## SECTION 1
### GENERAL INFORMATION

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For a project located within SRP's electric service area, the phone numbers listed on page 3 can be called to assist you with your specific needs.
The following terms, when used herein, shall have the meaning specified.

1. **Available Interrupting Current (AIC):** Minimum breaker fault current interrupting capability.
2. **All-In-One Service Entrance Section (SES):** Equipment manufactured as one unit.
3. **American Wire Gauge (AWG):** The AWG assigns a number to a particular size of wire according to circular mill area to a maximum size of #0000.
4. **Authority Having Jurisdiction (AHJ):** Governmental agencies and municipalities having responsibility for public safety.
5. **Blue Stake Law:** Arizona Revised Statutes, Chapter 2, Article 6.3, Sections 40-360.21 through 40-360.32.
6. **Building:** A structure that stands alone or is separated from adjoining structures by fire walls (minimum two-hour rated) with all openings therein protected by fire doors.
7. **Campus:** Customer location having multiple buildings served by multiple SES that is not separated by private or public property or right-of-way and must be operated as one integral unit with all accounts in a single common entity name.
8. **Channel:** Pre-manufactured metal framing with compatible fasteners.

9. **Coincident Load:** The total demand placed on SRP’s distribution system by the SES under consideration during a 30-minute time interval as recorded in SRP’s billing system.
10. **Contributions In Aid Of Construction (CIAC):** Financial contributions provided by the Customer for construction of electrical facilities.
11. **Cost or Expense:** The cost of all materials and equipment, labor and other definite charges applicable thereto, plus a reasonable percentage for engineering, purchasing, the use of construction equipment and other costs of a general character, involved in connection with the work to be performed.
12. **Critical Load:** Load that cannot be readily disconnected due to public health and/or safety concerns.
13. **Customer:** Any person utilizing services from SRP.
14. **Customer-Owned Services:** A service lateral provided, installed, owned and maintained by the Customer, complying with the authority having jurisdiction, where the point of delivery is usually the secondary bushings of the supplying transformer.
15. **Distribution Design:** The SRP group responsible for design of intended electrical facilities.
16. **Distributed Energy Resource (DER):** Independent electricity generating or storage technologies interconnected to SRP’s distribution system.
17. **Distributed Energy Resource (DER) Generation:** The generation of electricity via a distributed energy resource (photovoltaic systems, wind generation, etc.).
18. **Distributed Energy Resource (DER) Storage**: The storage of electricity either drawn from the grid or from a DER generation source.

19. **Electric Service Specifications (ESS)**: An SRP manual intended as a guide for making electrical installations or modifications, while protecting the interests of the Customer and complying with regulations, which experience has shown, are necessary for safe, adequate and satisfactory service. These standards are also available online at srpnet.com/electric/business/specs/Default.aspx.

20. **Electrical Clearance**: The approval of an electrical installation by the city or county having jurisdiction as an indication of compliance with its standards.

21. **Electronic Marker**: A passive antenna, which is installed over underground facilities that uses an electronic transmitter to allow future location of these facilities.

22. **Electrical Metallic Tubing (EMT)**: A non-flexible, non-corrugated raceway designed specifically for electrical cables. Also commonly called thin-wall.

22. **Electric Utility Service Equipment Requirements Committee (EUSER or EUSERC)**: Organization comprised of utility representatives from the Western Section of the United States, which works to promote the standardization of electric service requirements and the design and engineering of metering and service equipment. SRP is a participating member.

23. **Fault Current**: The available short circuit current typically calculated at the Customer’s service entrance section (see AIC and Isc).

22. **Factory Built Building**: see Manufactured Building.

23. **Gas**: Any volatile flammable substance capable of being ignited by an electrical spark.

24. **General Public Area**: An area where the general public has free access.

25. **Ground**: A conducting connection between an electrical circuit or equipment and earth, or some conducting body which serves in place of the earth.

26. **Ground Rod**: A ground electrode (rod) driven into earth to provide a base reference for voltage and a path to ground for fault current.

27. **Handles, Lifting**: Handles attached to meter and service equipment panels to aid in the panel removal replacement and open/close operation. They are to be non-folding grasp type, designed to provide full, secure attachment and having the ability to withstand stress of a 75 pound load.

28. **Hand Tools**: Tools used to excavate in a safe and prudent manner. Excavation within a zone identified as containing underground facilities should be performed with reasonable care using hand tools (i.e., hand shovels, vacuum excavation methods, soft digging, pot holing or other non-invasive methods). Hand digging and non-invasive methods are not required for pavement removal.

29. **Hipot**: A dielectric withstanding voltage test, a hipot test stresses the insulation of an electrical assembly by applying a voltage much higher than is usually experienced in normal operation. The purpose of a hipot test is to assure safety and reliability.
30. **Instrument Transformer**: A device that is intended to reproduce in its secondary circuit, in a definite and known proportion suitable for utilization in measurement, control, or protective devices, the current (or voltage) of its primary circuit, with its phase relations substantially preserved. Types include: Potential (voltage), Transformers (PT), and Current Transformers (CT).

31. **Isc**: Available utility fault current for arc flash study.

32. **Junction Box (J-Box)**: An above ground surface or sub-surface box which houses cable connections. It may be a Customer’s point of delivery.

33. **kCMIL (kCM)**: The size of any wire larger than 4/0 is expressed directly in circular mil area. Example: 250,000 Circular Mils = 250 MCM

34. **Line**: A system of poles, ducts, wires or fixtures used for the transmission and distribution of electricity.

35. **Load**: The ratings of the power consuming apparatus which may be connected to SRP’s installation or system under consideration.

36. **Main Line Trench**: Any trench located in road right-of-way (by permit), public utility easement or private easement that contains electrical facilities.

37. **Manufactured Building**: Any building that is of closed construction and is made or assembled in manufacturing facilities on or off the building site for installation, or for assembly and installation on the building site, other than manufactured homes, mobile homes, park trailers, or recreational vehicles.

38. **Manufactured Home**: A structure that is transportable in one or more sections and is 2.5 m (8 body ft.) or more in width or 12 m (40 body ft.) or more in length in the traveling mode, or when erected on site is 30m² (320 ft²) or more; which is built on a chassis and designed to be used as a dwelling, with or without a permanent foundation, when connected to the required utilities, including the plumbing, heating, air conditioning, and electrical systems contained therein.

39. **MCM (Thousand Circular Mills, ALSO KCMIL)**: See kCMIL.

40. **Meter Pedestal**: Self-supported underground service entrance section.

41. **Mobile Home**: For the purposes of the standards and code, see Manufactured Home.

42. **Modification**: Change in ampacity, change in character of service, added load, relocation or conversion of an existing service entrance section. Distribution Design and the authority having jurisdiction must approve all modifications. All modifications must comply with the current Electric Service Specifications and any other applicable standards.

43. **Municipality**: A state, local, or federal government entity, excluding Native American communities.

44. **National Electrical Code (NEC)**: Published by the National Fire Protection Association (NFPA) as NFPA-70, addresses proper electrical systems and equipment installation to protect people and property from hazards arising from the use of electricity in buildings and
GLOSSARY

The following terms, when used herein, shall have the meaning specified.

structures. SRP considers the NEC to be the minimum acceptable standard. City, county, or authority having jurisdiction requirements that are more stringent shall prevail.

45. National Electrical Safety Code (NESC): The purpose of the NESC is the practical safeguarding of persons during the installation, operation, or maintenance of electric supply and communication lines and associated equipment. It is a nationally accepted code governing utility wiring.

46. Non-Critical Load: A load that, if interrupted, will not cause personal injury or property damage, as defined by SRP Design.

47. Parallel Generation: Electrical generation equipment that has been approved by SRP to operate interconnected with SRP’s electrical system.

48. Pedestal, Box: See Junction Box.

49. Phase Rotation: A-B-C counterclockwise. For a group of Customers measured at the transformer secondary or for a single Customer measured at the Customer’s service entrance.

50. Point Of Attachment: The point at which restraining or anchoring contact is made between SRP’s facilities and those of the Customer. This is strictly a mechanical consideration and does not necessarily imply any separation of responsibilities.

