

Justin S. Green
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Anna T. Hamilton
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Hank Hughes
Commissioner, District 5

Gregory S. Shaffer
County Manager

Santa Fe County Fire Department Fire Prevention Division Development Plan Review

| | | | |
|--------------------------|--------------------------------|----------------------|------------------|
| Date | January 26, 2024 | Reviewer | J.Blay |
| Project Name | AES-Rancho Viejo Solar | | |
| Project Location | 4125 NM-14, Santa Fe, NM 87508 | | |
| Description | Conditional Use Permit | | |
| Applicant Name | Rancho Viejo LP | Case Manager | Manuel R. Olivas |
| Applicant Address | PO Box 236, Santa Fe, NM 87504 | County Case # | 23-5010 |
| Applicant Phone | 505-474-4870 | Fire District | Turquoise Trail |

Project Status: Approved Approved with Conditions Denied Accepted

Compliance with the Santa Fe County Fire Code

Development plan review documents are approved with the intent that such documents shall comply with:

1. Santa Fe County Ordinance 2023-06 as adopted by the Board of County Commissioners.
2. Santa Fe County Ordinance 2023-09 as adopted by the Board of County Commissioners.
3. 2021 International Fire Code (IFC) and 2021 International Wildland Urban-Interface Code (IWUIC) as amended by Santa Fe County Ordinance 2023-06

Review and approval by the Fire Code official, or their designee, shall not relieve the applicant of the responsibility of compliance with the Santa Fe County Fire Code.

Note: any deviation to the submitted and approved plans without the consent of the Authority Having Jurisdiction, or their designee, will render this approval null and void.

Conditions of Approval – see following page(s).

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Shall comply with the 2021 International Fire Code (IFC) including, but not limited to:

2021 IFC Chapter 5 Fire Service Features

Section 503 and Appendix D - Fire Apparatus Access Roads

- Fire apparatus access roads shall have an approved, all weather driving surface, capable of supporting the imposed load 75,000 lbs. of fire apparatus to all enclosed structures/facilities.
- Minimum gate and driveway width shall be 20, with an unobstructed vertical clearance of 13'6" and a minimum inside turning radius of 28'.
- Emergency Vehicle Turnaround is required and shall meet Santa Fe County Fire Code and remain vacant at all times.
- Roadways and Emergency Vehicle Turnaround shall be maintained per Santa Fe County Fire Code.
- Road infrastructure shall be installed prior to any vertical construction.

Section 505 Premises Identification

- New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property.

Section 506 Key Boxes

- Where access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or firefighting purposes, the *fire code official* is authorized to require a key box to be installed in an *approved* location.

Section 507 Water Supply

- An approved water supply capable of supplying the required fire flow for fire protection shall be provided to premises on which facilities, buildings or portions of buildings are hereafter constructed or moved into or within the jurisdiction.

2021 Chapter 9 Fire Protection and Life Safety Systems

Section 901.2 Construction documents

- The fire code official shall have the authority to require construction documents and calculations for all fire protection and life safety systems and to require permits be issued for the installation, rehabilitation or modification of any fire protection and life safety systems. Construction documents for fire protection and life safety systems shall be submitted for review and approval prior to system installation.

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2021 IFC Chapter 12 Energy Systems

Section 1207.1.3 Construction documents.

- The following information shall be provided with the permit application:
 1. Location and layout diagram of the room or area in which the ESS is to be installed.
 2. Details on the hourly fire-resistance ratings of assemblies enclosing the ESS.
 3. The quantities and types of ESS to be installed.
 4. Manufacturer's specifications, ratings and listings of each ESS.
 5. Description of energy (battery) management systems and their operation.
 6. Location and content of required signage.
 7. Details on fire suppression, smoke or fire detection, thermal management, ventilation, exhaust and deflagration venting systems, if provided.
 8. Support arrangement associated with the installation, including any required seismic restraint.
 9. A commissioning plan complying with Section 1207.2.1.
 10. A decommissioning plan complying with Section 1207.2.3.

Section 1207.1.4 Hazard mitigation analysis

- A failure modes and effects analysis (FMEA) or other approved hazard mitigation analysis shall be provided in accordance with Section 104.8.2 under the following condition:
 1. Where allowed as a basis for increasing maximum allowable quantities. See Section 1207.5.2.

