



COSUMNES COMMUNITY SERVICES DISTRICT

FIRE DEPARTMENT

8820 Elk Grove Blvd. Elk Grove, CA 95624

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CosumnesCSD.gov/Fire

FIRE PREVENTION CONSTRUCTION HANDOUT SOLAR PERMITTING GUIDELINE

Standard Number: **FPCH-2003**

Original Effective Date: **7/1/2024**

Revision Date:

Code Section: **2022 California Fire Code (CFC)**

PURPOSE AND SCOPE

2006.1 The purpose of this handout is to advise applicants on obtaining a Cosumnes Fire Department (Department) permit and/or fire department permit release letter for installing solar energy systems with or without energy storage (ESS).

2006.2 This standard applies to residential single-family homes, two-family homes, multifamily and commercial structures and properties, elevated structures, outbuildings, residential accessory buildings, and similar.

2006.3 This standard does not apply to:

1. Emergency and standby power systems defined in the California Fire Code (CFC).
2. Stationary fuel cell power systems, including but not limited to the temporary use of a fuel cell-powered electric vehicle to power a residential building while parked, as defined in the California Fire Code.
3. Solar thermal systems used for the purpose of heating water or something similar.

APPLICATION

2006.4 Definitions

1. **Alternating Current Nameplate Rating:** Nameplate rating is the total energy capable of being stored. [CFC Chapter 12]
2. **Residential Energy Storage System:** Commercially available technology located behind a customer's residential utility meter that is capable of absorbing electricity generated from a collocated electricity generator or from the electrical grid, storing it for a period of time, and thereafter discharging it to meet the energy or power needs of the host customer or for export. [California Government Code (GOV) 65850.52 (2)]



3. **Energy Storage System (ESS):** One or more devices, assembled together, capable of storing energy in order to supply electrical energy at a future time. [CFC Chapter 2]
4. **Residential Solar Energy System:** Any configuration of solar energy devices that collects and distributes solar energy for the purpose of generating electricity and that has a single residential interconnection with the electric utility transmission or distribution network. [GOV 65850.52 (3)]
5. **Solar Thermal Systems:** A system that harvests sunlight to generate heat.

2006.5 Program

1. **Residential single-family or two-family homes or residential accessory structures** (Including building integrated systems):
 - a. **38.4 kW or less without ESS:** Residential solar energy systems, roof mounted, up to and including 38.4 kW alternating current nameplate rating without an ESS, with or without a SolarAPP+ registration number, shall submit through the Department's online permit portal to receive an expedited fire department permit release letter for the building department. Permit release letter fees apply. No fire inspection is required.
 - b. **38.4 kW or less with exterior ESS and SolarAPP+:** Residential solar energy systems with ESS up to and including 38.4 kW alternating current nameplate rating with a SolarAPP+ registration number, and ESS is mounted on the exterior shall be submitted through the Department's online permit portal to receive an expedited fire department permit release letter for the building department. A fire inspection is required. Fire inspection, reinspection (if applicable), and permit release letter fees apply.
 - c. **38.4 kW or less with interior ESS and SolarAPP+:** Residential solar energy systems (roof or ground mounted) with ESS up to and including 38.4 kW alternating current nameplate rating with a SolarAPP+ registration number, and ESS is mounted on the interior shall be submitted through the Department's online permit portal for expedite plan review to receive a fire permit and permit release letter for the building department. The typical turnaround time for plan review is seven (7) business days. A fire inspection is required. Plan review, fire inspection and reinspection (if applicable) fees apply.



- d. **38.4 kW or less with ESS no SolarAPP+:** Residential solar energy systems (roof or ground mounted) with ESS up to and including 38.4 kW alternating current nameplate rating without a SolarAPP+ registration number shall be submitted through the Department's online permit portal for expedited plan review to receive a fire permit and permit release letter for the building department. The typical turnaround time for plan review is seven (7) business days. A fire inspection is required. Plan review, fire inspection and reinspection (if applicable) fees apply.
- e. **Greater than 38.4 kW with or without ESS:** Residential solar energy systems (roof or ground mounted) greater than 38.4 kW alternating current nameplate rating with or without an ESS shall submit for plan review through the Department's online permit portal to receive a fire permit and permit release letter for the building department. The typical turnaround time for plan review is 15 business days. A fire inspection is required. Plan review, fire inspection and reinspection (if applicable) fees apply.
- f. **Residential ground mounted without ESS:** Residential ground mounted system for personal use and installed in accordance with the California Residential Code will be reviewed by the City of Elk Grove Building Department, the City of Galt Building Department, or Sacramento County Building Department exclusively.
- g. **Residential ground mounted with ESS mounted on or within a residential dwelling:** Residential solar energy systems with ESS mounted on the exterior or interior of a residential dwelling shall submit for plan review through the Department's online permit portal to receive a fire permit and permit release letter for the building department. The typical turnaround time for plan review is 15 business days. A fire inspection is required. Plan review, fire inspection and reinspection (if applicable) fees apply.

2. **Commercial, multifamily buildings and properties, and elevated support structures:**

- a. **Commercial with or without ESS:** Commercial and multi-family systems of any kilowatt size, meeting the following criteria, with or without ESS, shall submit for a fire department permit through the regular permit process outlined in the Apply for a Permit section (2006.6). Allow a minimum of 15 business days for the first review.