51. Point Of Delivery (POD): The point of interconnection between SRP’s electrical facilities and those of the Customer. It is the exact point at which the separation of responsibility occurs for the construction, ownership, operation and maintenance of all facilities except metering equipment. SRP will determine the POD in all cases.

52. Power Leg (Wild Leg): The “C” (third) phase of a four-wire delta secondary that is marked “blue with an orange tracer”.

53. Preferred: Recommended but not required.

54. Public Agency: Any organization that is publicly or taxpayer funded.

55. Public Utility Easement (PUE): An easement for overhead or underground utility facilities provided for the use of the public, including water, storm drainage, sewage, electricity and communication, owned and operated by any person, firm, corporation, municipal department, or board duly authorized by state or municipal regulations. Utility or utilities as used herein refer to such person, firms, corporations, departments, or boards.

56. Public Utility Facility Easement (PUFE): An easement for the installation of facilities, underground or overhead, furnished for the use of the public, including electricity, gas, steam, communication, water, storm drainage, sewage, sidewalks, landscaping, traffic signals, street lights, flood control, etc., owned and operated by any person, firm, corporation, municipal department, or board duly authorized by state or municipal regulations. Utility or utilities as used herein may also refer to such person, firms, corporations, departments, or boards.

57. Photovoltaic: PV

58. Readily Accessible: Capable of being reached directly, without obstruction at any time. See also Metering section, Service Entrance Section, Equipment Rooms.
GLOSSARY

The following terms, when used herein, shall have the meaning specified.

59. **Right-of-Way (ROW):** The right to build and operate a utility on land belonging to another.
60. **Salt River Project (SRP):** Agricultural Improvement and Power District.
61. **Securely Attached:** Attached to withstand anticipated loads not subject to loosening.
62. **Service Connection:** One service lateral and its associated service entrance.
63. **Service Drop:** Refer to Service Lateral.
64. **Service Energization:** The connection of a service to a voltage source.
65. **Service Entrance Section (SES):** The part of the installation from the point of attachment or termination of the service lateral to and including the service equipment on the Customer’s premises.
66. **Service Equipment:** The necessary electrical facilities, usually consisting of a circuit breaker or switch and fuses, conductors and accessories, which constitute the main control and cutoff of the electric supply, and which are installed, owned and maintained by the Customer.
67. **Service Lateral:** A system of wires, fixtures and sometimes poles, or the equivalent ducts, conduits and cables used to conduct electricity from an electrical source to the point of delivery.
68. **Service Trench:** The trench on property containing the service to the home or business.
69. **Solar Ready:** A service entrance panel with a dedicated breaker installed by the manufacturer, allowing the attachment of a Customer’s 60 Hz AC solar voltaic feed, via the Customer’s utility AC disconnect switch and photovoltaic meter, resulting in a supply side tap configuration.
70. **Temporary Service:** Short-term, non-recurring service of a transitory character, as determined solely by SRP, which may include in its evaluation the speculative character or questionable permanency of the Customer’s operations.
71. **Totalized Metering and/or Totalizing:** The measurement of the simultaneous demands and energy of a Customer who receives electric service at more than one service entrance section at a single site or campus for billing purposes on the appropriate price plan.
72. **Trapped Key Interlock System:** A safety device applied to two operating devices, which prevents them from being simultaneously in a closed position.
73. **Ufer:** A concrete-encased electrode, generally located in the foundation of a building, used for grounding the building.
74. **Underwriters Laboratory (UL):** An independent laboratory facility for testing all types of electrical equipment.
75. **Weatherhead:** A metal cap on a Customer’s service entrance section that protects the connection of SRP’s overhead service conductors to the Customer’s conductors from adverse weather conditions.
76. **Wild Leg:** See Power Leg.
Customers wanting new meter installations or relocations shall contact the SRP business office for an approved service and meter location prior to proceeding with any electrical installation. By adhering to the following procedure, the Customer will eliminate inconvenience, delays and added fees associated with an incorrect meter location.

I. Required Information

Each Customer desiring new service and/or a change in existing service must make application with SRP. The Customer must provide the following information:

A. General
   1. Customer’s name (person responsible for paying the bill) and contact information, such as:
      a) Email address
      b) Mailing address
      c) Phone number/fax
   2. Copy of the recorded vesting deed (ownership) to the subject property.
   3. Service address – street address or route and box.
   4. Mailing address, if bills are not to be sent to service address.
   5. Site plans and building plans:
      a) Service entrance (amp rating)
      b) Load breakdown
      c) Desired voltage and phase

B. Specific Types of Job Requirements:
   1. Commercial
   2. Residential
   3. Temporary

II. Schedule of Events

A. Customer provides sufficient notice of intent to build.

B. Customer provides required information.

C. SRP preliminary design begins when the Customer provides one full set of adequate drawings. Required information includes:
   1. Architectural
REQUEST FOR SERVICE

2. Electrical
   a) Load calculations
   b) Panel schedule
   c) Proposed meter panel location (subject to SRP approval)
3. Civil plans (identification of flood plains)
4. Landscaping and sprinkler plans – including retention basins
5. Mechanical
6. Fire protection

D. SRP Design Representative verifies the property is located in SRP service territory and will be served by SRP.
E. SRP Design Representative examines SRP maps and field checks job site to determine how to serve the property.
F. If there are conflicts with SRP Water Users Association facilities, SRP Design Representative directs Customer to SRP Water Users Association for resolution.
G. If a Customer has transmission easements or facilities located within their project area, refer the Customer to the Transmission Line Design department.
H. Prepare preliminary design and cost estimates (if applicable).
I. Present Customer with preliminary design and contract with cost (if applicable).
J. Receive signed contract with payment(s) from Customer (if required).
K. Design facilities.
L. SRP specifies trench and equipment locations (if applicable).
M. SRP reviews SES drawings for approval.
N. Customer and SRP, each individually, secure necessary permits, easements, ROW, and electrical SES shop drawings (all panels greater than 225 amps that are not pre-approved) with official street address. Electronic copies (PDF format preferred) need to be sent to shopdraw@srpnet.com.
O. Customer provides property corners and grade stakes (blue top).
P. Customer provides the trench and installs conduit per SRP design (if applicable).
Q. SRP inspects trench and conduit installation and approves it per SRP design (if applicable).
R. SRP releases job to construction.
S. SRP schedules crews for construction of its facilities.
T. SRP inspects meter panel for compliance.
U. Customer obtains electrical clearance from AHJ.
V. Once an account has been established with SRP and clearance has been received from AHJ, the service lateral will be energized and installation of the meter scheduled. SRP must be contacted to provide a meter. The SES must stay in compliance with ESS requirements.

III. Temporary Service
Go to srpnet.com/service/business/tempservice.aspx or call 602-236-0777.

IV. Panel Modifications and/or Repair
Contact both SRP and the AHJ prior to making any panel modifications and/or repair to an existing service entrance section. SRP will reconnect power when both SRP and the AHJ approve all service entrance section modifications.

V. Codes
These specifications are a supplement to the NEC but they are not a substitute for that code or for codes of the AHJ. SRP endorses the jurisdictional authority’s right to inspect and insure that the Customer's wiring installations be made in accordance with applicable codes.

VI. Inspections, Approvals and Permits
Refer to the map on page 1-1 and contact information on page 3 for the appropriate SRP business office.

Maricopa County and most cities/towns in SRP’s service area have ordinances restricting SRP from energizing the load side of the electrical service to the Customer until the Customer has obtained the necessary permits and until the actual electrical installation has been approved by the AHJ. Therefore, the Customer should determine the requirements of the Building Safety/Building Inspection department of the county or city having jurisdiction before beginning any job subject to inspection by that department. If no jurisdictional authority exists, SRP must receive a certificate in-lieu of electrical clearance, including the notarized signature and license number of the qualified electrical contractor, stating that the facility meets the NEC requirements prior to receiving SRP’s electrical service.

