



Riverside County Fire Department

Residential Energy Storage Systems Fire Detection Requirements (Residential ESS) Guideline OFM-16

PURPOSE

This guideline is intended to facilitate compliance with the appropriate requirements for Residential Energy Storage Systems. Regulations regarding these systems are found in the 2022 California Fire Code (CFC), Chapter 12.

The Riverside County Fire Department, Office of the Fire Marshal (RVC-OFM) has prepared this guideline to provide guidance to building officials, contractors, architects, business owners, consultants and interested members of the public. This Guideline includes local interpretations and practices that are considered to be in compliance with the 2022 California Fire Code (CFC). In accordance with CFC Section 1207.11 and CRC R328.7, the purpose is to provide specific technical information and requirements for residential energy storage systems in new and existing one- and two-family dwellings served by Riverside County Fire Department. The intent is to clarify aspects of the code that are vague or non-specific by addressing selected issues under normal conditions. The requirements of this policy shall not be construed as altering any existing code, law or regulation which may require fire protection features not covered or alluded to in these requirements, nor shall they waive any requirements of any code, law, or regulation. The reader is cautioned that the guidance detailed in this policy may or may not apply to their specific situation, and that the RVC-OFM retains final authority to determine compliance.

SCOPE

This guideline provides the minimum requirements necessary for review, installation, retrofitting and approval of Residential Energy Storage Systems.

All Residential Energy Storage Systems shall meet the minimum requirements per this guideline, CFC 1207.11 through 1207.11.9, CRC R328.7 and / or CSFM Information Bulletin 21-004.

DEFINITIONS

Fire Code Official: The Fire Chief or his designated authority charged with the administration and enforcement of the code, or a duly authorized representative. The Fire Chief generally delegates this authority to the RVC, Fire Marshal, and designated members of the Office of the Fire Marshal (RVC-OFM)

CONSTRUCTION PERMIT

A construction permit (CFC 510.3) for the installation, or modification to Energy Storage Systems and related equipment is required prior to installation. Construction documents and equipment data sheets shall be submitted to the Building Department within your jurisdiction and RVC-OFM for review and approval.

Submittals – Refer to your local jurisdiction for submittal requirements.

The scope of work shall be clearly indicated on the plan. If the building or site in question was approved previously, include the permit number of the prior approval on the new plans.

GENERAL REQUIREMENTS

There are currently 3 options available for ESS to be installed within attached garages:

1. The installation of a listed Heat Detector in the garage where the ESS is installed, using a listed and compatible relay to activate the interconnected residential smoke alarms installed in accordance with

CRC R314 and CFC 907.2.11. This may require the installation of new, or replacement of existing smoke alarms for compatibility.

2. The installation of a UL 985 listed “household fire warning system” activated by a UL 521 listed heat detector in the attached garage where the ESS is located. This will include new system smoke alarms (or detectors) and listed notification devices throughout the residence. A Fire Alarm permit (Deferred Submittal) will be required.
3. The use of a listed smoke or heat alarm marked “for use in unconditioned spaces,” when it becomes available, interconnected to the residential smoke alarms installed in accordance with CRC R314 and CFC 907.2.11.

In lieu of the options above, the ESS may be installed in an exterior location.

Technical Requirements. CRC R328.7 and CFC 1207.11.6 2 requires a listed heat or smoke alarm interconnected to the smoke alarms required by CRC R314 and CFC 907.2.11 within Group R-3 and R-4 occupancies, to be installed in rooms and areas within dwelling units, basements and attached garages in which ESS are installed.

CRC R328.7 Fire detection.

Rooms and areas within dwelling units, basements and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with [Section R314](#). A heat detector, listed and interconnected to the smoke alarms, shall be installed in locations within dwelling units and attached garages where smoke alarms cannot be installed based on their listing.

[SFM] *ESS installed in Group R-3 and townhomes shall comply with the following:*

1. *Rooms and areas within dwellings units, sleeping units, basements and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with [Section R314](#).*
2. *A listed heat alarm interconnected to the smoke alarms shall be installed in locations within dwelling units, sleeping units and attached garages where smoke alarms cannot be installed based on their listing.*

CFC 1207.11.6 Fire detection.

ESS installed in Group R-3 and R-4 occupancies shall comply with the following:

1. Rooms and areas within dwellings units, sleeping units, basements and attached garages in which ESS are installed shall be protected by smoke alarms in accordance with [Section 907.2.11](#).
2. *A listed heat alarm* interconnected to the smoke alarms shall be installed in locations within dwelling units, sleeping units and attached garages where smoke alarms cannot be installed based on their listing.