- Roof-mounted systems on commercial buildings.
- Ground-mounted systems for commercial use.
- Solar systems mounted on elevated support structures.
- Other installations as regulated by the California Fire Code.

2006.6 Apply for a permit

1. New submittals, resubmittals, and revisions shall be submitted using the online permit portal [Cosumnes On-Line Permit Portal](#).
2. Upload solar plans with manufacturers' specification sheets.
3. Upload SolarAPP+ approval registration number, documents, and checklists, if applicable.
4. Revisions to a permit are subject to plan review and fees. A minimum one-hour plan check fee is charged at the time of submittal. Allow a minimum of 10 business days for all revisions with or without a SolarAPP+ registration number.
5. Fees are collected prior to service.
6. Reinspections, if applicable, carry a fee.

2006.7 Plan review process

1. Projects qualifying for expedited permitting as described in Section 2006.5.1a and 2006.5.1b will be issued a permit release letter in the portal upon review of the completed online permit application, completion of the submittal process, and payment of applicable fees.
2. Projects not qualifying for expedited permitting will receive approved plans, a fire permit, and a fire permit release letter available in the online portal upon completion of a successful plan review.
3. A written plan review correction letter will be provided to applicants (through the online portal) whose plans require additional information or further clarification prior to plan approval. Resubmission is required.
4. Projects that qualify for expedited plan review, please allow a minimum of seven (7) business days. For projects that do not qualify for expedited plan review, please allow a minimum of 15 business days for the first review and ten (10) business days for the second and subsequent reviews. For revisions, please allow a minimum of 10 business days.



5. Applicants will receive a “Permit Release Letter” to be forwarded to the reviewing building department as documentation of fire department approval.

2006.8 Plan submittal requirements

1. General requirements
 - a. Plan review submittal application is completed.
 - b. SolarAPP+ approved registration number, if applicable.
 - c. Upload SolarAPP+ approval documents/checklist, if applicable.
 - d. Upload solar plans with manufacturer specification sheets.
 - i. Plans stamped and signed by CA licensed design professional(s).
 - ii. Project plans are designed to the 2022 California Fire Code, Cosumnes Fire Code Ordinance, and 2023 NFPA 855.
 - iii. Project plans clearly indicate the type of battery technology being utilized.
 - iv. Project plans clearly indicate the size in kW of each Solar PV system.
 - v. Project plans clearly indicate the kWh rating of individual ESS units.
 - vi. Project plans clearly indicate the kW nameplate rating of the ESS.
 - e. Manufacturers' data sheets for all solar PV system components are provided and indicate the UL listing information.
 - f. Manufacturers' data sheets for the battery storage technology used are provided and indicate the UL listing information.
 - g. Fees are paid.
2. Solar energy (photovoltaic) system. Construction documents for solar energy systems shall contain the following information:
 - a. Project name, address, vicinity map, and list of applicable project design codes.
 - b. Scaled site plan with north arrow and graphic scale.
 - c. System roof layout plan with roof type and material noted, roof fire classification, and roof slope noted.



- d. Elevation views with building openings shown and roof access points noted.
- e. Location of emergency escape and rescue openings.
- f. Location of and the dimension of pathways to the ridge.
- g. Location of and dimension of setbacks at the ridge.
- h. Dimensions of roof module spacing requirements.
- i. Make, model, and total number of modules.
- j. Make and model of inverters and manufacturer data sheets indicating UL listings.
- k. Standard electrical plans, diagrams, and calculations.
- l. Location of main service/utility disconnect.
- m. Stringing plan/diagram and one-line diagram of the system.
- n. Specify grounding/bonding, conductor type and size, conduit type, and size, number of conductors in each section of conduit, and their locations.
- o. Indicate that rapid shutdown is provided.
- p. Graphically depict required system labels, markings, signage, and show installation locations.
- q. Fire-rated construction details, penetration details, and photovoltaic panel fire classification.

3. Energy storage systems (ESS). Construction documents for energy storage systems shall contain the following information:

- a. Location and layout diagram of the room or area where the ESS will be installed.
- b. Details on the hourly fire-resistance rating of assemblies enclosing the ESS.
- c. The quantities and types of ESS units to be installed.
- d. Manufacturers specifications, ratings, and listings of each ESS unit.
- e. Description of energy (battery) management systems and their operation.
- f. Location and content of required signage.
- g. Provide details on fire suppression, smoke or fire detection, thermal management, ventilation, exhaust, and deflagration venting systems.



- h. Support arrangement associated with the installation, including any required seismic restraint.
- i. Project plans clearly indicate the kWh rating of individual ESS units.
- j. Project plans clearly indicate the kW alternating current nameplate rating of the ESS.
- k. Location and type of vehicle impact protection.

REFERENCES

- 2006.9 2022 California Fire Code (CFC)
- 2006.10 California Government Code
- 2006.11 SolarApp+
- 2006.12 [Cosumnes Fire Code Ordinance 17](#)
- 2006.13 2023 National Fire Protection Agency (2023 NFPA 855)
- 2006.14 [Cosumnes Fire Department Online Portal](#)
- 2006.15 California Residential Code
- 2006.16 City of Elk Grove Building Department
- 2006.17 City of Galt Building Department
- 2006.18 Sacramento County Building Department
- 2006.19 California Solar Permitting Guidebook