Reference copies of the Certificate In-Lieu of Electrical Clearance and the Certificate In-Lieu of Electrical Clearance for Solar Projects are provided on the following pages. Contact SRP Design via the appropriate SRP business office to obtain a copy of these forms.
REQUEST FOR SERVICE

Certificate In-Lieu of Electrical Clearance

SRP Bill Account Number:  

And/or Address:  

Job Name:  

Job Number:  

It is the customer’s responsibility to ensure that all facilities on the customer’s side of the point of delivery for electric service are built and maintained in a safe operating condition. This responsibility includes ensuring that the customer’s electrical facilities comply with all relevant construction codes and safety standards. Customers should coordinate this responsibility with their architectural and engineering consultants, construction contractors, or subcontractors, as appropriate, before requesting SRP to energize their electrical systems. A customer’s failure to comply with this notice may result in injury or death to persons or damage to property.

Customer’s Certification of Readiness

The undersigned customer (“Customer”) hereby certifies to SRP and agrees that:

1. This Certificate In-Lieu of Electrical Clearance (“Certificate”) is subject to SRP’s Rules and Regulations for providing electric service (the “Rules and Regulations”). If this Certificate conflicts with the Rules and Regulations, the provisions of the Rules and Regulations will prevail.

2. Customer has read the foregoing “Important Notice” and fully understands Customer’s obligations.

3. Customer has conferred with the parties responsible for the design and construction of Customer’s facilities, and verified that the electrical systems on Customer’s side of the point of delivery are designed, constructed, installed and operational in compliance with all relevant construction and safety codes and standards (including, but not limited to, NFPA 70 of the National Electric Code).

4. Customer assumes full responsibility for any and all damage to property (including, but not limited to, property owned or leased by Customer, SRP and any third party, and death or injury to persons (including, but not limited to, Customer’s employees, agents and contractors, SRP’s employees, agents and contractors, and any third parties) as a result of conditions on Customer’s side of the point of delivery at the service address noted above.

5. Customer hereby releases SRP from liability for any and all damages or injuries that result from the electric service provided by SRP as provided in the Rules and Regulations.

6. In reliance on the representations and agreements in this Certificate, SRP will, subject to the Rules and Regulations, energize electric service to Customer’s equipment or facilities after Customer executes this Certificate.

7. The individual signing below is legally authorized to sign this Certificate on behalf of Customer.

Customer’s Legal
Business Signature: 

Printed Name:  

Title:  

Address:  

Phone Number:  

Date:  

ISSUE DATE: 11/09/12
REV. DATE: 11/06/17
APPROVAL: D. Carter
Certificate of Qualified Electrical Contractor

The undersigned certifies to SRP and agrees that:

1. It has inspected the electrical equipment and facilities of Customer at the Service Address described above and that the equipment and facilities are designed, constructed, installed and operational in compliance with all relevant construction and safety codes and standards.

2. It is qualified to make the representation set forth above.

Please FAX completed, notarized Certificate to the SRP City Clearance Desk at (602) 629-8485.

Contractor/Inspector's
Legal Business
Signature:

Company Name:
Printed Name:
License #:
Address:

Printed Name:
Date:

Notarized By:
Notarized Date:

Notary Stamp: ____________________________

Please FAX completed Certificate to the SRP City Clearance Desk: (602) 629-8485
REQUEST FOR SERVICE

SRP COMMERCIAL SOLAR ELECTRIC PROGRAM
Certificate In-Lieu of City Clearance for Commercial Solar Electric Projects

Customer Name: ___________________  SRP Account Number: ___________________
Service Address: ___________________

IMPORTANT NOTICE

It is a Customer’s responsibility to ensure that all electrical facilities on the Customer’s side of the point of delivery for electric service are built and maintained in a safe operating condition. This responsibility includes ensuring that the Customer’s electrical facilities comply with all relevant construction codes and safety standards. Customers should coordinate this responsibility with their architectural and engineering consultants, construction contractors, or subcontractors, as appropriate, before requesting SRP to energize their electrical systems (or, in the case of an electrical generating system, to allow interconnection with SRP’s electrical distribution system). This Certificate In-Lieu of Electrical Clearance for Solar Projects (Certificate) must be signed by the governmental authority having jurisdiction to indicate that the installation has been inspected and certified to comply with all applicable codes, standards, and regulations. It is the Customer’s responsibility to ensure all relevant construction codes and safety standards are met.

The undersigned customer (Customer) hereby certifies to SRP and agrees that:

1. Customer has read the “Important Notice” above and fully understands Customer’s obligations.
2. Customer is having a solar generation facility and related equipment (Generating Facility) installed at the service address above.
3. Customer understands that the governmental authority having jurisdiction, at the jurisdictional level, does not require a permit or inspection for the installation of solar electric generating systems (including the Generating Facility). SRP will not review or inspect the Generating Facility, subject to a label with the National Electric Code or other relevant construction codes and safety standards. It is the Customer’s responsibility to ensure all relevant construction codes and safety standards are met.
4. Customer presents to SRP that it has consulted with the party responsible for the design and construction of the Generating Facility and verified that the Generating Facility has been designed, constructed, installed, and inspected (and will operate) in compliance with all relevant construction and safety codes and standards (including, but not limited to, NFPA 701 and Section 690 of the National Electric Code).
5. Customer understands that SRP has only inspected the Generating Facility to ensure that it will not harm or interfere with SRP’s electrical distribution system. SRP has not inspected or approved any other electrical facilities or conditions at Customer’s service address.
6. Customer must have the party responsible for the design and construction of the Generating Facility sign and notarize the Certificate of Qualified Electrical Contractor below.
7. Customer assumes full responsibility for any and all damage to property (including, but not limited to, property owned or leased by Customer, SRP, or any third party) and death or injury to person(s) (including, but not limited to, Customer’s employees, agents, and contractors; SRP’s employees, agents, and contractors; or any third parties) as a result of the installation and operation of the Generating Facility at the service address noted above.

ISSUE DATE: 11/09/12
REV. DATE: 11/06/17
APPROVAL: D. Carter

REV DATE: 11/06/12
Certificate In-Lieu of Electrical Clearance for COMMERCIAL Solar Projects.docx
8. Customer hereby knowingly and fully releases SRP from any and all claims and liability for any and all damages or injuries that result from conditions on Customer’s side of the point of delivery at the service address noted above.

9. In reliance on the representations and agreements in this Certificate, SRP will, subject to SRP’s Rules and Regulations (Rules and Regulations), allow interconnection with SRP’s electrical distribution system after Customer executes this Certificate, even though the governmental authority having jurisdiction has not reviewed or inspected Customer’s Generating Facility to ensure compliance with the National Electric Code and other relevant codes and safety standards required by the governmental authority having jurisdiction.

10. SRP’s delivery of power and Customer’s interconnection with SRP’s electrical distribution system are governed by the Rules and Regulations for providing electric service. If this Certificate conflicts with the Rules and Regulations, the provisions of the Rules and Regulations will prevail.

11. For business/commercial Customers, the individual signing below is legally authorized to sign this Certificate on behalf of Customer.

By:  
Signature of SRP Account Holder

Name:  
Print Name

Title:  
Print Name

ISSUE DATE: 11/09/12
REV. DATE: 11/06/17
APPROVAL: D. Carter
REQUEST FOR SERVICE

SRP RESIDENTIAL SOLAR ELECTRIC PROGRAM
Certificate In-Lieu of City Clearance for Residential Solar Electric Projects

Customer Name: ___________________ SRP Account Number: ___________________
Service Address: ___________________

IMPORTANT NOTICE

It is a Customer's responsibility to ensure that all electrical facilities on the Customer's side of the point of delivery for electric service are built and maintained in a safe operating condition. This responsibility includes ensuring that the Customer's electrical facilities comply with all relevant construction codes and safety standards. Customer should coordinate this responsibility with their architectural and engineering consultants, construction contractors, or subcontractors, as appropriate, before requesting SRP to energize their electrical systems (or, in the case of an electrical generating system, to allow interconnection with SRP's electrical distribution system). The Certificate In-Lieu of Electrical Clearance for Solar Projects (Certificate) must be signed when the governmental authority having jurisdiction has elected to not require a permit or inspection for installation of significant modification to an electrical system on a Customer's property. A CUSTOMER'S FAILURE TO COMPLY WITH RELEVANT CONSTRUCTION CODES AND SAFETY STANDARDS MAY RESULT IN INJURY OR DEATH TO PERSON(S) OR DAMAGE TO PROPERTY.

