



# OFFICE OF THE STATE FIRE MARSHAL

## Code Interpretation 21-004

December 1, 2021

### Electrical Energy Storage Systems (ESS)

#### OVERVIEW

**Code Section(s):** 1206.11.4 (1) through (4)  
**Edition:** 2019 CFC  
**Requested By:** Vincent Jolissaint  
**Date Received:** August 2, 2021

#### QUESTION

This section is confusing: it is not clear how the individual and aggregate quantity maximums are calculated. For instance, part 1 seems to define three separate spaces "Utility Closets" "Storage Spaces." Does this mean that 40 kWh may be installed in the "Utility Closet" another 40 kWh in the "Storage Spaces" and an additional 40 kWh in the "Utility Space"?

In other words, are the different categories within each section 1206.11.4 (1) through (4) individual or aggregate within each category? If individual, then can I only put a total of 40 kWh spread among the 3 locations in (1). If aggregate, then could I do 40 kWh maximum in each for a total of 120 kWh of storage under section 1206.11.4(1)

Also, are the 4 sections together Individual or Aggregate totals?

May I install the maximum storage allowed under part 1, (40 or 120 kWh depending on interpretation) plus the maximum allowed in part 2 (80 kWh or 240 kWh depending on the answer above) plus the maximum allowed under part 3 (80kWh) plus the maximum allowed under part 4 (80 kWh)? How many total kWh can we install in the various locations on a single R-3 or R-4 occupancy, without triggering the requirements in 1206.1 through 1206.9 of the 2019 CFC?

#### ANSWER

CFC 1206.11.4 identifies individual and aggregate rating structure limitations for Group R-3 and R-4 occupancies. If these limitations are exceeded, then it shall comply with CFC Sections 1206.1 through 1206.9.

Each individual ESS unit shall have a maximum energy rating of 20 kWh. The maximum aggregate energy rating allowed by this section shall not exceed 80 kWh from any combination of the four-line items shown, and the maximum energy rating from each of the line items shall not exceed the respective energy rating shown for that specific line item.

1. 40 kWh within utility closets and storage or utility spaces.



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2. 80 kWh in attached or detached garages and detached accessory structures.
3. 80 kWh on exterior walls.
4. 80 kWh outdoors on the ground.

As an example, line item 1 indicates that 40 kWh maximum may be located within utility closets, storage spaces, or utility spaces. That is the maximum energy rating (aggregate) for all utility closets, storage, or utility spaces. If two 20 kWh individual ESS units are located within a utility closet, then the maximum rating of line item 1 has been reached. However, two additional 20 kWh units may be placed in other locations identified in line items 2 through 4, before reaching the 80 kWh aggregate maximum.