Electric Service Requirements Manual

May 2026

Arizona Public Service ESRM complies with, Federal, State, County, and other applicable regulatory requirements, as well as conform with industry best practices and guidance, to protect worker and public safety. The APS ESRM requirements comply with mandatory OSHA (Occupational Safety and Health Administration), ACC (Arizona Corporation Commission), NESC (National Electrical Safety Code), NEC (National Electrical Code) regulatory requirements and conform with applicable EUSERC (Electric Utility Service Entrance Requirements Committee) guidance.

Introduction

Purpose

The Arizona Public Service Company **"2026 Electric Service Requirements Manual"** is provided as a reference for customers and contractors doing work in the APS service area. However, since business or industry changes may warrant frequent revisions, please visit the online manual at: **aps.com/esrm** for the most up to date version.

Applicability

These specifications and requirements are issued for your guidance and assistance in the installation of safe and adequate wiring and electric service equipment so that the customer may enjoy the full benefit of his/her electric energy.

These "Electric Service Requirements" cancel and supersede all previous APS specifications for Single-Phase and Three-Phase Electric Installations and Amendments.

These service requirements are subject to amendments as required, through developments and progress of the electrical industry, to protect the mutual interests of the customer and APS.

Disclaimer

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Service Entrance Equipment Inspections

On new installations, or where changes necessitate relocating or replacing the electric meter, an APS Inspection and Approval is required before the service can become energized. This is in addition to the inspection required by the local authority. It is our desire that the APS inspection is accomplished in a timely manner, preventing unnecessary delays to the completion of the project. Neither the inspection of the work or equipment, or the lack of the inspection shall relieve the Customer from the responsibility to comply with APS specifications.

In order for the APS inspection to be accomplished in this manner, it is necessary for the contractor doing the work to initiate contact with the APS Customer Project Manager. This should be done at least twice during the course of the project. The first contact should occur initially as soon as the service entrance equipment is on site. The APS inspector will then make his inspection and recommendations immediately. The second contact should occur immediately after all the changes recommended by the APS inspector have been completed.

It is important that both of these contacts are made early enough in the project to assure that there is ample time left for the contractor to make modifications, if necessary, and to schedule a re-inspection of the equipment. If the inspections are not scheduled early enough there is a good chance the job will be delayed."

Customer Construction Contacts

To schedule an inspection appointment, or if there are any questions regarding Service Requirements, please call the APS Customer Project Representative for your project area. Refer to Customer Construction Contacts website for a list of phone numbers.

How To Use This Manual

The APS Electric Service Requirements Manual (ESRM) has been formatted to provide easy access to specific information required to meet APS service requirements for multiple types of electric service installations. It details the design criteria, equipment requirements and construction methods necessary for the safe and efficient connection to APS's energy delivery system.

Please see below for a short description of each section of the ESRM. It is highly recommended to consult the ESRM prior to the design of a new installation or prior to beginning an upgrade to existing facilities. In addition to the ESRM, consulting with an APS Construction Project Representative is invaluable in the correct application of these requirements.

Section 100 – General Information. In this section of the ESRM you will find helpful information that details safe working clearances around APS energized lines and equipment, definitions of applicable terms used in the ESRM, and several items that require special considerations. Some of these special considerations include motor starting criteria, signal distortion requirements, the Harmonic Study policy and information on the interconnection of generation facilities.

Section 200 – Application for Service. In this section of the ESRM you will find information that details the required information and sequence of events for your project, as well as the available electric service voltages and limitations for each.

Section 300 – Metering Installation Requirements. In this section of the ESRM you will find information that details requirements for determining the location and working clearance around service equipment containing APS incoming service lines and electric meters.

Section 400 – Overhead Services. In this section of the ESRM you will find information that details how to design and install equipment that will require APS to provide overhead wiring to the customer service equipment.

Section 500 – Underground Services. In this section of the ESRM you will find information that details how to design and install equipment that will connect the customer service equipment to APS via an underground conduit and wiring system.

Section 600 – Trenching. In this section of the ESRM you will find information that details how to design and install the required trench containing the underground conduit system, including the required separation from other underground facilities.

Section 700 – Grounding and Bonding. In this section of the ESRM you will find information that details the ground electrode system requirements for service equipment connecting to APS facilities. In addition, this section also provides important guidance on additional grounding/bonding requirements typically enforced by the local AHJ.

Section 800 – Short Circuit Protection. In this section of the ESRM you will find information that details the level of short-circuit protection and physical bracing requirements the service equipment is required to meet in order to connect to the APS energy delivery system.

Section 900 – Irrigation Pumping. In this section of the ESRM you will find information that details additional requirements specifically for electric services providing water pumping or irrigation.

Section 1000 – High Voltage Metering. In this section of the ESRM you will find information that details additional requirements specifically for locations requiring service at voltage levels above 600 volts.

Section 1100 – Manufacturing. In this section of the ESRM you will find information that details the specific metering equipment design criteria for any service equipment connected to the APS energy delivery system.

Section 1200 – Special Applications. In this section of the ESRM you will find information that details how to design and install service equipment that controls traffic signals, intersections, highway lighting and un-metered electric services.

Section 1300 – High Rise Applications. In this section of the ESRM you will find information that details additional requirements on the design and installation of service and metering equipment for multi-floor residential applications having four or more floors above ground level.

Section 1400 – Clearances. In this section of the ESRM you will find information that details the vehicular access requirements for APS electric facilities located on customer property. The required access dimensions are in addition to the electrical clearance standards.

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