Customer’s Certification of Readiness

The undersigned customer (Customer) hereby certifies to SRP and agrees that:
1. Customer has read the Important Notice above and fully understands Customer's obligations.
2. Customer is having a solar generating facility and related equipment (Generating Facility) installed at the service address above.
3. Customer understands that governmental authority having jurisdiction at the present time does not require a permit or inspection for the installation of solar electric generating systems (including the Generating Facility). SRP will not review or inspect Customer's Generating Facility to verify compliance with National Electric Code or other relevant construction codes and safety standards. It is Customer's responsibility to ensure all relevant construction codes and safety standards are met.
4. Customer represents to SRP that it has designed, and is the party responsible for the design and construction of Customer's Generating Facility and verified that the Generating Facility has been designed, constructed, installed, and inspected (and will operate) in compliance with all relevant construction and safety codes and standards (including, but not limited to, NFPA 70 and Section 690 of the National Electric Code).
5. Customer understands that SRP has only inspected the Generating Facility to ensure that it will not harm or interfere with SRP's electrical distribution system. SRP has not inspected or approved any other electrical facilities or conditions at Customer's service address.
6. Customer must have the party responsible for the design and construction of the Customer's Generating Facility sign and notarized the Certificate of Qualified Electrical Contractor below.
7. Customer assumes full responsibility for any and all damage to property (including, but not limited to, property owned or leased by Customer, SRP, or any third party) and death or injury to person(s) (including but not limited to, Customer's employees, agents, and contractors; SRP's employees, agents, and contractors; or any third parties) as a result of the installation and operation of the Generating Facility at the service address noted above.
8. Customer hereby knowingly and fully releases SRP from any and all claims and liability for any and all damages or injuries that result from conditions on Customer's side of the point of delivery at the service address noted above.
9. In reliance on the representations and agreements in this Certificate, SRP will, subject to SRP's Rules and Regulations (Rules and Regulations), allow interconnection with SRP's electrical distribution system after Customer executes this Certificate, even though the governmental authority having jurisdiction has not

[Signature]

[Stamp]
REQUEST FOR SERVICE

reviewed or inspected Customer’s Generating Facility to ensure compliance with the National Electric Code and other relevant codes and safety standards required by the governmental authority having jurisdiction.

10. SRP’s delivery of power and Customer’s interconnection with SRP’s electrical distribution system are governed by the Rules and Regulations for providing electric service. If this Certificate conflicts with the Rules and Regulations, the provisions of the Rules and Regulations will prevail.

By:
Signature (SRP Account Holder) By:
Signature (Spouse)

Name:
Print Name
Name:
Print Name

Certificate of Qualified Electrical Contractor

The undersigned represents and certifies to SRP and agrees that:

1. It has designed, constructed, installed, and inspected the Generating Facility at the service address described above.

2. The Generating Facility has been designed, constructed, installed, and inspected (and will operate) in compliance with all relevant construction and safety codes and standards.

3. It is qualified to make the representation set forth above.

Contractor’s Signature:

Printed Name:
License Number:

Company Name:
Title:

Address:
Phone:

State of Arizona:

County of

On this _____ day of ______________ 20__, before me personally appeared __________________________ (name of signer), whose identity was proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to this document, and who acknowledged that he/she signed the above/attached document.

( SEAL )

Notary Public
My Commission Expires:

FAX completed document to SRP City Clearance Desk at (602) 629-8485 or Email to CCDesk@srpnet.com

REV DATE: 11-07-12
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<tbody>
<tr>
<td>General</td>
<td>Inspects for general electrical hazards (i.e., multiple main breakers).</td>
<td>Inspects for general electrical hazards.</td>
</tr>
<tr>
<td>Cabinet</td>
<td>Distribution service wiring is housed within a portion of the cabinet designated for electric service from the utility. SRP inspects cabinet to ensure that these conductors can be accessed for maintenance operations purposes and that the sealable section is not penetrated. ESS Sections 2, 3 &amp; 9.</td>
<td>Inspects access to cabinet for Customer wiring within the portion of the cabinet designated for Customer wiring.</td>
</tr>
<tr>
<td>Auxiliary Distribution Panels</td>
<td>Does not inspect. However, these panels must not be in conflict with utility easement, operation of the meter or the SRP cable pull section of the cabinet.</td>
<td>Inspects panels to meet local building code requirements.</td>
</tr>
<tr>
<td>Landing Lugs and Line-side Bus to Meter (POD)</td>
<td>The Nameplate Rating (amps) defines the design of the distribution service facilities (utility wire, transformers) providing power. This is referred to as the POD. SRP inspects line-side bus and landing lugs for compatibility with the distribution system design. ESS Sections 2, 3 &amp; 9.</td>
<td>Does not inspect source side bus utility service wire landing lugs.</td>
</tr>
<tr>
<td>Load-side Bus from Meter to Breaker(s)</td>
<td>Does not inspect</td>
<td>Does inspect</td>
</tr>
<tr>
<td>Main Breaker(s) Bus</td>
<td>Does not inspect</td>
<td>Does inspect</td>
</tr>
<tr>
<td>Main Breaker(s)</td>
<td>Reviews for compatibility with the source side bus (including interrupting rating). ESS Section 1.</td>
<td>Inspects for compatibility with the load side bus and breaker(s) bus (including interrupting ratings).</td>
</tr>
<tr>
<td>Grounding/Bonding</td>
<td>Inspects requirements, which consists of the main bonding jumper, the ground electrode and the hub bonding. ESS Section 8.</td>
<td>Inspects to meet local building code requirements.</td>
</tr>
</tbody>
</table>
### REQUEST FOR SERVICE

<table>
<thead>
<tr>
<th>Inspect Task</th>
<th>SRP</th>
<th>Local Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Location of SES</td>
<td>Determines and inspects the location of the SES for compatibility with utility ROW service access and clearances. ESS Sections 2, 3, 5 &amp; 9.</td>
<td>May inspect</td>
</tr>
<tr>
<td>Meter Socket</td>
<td>Verifies compliance with meter standards and metering height requirements. ESS Section 9.</td>
<td>Does not inspect</td>
</tr>
<tr>
<td>Foundation / Mounting</td>
<td>Verifies compliance of the foundation/mounting of the SES. ESS Sections 2 &amp; 3.</td>
<td>Does not inspect</td>
</tr>
<tr>
<td>Address / Section Labeling</td>
<td>Verifies the address and meter location including meter identification requirements. ESS Section 9.</td>
<td>May inspect for the address and SES labeling referencing permit.</td>
</tr>
<tr>
<td>Customer Electric Supply Wiring to Customer load</td>
<td>Does not inspect</td>
<td>Inspects to meet local building code requirements.</td>
</tr>
<tr>
<td>Factory Built Buildings Only: Conductor from SES to Building</td>
<td>Does not inspect</td>
<td>Arizona Department of Housing may inspect.</td>
</tr>
<tr>
<td>Shop Drawings (400 Amp Service or larger)</td>
<td>Verifies drawings are in compliance with EUSERC. Performs field inspection of SES to evaluate compliance. ESS Sections 2, 3 &amp; 9.</td>
<td>Does not inspect</td>
</tr>
<tr>
<td>Meter / Utility Distribution Equipment Vaults (rooms)</td>
<td>Reviews for compliance with requirements. ESS Section 9.</td>
<td>Reviews requirements.</td>
</tr>
</tbody>
</table>

### VIII. Service Entrance Location
SRP reserves the right to determine all service entrance locations. Only authorized SRP personnel of the Distribution Design Department will determine this location.

### IX. Tampering
A. The breaking of seals and tampering with meters or unmetered wiring by unauthorized persons is prohibited and subject to penalty charges.

B. Section 13-1602 of the Arizona Revised Statutes prohibits tampering with the property of a utility. Such tampering is a felony if it causes impairment of the function of the utility.

