



CLARK COUNTY FIRE DEPARTMENT - FIRE PREVENTION BUREAU

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Permit Submittal Guideline

ENERGY STORAGE SYSTEM - MOBILE

This guide is to assist in the submittal process for a temporary operational permit for an Energy Storage System (ESS). An operational permit is required per section 105.5.14 of the IFC where stationary and mobile energy storage systems are regulated by Section 1207 and Energy Capacity exceeds the table below. Mobile ESS shall not be deployed for longer than 30 days (see 1207.10.7.1).

PERMITABLE QUATITIES FOR ESS per IFC TABLE 1207.1.3	
TECHNOLOGY	ENERGY CAPACITY ^a
Capacitor ESS	3 kWh
Flow batteries ^b	20 kWh
Lead-acid batteries, all types	70 kWh ^c
Lithium-ion batteries	20 kWh
Nickel-cadmium (Ni-Cd), nickel metal hydride (Ni-MH) and nickel zinc (Ni-Zn) batteries	70 kWh
Nonelectrochemical ESS ^d	70 kWh
Other battery technologies	3 kWh
Sodium nickel chloride batteries	70 kWh
Zinc manganese dioxide batteries (Zn-MnO ₂)	70 kWh
See the Permit Guide for Carbon Dioxide for any use of CO ₂ .	
For SI: 1 kilowatt hour = 3.6 megajoules.	
a. Energy capacity is the total energy capable of being stored (nameplate rating), not the usable energy rating. For units rated in amp-hours, kWh shall equal rated voltage times amp-hour rating divided by 1,000.	
b. Shall include vanadium, zinc-bromine, polysulfide-bromide and other flowing electrolyte-type technologies.	
c. Fifty gallons of lead-acid battery electrolyte shall be considered equivalent to 70 kWh.	
d. Covers nonelectrochemical technologies such as flywheel and thermal ESS.	

APPLICABLE CODES:

The following codes and standard apply to this permit.

- *International Fire Code*, 2024 edition (IFC)
- *Clark County Fire Code Amendments*, 2024 edition (CCFC)
- *Standard for the Installation of Stationary Energy Storage Systems*, 2023 Edition NFPA 855

SUBMITTAL REQUIREMENTS:

The requirements in this guide are not intended to be all inclusive, nor do they entail a limit to the extent of the information, etc., which may be necessary to properly evaluate the submitted plans and documents. Reference IFC Section 1207 and provide all applicable information that pertains to your permit. Correlate your PDFs and upload them to the PLAN ROOM.

1. PROJECT INFORMATION:

- Project name, address, and Assessor's Parcel Number (APN).
- Contractor's/Owner's contact information.
- Include the Energy Technology and Energy Capacity of individual units and total Energy Capacity.
- Provide a narrative on the use of ESS.

2. SITE PLAN: Provide site plan of the building showing the following locations:

- Provide overall site and floor plan of the building area and clearly identify the location/type of ESS.
 - For Lithium-ion ESS, the permit threshold is 20 kWh, but groups of units cannot exceed 50 kWh.
 - ESS cannot be higher than 75 feet above Fire Department access and not below the lowest level of discharge.
 - Mobile ESS not permitted indoors, in covered parking garages, on rooftops, below grade, or under building overhangs.
- Locate building and provide distance between unit(s), distance to lot lines, distance to public streets, alleys or ways, distances to any other building on the property, distance to openings to buildings (doors, windows, etc.).
 - 10 foot minimum
 - 50 foot minimum for tents/structures/areas with 30+ people
- Location and content of required signage.
 - Smoking prohibited within 10 feet of ESS.
- Fence with locked gate or other approved barrier to keep public at least 5 feet from mobile ESS

3. HAZARD MITIGATION: Provide information on the ESS Hazard Mitigation systems

- Provide full UL9540A report/Large-scale fire test report.
- Provide failure modes and effects analysis if not included in above report.
- See Table 1207.10 for additional requirements.
- Document how requirements in above are being met

4. EQUIPMENT INFORMATION: Provide information ESS Equipment and construction:

- Equipment listing
- Energy storage management system
- Commissioning/Decommissioning reports
- Fire detection and fire suppression systems
- Intended deployment times with anticipated connection/disconnections times.