Section 1207.1.5 Large-scale fire test

- Where required elsewhere in Section 1207, large-scale fire testing shall be conducted on a representative ESS in accordance with UL 9540A. The testing shall be conducted or witnessed and reported by an approved testing laboratory and show that a fire involving one ESS will not propagate to an adjacent ESS, and where installed within buildings, enclosed areas and walk-in units will be contained within the room, enclosed area or walk-in unit for a duration equal to the fire-resistance rating of the room separation specified in Section 1207.7.4. The test report shall be provided to the fire code official for review and approval in accordance with Section 104.8.2.

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Section 1207.1.6 Fire remediation

- Where a fire or other event has damaged the ESS and ignition or re-ignition of the ESS is possible, the system owner, agent or lessee shall take the following actions, at their expense, to mitigate the hazard or remove damaged equipment from the premises to a safe location.

Section 1207.1.6.1 Fire mitigation personnel

- Where, in the opinion of the fire code official, it is essential for public safety that trained personnel be on-site to respond to possible ignition or re-ignition of a damaged ESS, the system owner, agent or lessee shall immediately dispatch one or more fire mitigation personnel to the premise, as required and approved, at their expense. These personnel shall remain on duty continuously after the fire department leaves the premise until the damaged energy storage equipment is removed from the premises, or earlier if the fire code official indicates the public safety hazard has been abated.

1207.1.6.2 Duties

- On-duty fire mitigation personnel shall have the following responsibilities:
 1. Keep a diligent watch for fires, obstructions to means of egress and other hazards.
 2. Immediately contact the fire department if their assistance is needed to mitigate any hazards or extinguish fires.
 3. Take prompt measures for remediation of hazards in accordance with the decommissioning plan per Section 1207.2.3.
 4. Take prompt measures to assist in the evacuation of the public from the structures.

1207.2.1 Commissioning

- Commissioning of newly installed ESS and existing ESS that have been retrofitted, replaced or previously decommissioned and are returning to service shall be conducted prior to the ESS being placed in service in accordance with a commissioning plan that has been approved prior to initiating commissioning. The commissioning plan shall include the following:
 1. A narrative description of the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
 2. A listing of the specific ESS and associated components, controls and safety-related devices to be tested, a description of the tests to be performed and the functions to be tested.
 3. Conditions under which all testing will be performed, which are representative of the conditions during normal operation of the system.
 4. Documentation of the owner's project requirements and the basis of design necessary to understand the installation and operation of the ESS.

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5. Verification that required equipment and systems are installed in accordance with the approved plans and specifications.
6. Integrated testing for all fire and safety systems.
7. Testing for any required thermal management, ventilation or exhaust systems associated with the ESS installation.
8. Preparation and delivery of operation and maintenance documentation.
9. Training of facility operating and maintenance staff.
10. Identification and documentation of the requirements for maintaining system performance to meet the original design intent during the operation phase.
11. Identification and documentation of personnel who are qualified to service, maintain and decommission the ESS, and respond to incidents involving the ESS, including documentation that such service has been contracted for.
12. A decommissioning plan for removing the ESS from service, and from the facility in which it is located. The plan shall include details on providing a safe, orderly shutdown of energy storage and safety systems with notification to the code officials prior to the actual decommissioning of the system. The decommissioning plan shall include contingencies for removing an intact operational ESS from service, and for removing an ESS from service that has been damaged by a fire or other event.

Section 1207.2.3 Decommissioning

- The code official shall be notified prior to the decommissioning of an ESS. Decommissioning shall be performed in accordance with the decommissioning plan that includes the following:
 1. A narrative description of the activities to be accomplished for removing the ESS from service, and from the facility in which it is located.
 2. A listing of any contingencies for removing an intact operational ESS from service, and for removing an ESS from service that has been damaged by a fire or other event.

Section 1207.3 Equipment.

- ESS equipment shall be in accordance with Sections 1207.3.1 through 1207.3.9.

Section 1207.4 General installations requirements

- Stationary and mobile ESS shall comply with the requirements of Sections 1207.4.1 through 1207.4.12.

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Section 1207.5 Electrochemical ESS protection

- The protection of electrochemical ESS shall be in accordance with Sections 1207.5.1 through 1207.5.8 where required by Sections 1207.7 through 1207.10.