C. In addition to the above, penalties for unauthorized use of unmetered energy may include special service charges for unmetered service, an estimate of consumption based on proper data of available records, and the full cost or expense incurred by SRP to correct the infraction.
X. **Responsibility**

The Customer has the responsibility to maintain their wiring and equipment in safe operating condition. SRP cannot accept any responsibility for the Customer’s wiring and equipment.

NOTE: SRP gives no warranty, expressed or implied, as to the adequacy, safety or other characteristic of any equipment, wiring or device and assumes no responsibility with respect thereto.

XI. **Cooperation**

It is the sincere desire of SRP to provide and maintain dependable, safe, and satisfactory electric service in a courteous and efficient manner. Cooperation of Customers and their agents is appreciated. It is necessary to provide SRP with information leading to new or increased electric service early in the development of plans to aid the proper scheduling of service. Cooperation of all interested parties and strict adherence to the specifications in the manual will expedite satisfactory electric service.

XII. **Enforcement of Specifications**

SRP will allow a 45-day grace period prior to enforcing new or revised specifications placed in this ESS book.

EXCEPTION: Hazardous or safety-related requirements resulting in new or revised specifications shall be enforced immediately.

XIII. **Appeals**

SRP has an appeal process. Contact Customer Services for more information.

XIV. **Access to Service Entrance Section/Metering on Customer’s Premises**

A. The SES/metering, and any other SRP equipment installed on the Customer’s premises, shall be readily accessible by SRP’s authorized employees or agents at all times. The Customer shall be required to relocate the SES if SRP access is later restricted by any condition (see Section 5 – Clearances and Section 9 – Metering & SES).

B. Electrically operated gates, which do not permit immediate 24-hour access to electric facilities for SRP personnel, could pose a safety hazard. Every existing or proposed electrically operated gate in SRP territory is required to have the approved SRP Restricted Access Switch assembly installed. Customers are responsible for installing the SRP approved switch, which will be wired to the gate controller, on electrically operated gates. The required lock and key switch will be available through SRP after payment for the lock and switch has been received. The switch will be installed by the Customer’s gate service company and maintained by the Customer, according to SRP specifications. Customers are also required to provide the means of opening gates from the inside without the use of vehicles to activate the controller. This may require the installation of an additional SRP Restricted Access Switch assembly inside the gate if there is not an unsecured switch available for SRP use. See page 1-37 for additional details.
XV. **Tree Trimming**

SRP does not prune trees around power lines that run from power poles to homes (on private property), businesses or street lights. In these cases, pruning is the responsibility of the property owner. **Never attempt to prune trees near power lines yourself!** Arizona law places restrictions on tree pruning within 10 feet of a power line. A qualified contractor is required. Private contractors must be qualified per OSHA line clearance standards.

NOTE: All vegetation near conductors, pole to pole (in PUE and/or ROW), must be cleared by SRP. Charges may apply.

XVI. **Identification of Employees**

SRP employees, authorized to visit the Customer’s premises, are furnished with identification, which they will show upon request. This is done to protect the Customer from unauthorized persons representing themselves as SRP employees.

XVII. **Rate Schedule**

Upon request, SRP Rate Schedules and/or Rules and Regulations are available for examination at any SRP business office or online at srpnet.com.

XVIII. **Attachments to SRP Facilities**

No attachments are allowed to SRP facilities unless provided by joint use contract.

XIX. **SRP Excavations**

No joint use with SRP underground facilities unless by joint use contract.
SRP reserves the right to approve all service installations and only authorized personnel of the Distribution Design department will make the determination.

I. Types of Service

A. The following types of service are available based on the classification of use, location and the amount of load to be served. It is necessary for the Customer to contact the regional Distribution Design department to verify availability of the type of service requested prior to purchasing equipment. Typically, SRP will supply one voltage classification to a building. Single-phase service in a three-phase service area will depend on availability of capacity as determined by SRP Design.

B. The operation of large flashing signs, welders, arc furnaces, induction heaters, radio and television transmitters, x-ray equipment, reciprocating compressors and similar apparatus having intermittent flow of large currents sometimes interferes with other users of the electric service. The Customer shall consult SRP so that the character of electric service that will be supplied, the corrective equipment needed and other special precautions that must be taken, will be mutually known factors before planning to use such apparatus. The Customer shall be responsible for corrective equipment that may be necessary.

C. The table below outlines the load limitations for each type of service. These limitations are for total single- and three-phase loads.

### Service Entrance Section (SES) Sizing Limitations

<table>
<thead>
<tr>
<th>Classification</th>
<th>Overhead Service</th>
<th>Underground Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min. SES Size (A)</td>
<td>Max. SES Size (A)</td>
</tr>
<tr>
<td>1 Phase 2 Wire</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1 Phase 3 Wire</td>
<td>100</td>
<td>General or Residential</td>
</tr>
<tr>
<td>240/480</td>
<td>ADOT Lighting Only</td>
<td>N/A</td>
</tr>
<tr>
<td>120/240 Note 4</td>
<td>100</td>
<td>General or Residential</td>
</tr>
<tr>
<td>120/208</td>
<td>General or Residential</td>
<td>200</td>
</tr>
<tr>
<td>277/480</td>
<td>General Only</td>
<td>100</td>
</tr>
<tr>
<td>2,400/4,160</td>
<td>General Only</td>
<td>N/A</td>
</tr>
<tr>
<td>7,200/12,470</td>
<td>General Only</td>
<td>N/A</td>
</tr>
</tbody>
</table>
NOTES
1. Installations shall not exceed two branch circuits or two motors rated ½ HP or less, except in the case of special equipment.
2. Installations shall have more than two circuits serving electrical ranges, air conditioners, water heaters, space heating equipment, and a maximum 7 ½ HP motor.
3. 800 A multi-metered SES serving residential loads are permitted with load verification.
4. Contact Distribution Design for availability.
5. Maximum 800 A when served from a pole-mounted transformer bank, provided 2-4” service risers can be attached to pole.
6. Maximum 800 A if wall-mounted. EXCEPTION: 1200 A 120/208 V multi-metered wall mounted SES serving residential load only.
7. 156 A maximum demand on a non-dedicated circuit. Dedicated circuit requires system review. Contact Distribution Design.
8. Overhead metering equipment supplied by SRP.

II. Service Laterals

Only one service will be supplied to any building.

EXCEPTION: Customers with a load exceeding the SES size limitations require an additional SES which must receive approval in writing by the local municipal AHJ. The local municipal AHJ approves the installation in writing to SRP, including permit number and title.

III. Additional Service/Meter

Regarding existing services, added load will be evaluated on a per-Customer basis. Customers with existing wired buildings or suites adding load in excess of the existing service entrance load capacity may request an additional service and meter as follows:

A. When a Customer leases an existing building with the service entrance equipment already installed, as many meters as the service entrance can hold (in accordance with local authority) can be requested. The existing service equipment must reach code design capacity before additional service laterals will be provided.

B. Totalized metering is the measurement of the simultaneous demands and energy of a Customer who receives electric service at more than one SES at a single site or campus for billing purposes on the appropriate price plan.

1. General Requirements:

An electrical service Customer whose load requires multiple points of delivery and SES at a single location may be metered and billed as if from a single meter through totalized metering, provided all of the following criteria are satisfied:

a) Customer facilities must be located on adjacent contiguous site as per campus.

b) All accounts to be totalized must be on the same E-60 series price plan.
c) Totalized metering may be accomplished by providing electronically totalized demand and energy reads.

d) Only three-phase SES are to be combined for totalization.

e) Permissible service voltages are 277/480 or 120/208 three phases, four-wire.

f) The Customer shall provide, at no cost to SRP, vault or transformer space located as designated by SRP and compliant to all clearance and access requirements.

g) Customers who operate an electric generation unit on the premise, totalized metering will be permitted when the Customer complies with all SRP requirements for interconnection, pays all costs for any additional special metering required to accommodate such service from totalized service sections, and takes service on an applicable price plan for interconnected Customer-owned generation.

h) Written approval by SRP authorized representative is required before totalized metering may be implemented.

i) Customer’s metered coincident load exceeds SRP’s ability to serve through one transformer (two services may be totalized into one when the coincident load exceeds 2550kVA).

j) The Customer’s SES are within 150 feet of each other. Services connected to a dedicated feeder are generally totalized. Dedicated feeders are evaluated on an individual basis.

