

(July 2021)

Utah Amendments for Energy Storage Systems (ESS):

Note: for a direct link to Utah State Code Amendments 15A-3-202, see the following - https://le.utah.gov/xcode/Title15A/Chapter3/15A-3-S202.html?v=C15A-3-S202_2021050520210701

IRC Definition of an Energy Storage System (ESS) is as follows: “One or more devices, assembled together, that are capable of storing energy for supplying electrical energy at a future time.”

R327.1 General. Energy storage systems (ESS) shall comply with the provisions of this section.

Exceptions:

1. ESS listed and labeled in accordance with **UL 9540** and marked “For use in residential dwelling units”, where installed in accordance with the manufacturer’s instructions and NFPA 70.
2. ESS less than 1 kWh (3.6 megajoules)

R327.2 Equipment listings. ESS shall be listed and labeled in accordance with **UL 9540**.

Exception: Where approved, repurposed unlisted battery systems from electric vehicles are allowed to be installed outdoors or in detached sheds located not less than 5 feet (1524 mm) from exterior walls, property lines and public ways.

R327.3 Installation. ESS shall be installed in accordance with the manufacturer’s instructions and their listing.

R327.3.1 Spacing. Individual units shall be separated from each other by not less than three feet (914 mm) except where smaller separation distances are documented to be adequate based on large scale fire testing complying with Section 1206.2.3 of the adopted International Fire Code.

R327.4 Locations. ESS shall be installed only in the following locations:

1. Detached garages and detached accessory structures.
2. Attached garages separated from the dwelling unit living space in accordance with Section R302.6.
3. Outdoors or on the exterior side of exterior walls located not less than 3 feet (914 mm) from doors and windows directly entering the dwelling unit.
4. Enclosed utility closets, basements, storage or utility spaces within dwelling units with finished or noncombustible walls and ceilings. Walls and ceilings of unfinished wood-framed construction shall be provided with not less than 5/8-inch Type X gypsum wallboard.

ESS shall not be installed in sleeping rooms, or closets or spaces opening directly into sleeping rooms.

R327.5 Energy ratings. Individual ESS units shall have a maximum rating of 20 kWh. The aggregate rating of the ESS shall not exceed:

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

ESS installations exceeding the permitted individual or aggregate ratings shall be installed in accordance with Sections 1206.2.1 through 1206.2.12 of the adopted International Fire Code.

R327.6 Electrical installation. ESS shall be installed in accordance with NFPA 70. Inverters shall be listed and labeled in accordance with **UL 1741** or provided as part of the **UL 9540** listing. Systems connected to the utility grid shall use inverters listed for utility interaction.

R327.7 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.

R327.8 Protection from impact. ESS installed in a location subject to vehicle damage shall be protected by approved barriers.

R327.9 Ventilation. Indoor installation of ESS that include batteries that produce hydrogen or other flammable gases during charging shall be provided with mechanical ventilation in accordance with Section M1307.4.

R327.10 Electric vehicle use. The temporary use of an owner or occupant's electric powered vehicle to power a dwelling unit while parked in an attached or detached garage or outdoors shall comply with the vehicle manufacturer's instructions and NFPA 70.

R327.11 Signage. A sign located on the exterior of the dwelling shall be installed at a location approved by the authority having jurisdiction which identifies the battery chemistry included in the ESS. This sign shall be of sufficient durability to withstand the environment involved and shall not be handwritten.