Section 1207.6 Electrochemical ESS technology-specific protection

- Electrochemical ESS installations shall comply with the requirements of this section in accordance with the applicable requirements of Table 1207.6.

Section 1207.8 Outdoor installations

- Outdoor installations shall be in accordance with Sections 1207.8.1 through 1207.8.3. Exterior wall installations for individual ESS units not exceeding 20 kWh shall be in accordance with Section 1207.8.4

2021 IFC Chapter 33 Fire Safety during Construction and Demolition.

- This chapter outlines general fire safety precautions for all structures and all occupancies during construction and demolition operations. In general, these requirements seek to maintain required fire protection, limit fire spread, establish the appropriate operation of equipment and promote prompt response to fire emergencies.

2021 IFC Chapter 50 Hazardous Materials-General Provisions

- The requirements of this chapter apply to all hazardous chemicals. Hazardous chemicals are defined as those that pose an unreasonable risk to the health and safety of operating or emergency personnel, the public and the environment if not properly controlled during handling, storage, manufacture, processing, packaging, use, disposal or transportation. The requirements of this chapter and associated chapters are considered the minimum safety requirements for the use, production and storage of hazardous chemicals.

2021 IFC Appendix D

- Fire apparatus access is essential to successful fire-fighting and rescue operations. Fire department vehicles vary widely in size and operational needs and must be able to maneuver into position to properly undertake their firefighting activities. The needs of each jurisdiction will therefore vary with the equipment used. Needs assessment should also include consideration of mutual-aid companies that may respond from outside the jurisdiction. Access roads must be designed to provide the fire department with the required access to all structures on a site.

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Shall comply with the 2021 International Wildland Urban-Interface Code (IWUIC) including, but not limited to:

2021 IWUIC Chapter 6 Fire Protection Requirements

Section 603 Defensible Space

- Development and maintenance of a defensible space are critical to the survivability of a structure during a wildland fire. The defensible space is an area where the natural vegetation is modified either through thinning and maintenance or removal. The removal does not necessarily mean it is bare dirt. An asphalt or gravel driveway creates a space that is usable, but also creates a buffer to the wildfire as it approaches the structure. A similar buffer can be created by mowing or removing some of the vegetation.

Section 604 Maintenance of Defensible space

- Defensible spaces required by Section 603 shall be maintained in accordance with Section 604.

Shall comply with NFPA 855 Standard for the Installation of Stationary Energy Storage Systems including, but not limited to:.

NFPA 855-23 Chapters 1 through 9

Shall comply with Santa Fe County Fire Department (SFCFD) application checklist on hazard identification and assessment, fire protection, and fire and gas detection on Lithium-Ion Battery (LIB) Energy Storage System (ESS) Installations

Purpose

All ESS dedicated-use buildings, and all other buildings or structures that contain or are otherwise associated with an LIB ESS and that are subject to NFPA 855, should be designed, erected, and installed in accordance with all applicable requirements of NFPA 855, all applicable provisions of adopted ordinances, codes, regulations, and industry standards as well as local and state requirements. This document helps owners, designers, installers, stakeholders, local government officials, AHJs, and developers understand and develop an LIB ESS permitting and development process to ensure efficiency, transparency, and safety in their local communities.

Minimum Installation Information

The following documentation shall be submitted where an LIB-based ESS will be installed:

- (1) Location and layout diagram of the room or area in which the ESS is to be installed
- (2) Details on fire-resistant-rated assemblies provided or relied upon in relation to the ESS
- (3) Quantities and types of ESS units

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- (4)Manufacturer's specifications, ratings, and listings of ESS
- (5)Description of energy storage management systems and their operation
- (6)Location and content of required signage
- (7)Details on fire suppression/protection, smoke or fire detection, gas detection, thermal management, ventilation, exhaust, and deflagration venting systems.
- (8)Support arrangement associated with the installation, including any required seismic support

Test Data and Evaluation Information

The following test data, evaluation information, and calculations, as applicable, shall be provided in addition to the plans and specifications in accordance with the minimum safety requirements of NFPA 855:

- (1)Fire and explosion test data
- (2)Hazard mitigation analysis
- (3)Calculations or modeling data to determine compliance with NFPA 68 and NFPA 69 as required
- (4)Other test data, evaluation information, or calculations if needed to support deviations from minimum safety requirements