Multiple services installed at the request of a Customer for purposes of reliability, redundancy, etc., and which do not otherwise qualify based on coincident load, will not be totalized.

C. Removal of totalized metering configuration (some or all) shall be permitted provided all of the following criteria are satisfied:

1. The Customer has submitted a written request to SRP stating the reason for the removal.

2. The Customer may not be totalized again for one year from the removal date.

3. Requests to have the services be totalized again requires the Customer to meet all terms described herein or as modified by future revisions to this policy.

4. The Customer is required to make a non-refundable contribution for the costs associated with the removal of the meter totalizing connection and equipment.

5. The Customer is required to make a nonrefundable contribution for typical service re-establishment fees.

D. Multiple services/meters shall be identified. Identification means shall be in such a manner as meter 1 of 3, 2 of 3, 3 of 3, etc. See Section 9 – Metering for specifics of the identification tag.
NOTE: For safety reasons, if a Customer has two or more services, none of these services shall be interconnected; this prevents back feed.

IV. Starting Currents, Three-Phase Motors

A. In general, across the line starting of three-phase motors is allowed for motors up to 25 HP on 208 or 240 volt systems, and 75 HP on 480 volt systems, provided the motor’s locked rotor amps do not exceed code “F”, NEC Table 430-251 A and B.

B. Motors larger than those in IV.A. referenced above require SRP Engineering analysis to determine the starting method. The Customer shall supply a starter if one is required. Data required for analysis includes:
   1. Location
   2. Motor size
   3. Code letter
   4. Voltage
   5. Number of starts per time

C. Starters must conform to latest NEMA standards and the installation must be in accordance with the NEC. Magnetic contactors in full voltage motor starters must have a coil capable of sealing in the contactor at 75% rated voltage. All motors must have three element overload protection, one element in each conductor to the motor.

D. Maximum permissible current values referenced above apply to an installation of a single motor. Starters may be omitted on the smaller motors or a group installation when their omission will not result in a starting current in excess of the allowable starting current of the largest motor of the group.

E. In the case of irrigation installations, SRP requires that all motors greater than 30 HP be served at 480 volts or greater.
Stand-by generators or an alternate supply circuit or multiple service must not be interconnected with the SRP electric system because the resulting back feed is a hazard.

**NOTES**

1. To avoid interconnecting the two systems, a double-throw, open transition transfer switch, with visible position indicators of all poles must be installed between the two systems. A non-draw out circuit breaker is not an acceptable transfer switch. Details must be submitted and approved for a trapped key interlock system (main-tie-main) to be considered as an alternate. See figures below.

2. A sign shall be placed on the exterior of the service entrance equipment indicating the type and location of the on-site alternate power source(s) and the location of the transfer switch.

3. It is the Customer's responsibility to secure and connect the stand-by generator.

4. SRP reserves the right to inspect and approve all installations.

5. For Distributed Generation Services, where the Customer-owned generator will be connected to SRP's grid, generators must conform to the requirements set forth in SRP interconnection guidelines for distributed generators and require an interconnection agreement. This document can be obtained by contacting SRP Customer Services.

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**CONNECTION OF STAND-BY GENERATOR SUPPLYING ONE CIRCUIT**

**CONNECTION OF STAND-BY GENERATOR SUPPLYING CUSTOMER'S ENTIRE LOAD**

**TRAPPED KEY INTERLOCK SYSTEM (MAIN-TIE-MAIN)**

---

**GENERAL INFORMATION**

**STAND-BY GENERATOR OR MULTIPLE SERVICE AND TRANSFER SWITCH REQUIREMENTS**

1-25
1. AC Coupled System, DER Storage Only

1A. With Back-Up Load Panel

To Customer Billing

1B. With Back-up Load Panel Alternate Configuration

1C. No Back-Up Load Panel

DER Storage

Meter Disconnect

Notes 6, SC & 12

DER Storage

Meter

Notes 3, SC & 12

4" MIN. Clearance

Inverter/Battery Charger

Customer Battery Storage

Customer Back-Up Load Panel

Note 2
2. AC Coupled System With DER Storage And DER Generation

2A. No Back-Up Load Panel

2B. With Back-Up Load Panel

2C. With Back-Up Load Panel Alternate Configuration
**SECTION 1: GENERAL INFORMATION**

3. DC Coupled System with DER Storage and DER Generation

3A. With Back-Up Load Panel

- To Customer Billing Meter & SES
- Utility AC Disconnect Notes 4, 8C & 12
- DER Storage Meter Disconnect Notes 6, 8C & 12
- Inverter/Battery Charger
- Customer Battery Storage
- DER Meter Disconnect Notes 3, 8C & 12
- 4" Min. Clearance
- 4" Min. Clearance

3B. With Back-Up Load Panel Alternate Configuration

- Utility AC Disconnect Notes 4, 8C & 12
- Customer Back-Up Load Panel Note 2
- Inverter/Battery Charger
- Customer Battery Storage
- DER Meter Disconnect Notes 5, 8C & 12
- 4" Min. Clearance

3C. No Back-Up Load Panel

- Inverter/Battery Charger
- Customer Battery Storage
- 4" Min. Clearance
NOTES

1. All Customer equipment shall be installed and maintained by the Customer in accordance with the local AHJ, NEC and SRP. If no jurisdictional authority is responsible, a Certificate In-Lieu of Electrical Clearance shall be required following completion of all work. See page 1-10 for certificate.

2. DER systems with storage utilized to serve a Customer back-up load panel will require an automatic transfer switch (ATS) to isolate the Customer back-up load panel in the event of a system outage. The Customer is responsible for selecting and installing any devices required to affect this transfer. The ATS may be integrated into a DER storage system, inverter/battery charger or may be a separate device.

3. The output of multiple DER generation inverters shall be combined before connecting to the dedicated DER kWh meter such that each billing meter is to have only one dedicated DER kWh meter and associated disconnect switch used to isolate the entire system. DER systems with storage installed in conjunction with a DER generation system or in a stand alone application shall include an associated meter socket and disconnect switch as shown.

EXCEPTION: If modification or expansion of an existing DER system is prohibited due to third-party contractual obligations, such as a warranty or lease agreement, a new DER system may be constructed in parallel provided it complies with all other standards governing DER interconnections rated up to 300 kW.

For current transformer-rated DER interconnections with system voltages greater than 240 V and/or removable buss link design, an additional DER system disconnect switch or other device that provides a visible open approved by SRP is required on both sides of the DER kWh meter and CTs to isolate the metering circuit from the DER system.

4. The utility AC disconnect switch shall be connected between the SES and DER system as shown. A Customer-fused disconnect switch required for residential and commercial DER systems, with a short circuit rating greater than 10 kA, shall be connected between the SES and utility AC disconnect switch. The Customer-fused disconnect may be separate from the utility AC disconnect or integrated as a single device.

Utility AC disconnect switch, NEMA 3R or better, shall have visible moveable blades with provisions for locking the door closed and locking the operating handle (blades) and fuse holder (when required) open with an SRP lock only. Door shall be secured with an SRP-supplied Customer access padlock (CAP) and key for Customer access.

5. For AC coupled systems with DER generation and storage, a DER meter disconnect switch shall be connected between the DER kWh meter and inverter/battery charger as shown. DER meter disconnect switch, NEMA 3R or better, shall have visible movable blades with provisions for locking the door closed and locking the operating handle (blades) open with an SRP lock only.

6. For AC and DC coupled DER systems with storage utilized to serve a Customer back-up load panel, a DER storage meter disconnect switch shall be connected between the inverter/battery charger and Customer back-up load panel as shown. DER storage meter disconnect switch, NEMA 3R or better, shall have visible movable blades with provisions for locking the door closed and locking the operating handle (blades) open with an SRP lock only.

