515697

USAGE HISTORY (Total kWh)

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<th>Prev Yr</th>
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<td>Total kWh used</td>
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<td>2,835</td>
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<td>68</td>
<td>66</td>
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<td>Your average daily cost of electricity</td>
<td>$11.22</td>
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METER NUMBER      CURRENT READ       PREVIOUS READ    TOTAL USED
F00010-00014929   46721               43886             2835 kWh

Power Access Charge Tier 3
Tier 1 Energy
Tier 2 Energy
Tier 3 Energy

Subtotal Energy Charges $672.45

City of Los Angeles Utility Tax $672.45 x 10% 67.25
State Energy Surcharge 2,835 kWh x $0.0003/kWh 0.85

Total Electric Charges $740.55
Electric Charges

BILLING PERIOD  DAYS  ZONE
8/28/20 - 10/30/20  63  1

RATE SCHEDULE
R-1 and R-1[i] Residential Electric - Rate A
Standard Service

NEXT SCHEDULED READ DATE
1/4/21

SA #: 1851515697

USAGE HISTORY (Total kWh)

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<tr>
<td>Oct 20</td>
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<tr>
<td>Total kWh used</td>
<td>3,021</td>
<td>3,058</td>
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<tr>
<td>Average daily kWh</td>
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<td>Days in billing period</td>
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<td>Your average daily cost of electricity</td>
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METER NUMBER  CURRENT READ  PREVIOUS READ  TOTAL USED
F00010-00014929  43886  40828  3058 kWh

Power Access Charge Tier 3
45.40

Tier 1 Energy
700 kWh x $0.17659/kWh 123.61

Tier 2 Energy
1,400 kWh x $0.23518/kWh 329.25

Tier 3 Energy
958 kWh x $0.28074/kWh 268.95

Subtotal Energy Charges $767.21

City of Los Angeles Utility Tax
$767.21 x 10% 76.72

State Energy Surcharge
3,058 kWh x $0.0003/kWh 0.92

Total Electric Charges $844.85
# Electric Charges

**BILLING PERIOD**
6/30/20 - 8/28/20

**DAYS**
59

**ZONE**
1

**RATE SCHEDULE**
R-1 and R-1[i] Residential Electric - Rate A
Standard Service

**NEXT SCHEDULED READ DATE**
10/29/20

**HIGHEST MONTHLY KWH**
1344.500000 Tier 3

## USAGE HISTORY (Total kWh)

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## METER NUMBER

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<tr>
<td>F00010-00014929</td>
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<td>38438</td>
<td>2390 kWh</td>
</tr>
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</table>

**Power Access Charge Tier 3**
45.40

**Tier 1 Energy**
700 kWh x $0.17613/kWh
123.29

**Tier 2 Energy**
1,400 kWh x $0.23472/kWh
328.61

**Tier 3 Energy**
290 kWh x $0.32176/kWh
93.31

### Subtotal Energy Charges
$590.61

**City of Los Angeles Utility Tax**
$590.61 x 10%
59.06

**State Energy Surcharge**
2,390 kWh x $0.0003/kWh
0.72

## Total Electric Charges
$650.39