7. The SES, utility AC disconnect switch, DER meter socket, DER meter disconnect switch, DER storage meter and DER storage meter disconnect switch shall be grouped together within a maximum distance of 10’ with no obstructions (sharing a common corner of the structure within the 10’ distance is allowed) and accessible as required on pages 5-14 and 9-1, Item 1.
EXCEPTION: If conditions prohibit grouping the utility AC disconnect switch, DER meter socket, DER meter disconnect switch, DER storage meter socket and DER storage meter disconnect switch within 10’ of the SES, the DER meter socket and/or DER storage meter socket may be remotely located; however, SRP and AHJ approval is required. The remote location must be readily accessible, as required on pages 5-18 and 9-1, Item 1. The SES shall have signage indicating an interconnected generator, specific location of the AC disconnect switch, and the DER meter socket, as applicable.

The utility AC disconnect switch, DER meter disconnect switch, DER meter socket, Customer-fused disconnect switch (if installed), DER storage meter disconnect switch and DER storage meter socket shall be a minimum 36” from any natural gas vent. Conduits, disconnect switches and meter sockets shall not be used as a raceway for any additional facilities not associated with the electrical interconnection of the DER system.

If the SES is upgraded, a new SES may require relocation. Consult a SRP Design representative.

8. Customer shall provide the following to SRP:
   A. Site plan indicating location of the SES, utility AC disconnect switch, DER meter disconnect switch, DER meter socket, DER storage meter disconnect switch and DER storage meter socket.
   B. Three line diagram including interconnection of the SES.
   C. Manufacturer data including model number and specifications for the following equipment:
      - Inverter (must comply with UL1741/UL1741SA latest version)
      - Dedicated DER kWh meter socket (see section 9 for lists of pre-approved meter sockets)
      - DER meter disconnect switch (see section 9 for lists of pre-approved switches)
      - Utility AC disconnect switch (see section 9 for list of pre-approved switches)
      - Customer-fused disconnect switch, if separate from utility AC disconnect switch (see section 9 for lists of pre-approved switches)
      - DER storage meter socket (see section 9 for lists of pre-approved meter sockets)
      - DER storage meter disconnect switch (see section 9 for lists of pre-approved switches)
      - Supply side tap apparatus
      - Supply side tap overcurrent protection device

   Specifications shall include all ratings, NEMA enclosure codes (3R or better), and short-circuit ratings (AC disconnect for supply side taps shall be equal to or greater than the SES rating).

9. No load taps shall be allowed between the DER system and the AC or DC coupled DER meter socket. DER systems with storage utilized to serve a Customer back-up load panel shall require a DER storage meter as shown. All DER inverters shall be connected to the top connection points of any associated meter.

10. The voltage rating, phase and number of wires of the DER system shall be equal to the SES. Use of single-phase inverters on a three-phase service may be allowed. Contact SRP Design.
11. Additional requirements apply for systems over 300kW. Contact the Residential & Commercial Solar department.

12. Labeling requirements per Section 11 – Contractor-Supplied Material, Distributed Energy Resource Signage.
Specifications
Electric Service

ISSUE DATE: 01/22/19
REV. DATE: 
APPROVAL: S. Duran
NOTES

1. The following interconnection telemetry requirements shall apply for all Customer-owned inverter-based DER systems rated 1 MW and above or those interconnected to a dedicated industrial substation that do not have provisions to prevent backfeed.

2. All Customer equipment shall be installed and maintained by the Customer in accordance with the local AHJ, NEC and SRP. If no jurisdictional authority is responsible, a Certificate In-Lieu of Electrical Clearance shall be required following completion of all work. See page 1-10 for certificate.

3. The output of multiple DER generation inverters shall be combined before connecting to the dedicated DER meter such that each billing meter/point of interconnection to the distribution system is to have only one inverter-based dedicated DER meter and associated disconnect switch(s) used to isolate the entire system.

4. Dedicated DER meter socket shall be four-wire wye-style located as shown.

5. The utility AC disconnect switch shall be connected between the SES/point of common coupling and DER system as shown.

6. A communications cabinet shall be constructed within 10’ of the dedicated DER meter socket. Power for the cabinet shall be provided via a tap from the dedicated DER meter test switch and shall be a minimum of 1” PVC conduit, buried at a minimum depth of 24”. A communication connection shall be made between the dedicated DER meter socket and the communication cabinet in a minimum 1” PVC conduit buried at a minimum depth of 24”. SRP Design Inspections will determine conduit stub up locations inside of the DER meter socket enclosure.

7. A communications return path from the communications cabinet shall be required via an antenna. SRP Telecom Engineering will determine antenna locations and requirements.

8. For interconnections to a dedicated industrial substation, the status of any locations where paralleling is possible shall be monitored including main breakers, tie breakers and disconnect switches, as applicable. Connections for any facilities required for monitoring purposes shall be made in dedicated conduits.

9. For current transformer-rated DER interconnections with system voltages greater than 240 V and/or split bus (removable bus link) design, a DER system disconnect switch shall be required as shown. DER system disconnect switch, NEMA 3R or better, shall have visible moveable blades with provisions for locking the door closed and locking the operating handle (blades) open with an SRP lock only. Door shall be secured with an SRP-supplied Customer access padlock (CAP) and key for Customer access.

10. The SES, utility AC disconnect switch, dedicated DER meter and DER system disconnect switch shall be grouped together within a maximum distance of 30’ with no obstructions (sharing a common corner of the structure within the 30’ distance is allowed), and accessible as required on pages 5-14 and 9-1, Item 1.
EXCEPTION: If conditions prohibit grouping the utility AC disconnect switch, dedicated DER meter, DER system disconnect switch within 30' of the SES, these facilities may be remotely located with SRP and AHJ approval. The remote location must be readily accessible, as required on pages 5-18 and 9-1, Item 1. The SES shall have signage indicating an interconnected generator, specific location of the dedicated DER meter and disconnect switches, as applicable.

The utility AC disconnect switch, DER system disconnect switch and dedicated DER meter switchboard, shall be a minimum 36” from any natural gas vent. Conduits, disconnect switches and meter sockets shall not be used as a raceway for any additional facilities not associated with the electrical interconnection of the DER system.

If the SES is upgraded, a new SES may require relocation. Consult an SRP Design representative.

11. Customer shall provide the following to SRP:

A. Site plan indicating location of the SES/point of common coupling, utility AC disconnect switch, dedicated DER meter, DER system disconnect switch, communications cabinet, associated antenna or fiber optic communication return path, as applicable.

B. One line diagram including interconnection of the SES/point of common coupling.

C. Three line diagram including interconnection of the SES/point of common coupling.

D. Manufacturer data including model number and specifications for the following equipment:
   1. Inverter (must comply with UL1741/UL1741SA latest version)
   2. Dedicated DER meter socket shop drawings (four-wire wye-style)
   3. Monitoring facilities associated with main breakers, tie breakers and/or disconnect switches
   4. Utility AC disconnect switch
   5. DER system disconnect switch

Specifications shall include all ratings, NEMA enclosure codes (3R or better), and short-circuit ratings (AC disconnect for supply side taps shall be equal to or greater than the SES rating).

12. No load taps shall be allowed between the DER system and the dedicated DER meter socket. All DER inverters shall be connected to the top connection points of any associated meter.

13. The voltage rating, phase and number of wires of the DER system shall be equal to that of the SES or point of common coupling.

14. Labeling requirements per Section 11 – Contractor-Supplied Material, Distributed Energy Resource Signage.
### TABLE 1 – 1Ø RESIDENTIAL (NON-COMMERCIAL) SINGLE OR DOUBLE METER SOCKET SES

<table>
<thead>
<tr>
<th>SES (A)</th>
<th>Number of Meter Sockets</th>
<th>Minimum SES Bracing (A)</th>
<th>SRP Supplied Fault Current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>1 or 2</td>
<td>10,000</td>
<td>9,554</td>
</tr>
<tr>
<td>125</td>
<td>1 or 2</td>
<td>10,000</td>
<td>9,554</td>
</tr>
<tr>
<td>150</td>
<td>1 or 2</td>
<td>22,000</td>
<td>21,188</td>
</tr>
<tr>
<td>200</td>
<td>1 or 2</td>
<td>22,000</td>
<td>21,188</td>
</tr>
<tr>
<td>225</td>
<td>1</td>
<td>22,000</td>
<td>21,188</td>
</tr>
<tr>
<td>400 (320 Class)</td>
<td>1</td>
<td>22,000</td>
<td>21,188</td>
</tr>
</tbody>
</table>

**NOTES**

1. For the above SES, SRP will size transformer and design secondary/service conductor length to limit the SRP supplied fault current to 9,554A or 21,188A based upon SES size.
2. Refer to Table 2 for residential SES not listed above.
TABLE 2 – 120/240V 1Ø AND 3Ø

<table>
<thead>
<tr>
<th>SES (A)</th>
<th>Pad Mounted 1Ø 120/240V Transformer</th>
<th>Pole Mounted 1Ø 120/240V Transformer</th>
<th>Pad Mounted 3Ø 120/240 (Y – Δ) Transformer Bank</th>
<th>Pole Mounted 3Ø 120/240 (Y – Δ) Transformer Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum SES Bracing (A)</td>
<td>SRP Supplied Fault Current (A)</td>
<td>Minimum SES Bracing (A)</td>
<td>SRP Supplied Fault Current (A)</td>
</tr>
<tr>
<td>100</td>
<td>10,000 (Note 1)</td>
<td>7,917</td>
<td>10,000</td>
<td>7,275</td>
</tr>
<tr>
<td>125</td>
<td>22,000 (Note 1)</td>
<td>13,268</td>
<td>10,000</td>
<td>9,294</td>
</tr>
<tr>
<td>150</td>
<td>22,000 (Note 1)</td>
<td>13,469</td>
<td>10,000</td>
<td>9,294</td>
</tr>
<tr>
<td>200</td>
<td>22,000 (Note 1)</td>
<td>15,493</td>
<td>22,000</td>
<td>10,792</td>
</tr>
<tr>
<td>400</td>
<td>35,000 (Note 1)</td>
<td>28,539</td>
<td>35,000</td>
<td>29,031</td>
</tr>
<tr>
<td>600</td>
<td>42,000</td>
<td>39,384</td>
<td>35,000</td>
<td>34,139</td>
</tr>
<tr>
<td>800</td>
<td>42,000</td>
<td>39,925</td>
<td>42,000</td>
<td>39,384</td>
</tr>
<tr>
<td>1,000</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1,200</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

NOTES

1. See Table 1 for residential (non-commercial) single or double meter socket SES 400A (320 class) or less.
2. Fault current values are calculated at the Customer’s service equipment based upon the following:
   A. Three-phase system short-circuit capacity of 162,000 kVA.
   B. Single transformer serving a single SES.
   C. Transformer and service conductors sized to serve 100% of the SES.
   D. Minimum transformer impedance.
   E. 25’ of service conductor.

   EXCEPTION: Overhead laterals served by copper conductors with three or more conductors per phases are based upon 12’ of service conductor.

3. SRP designs may be different than Note 1. Consult with SRP Design before ordering or designing the service entrance equipment.
4. Email DDE@srpnet.com to request fault current data for arc flash studies.
## Table 3 – 120/208V and 277/480V 3Ø

<table>
<thead>
<tr>
<th>SES (A)</th>
<th>Pad Mounted 3Ø 120/208V Transformer</th>
<th>Pole Mounted 3Ø 120/208V Transformer Bank</th>
<th>Pad Mounted 3Ø 277/480V Transformer</th>
<th>Pole Mounted 3Ø 277/480V Transformer Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minimum SES Bracing (A)</td>
<td>SRP Supplied Fault Current (A)</td>
<td>Minimum SES Bracing (A)</td>
<td>SRP Supplied Fault Current (A)</td>
</tr>
<tr>
<td>100</td>
<td>10,000</td>
<td>9690</td>
<td>10,000</td>
<td>6,708</td>
</tr>
<tr>
<td>125</td>
<td>22,000</td>
<td>10999</td>
<td>10,000</td>
<td>6,708</td>
</tr>
<tr>
<td>150</td>
<td>22,000</td>
<td>11,412</td>
<td>10,000</td>
<td>9,594</td>
</tr>
<tr>
<td>200</td>
<td>22,000</td>
<td>12,260</td>
<td>10,000</td>
<td>9,594</td>
</tr>
<tr>
<td>400</td>
<td>22,000</td>
<td>18,976</td>
<td>35,000</td>
<td>22,260</td>
</tr>
<tr>
<td>600</td>
<td>35,000</td>
<td>29,241</td>
<td>35,000</td>
<td>29,659</td>
</tr>
<tr>
<td>800</td>
<td>42,000</td>
<td>37,979</td>
<td>65,000</td>
<td>42,836</td>
</tr>
<tr>
<td>1000</td>
<td>65,000</td>
<td>58,612</td>
<td>65,000</td>
<td>55,353</td>
</tr>
<tr>
<td>1200</td>
<td>65,000</td>
<td>59,924</td>
<td>65,000</td>
<td>60,343</td>
</tr>
<tr>
<td>1600</td>
<td>65,000</td>
<td>61,498</td>
<td>85,000</td>
<td>83,132</td>
</tr>
<tr>
<td>2000</td>
<td>65,000</td>
<td>62,734</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2500</td>
<td>65,000</td>
<td>45,614</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3000</td>
<td>65,000</td>
<td>64,959</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3600</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4000</td>
<td>85,000</td>
<td>65,574</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**NOTE**

1. See page 1-36 for additional notes.
### Table 4 – 2400/4160V 3Ø

<table>
<thead>
<tr>
<th>SES (A)</th>
<th>Minimum SES Bracing (A)</th>
<th>SRP Supplied Fault Current (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>10,000</td>
<td>1,799</td>
</tr>
<tr>
<td>200</td>
<td>10,000</td>
<td>3,329</td>
</tr>
<tr>
<td>400</td>
<td>10,000</td>
<td>5,793</td>
</tr>
</tbody>
</table>

**NOTE**

1. See page 1-37 for additional notes.
NOTES

1. At the Customer’s request and expense, the Customer may paint pad-mounted equipment such as transformers, switching and fusing cubicles and capacitor enclosures. The Customer shall not paint substation fences or other SRP equipment. The Customer must notify SRP prior to painting SRP equipment by contacting Customer Services. Customer must contact HOA or municipality for color schemes and approval.

2. Do not paint over identifying lettering, numbering, warning signs, handles, locks, pads or sight glass windows.

3. The Customer must maintain the paint condition of equipment they have painted. SRP retains the right to charge Customer full cost of restoring its equipment to acceptable condition (repainting to original SRP color) if:
   A. The Customer fails to comply with these requirements.
   B. The Customer does not maintain their painting of SRP equipment.

4. Color choices used by the Customer shall be complimentary to the surroundings of the equipment. SRP recommends using a water base paint which will not damage the original painted surface.

5. If, for any reason SRP has to replace a piece of pad-mounted equipment that has been painted by a Customer, the new equipment will be standard SRP color. The Customer may paint the replaced equipment according to the instructions on this page.

6. Preparation of SRP equipment is limited to cleaning the surface using a detergent and water. No sanding, power washing or chemical solvents are to be used on the painted surface of the equipment. Concrete pad, adjacent equipment, walls or other objects shall be masked or covered prior to painting.

7. Films, laminates or materials other than described in Note 4 shall not be used.
NOTES

1. SRP requires the Customer to install a restricted access switch (RAS) on each existing or proposed main and guest electronic entry gate(s), and restricted electronic exit gate(s) that provide continuous 24-hour access.

2. RAS to be supplied by SRP and installed by the Customer. Customer to ensure the control circuit remains operational, which may include the installation of a replacement RAS.

3. SRP shall have final approval on all RAS locations. Preferred locations are the side of the gate entry system pedestal facing oncoming traffic, or behind the box as shown on page 1-41. For approval of non-standard installations due to the design of the pedestals, contact SRP at 602-236-8833.

4. The installation shall not impede the operation or placement of additional gate operation devices.

5. Refer to www.srpnet.com/electricgate for additional information.
NOTE
These are typical installations and are for illustrative purposes only.