

**Town of Berne Proposed LL#6 “Small-Scale Battery
Energy Storage System**

Small-Scale Battery Energy Storage System Law 158-1.

Town of Berne Small-Scale Battery Energy Storage System Law 158-2.

Authority

The Town Board of the Town of Berne enacts this chapter under the authority granted by § 10 of the New York State Municipal Home Rule and the New York State Town Law.

158-3. Purpose

This Battery Energy Storage System Law is adopted to advance and protect the public health, safety, and welfare of Town of Berne by creating regulations for the installation and use of battery energy storage systems, with the following objectives:

- A. To provide a regulatory scheme for the designation of properties suitable for the location, construction and operation of battery energy storage systems;
- B. To protect the health, welfare, safety, and quality of life for the general public;
- C. To ensure compatible land uses in the vicinity of the areas affected by battery energy storage systems;
- D. To mitigate the impacts of battery energy storage systems on environmental resources such as important agricultural lands, forests, wildlife and other protected resources; and
- E. To be consistent with the Town of Berne Comprehensive Plan (adopted April 12, 2017).

158-4. Definitions

ANSI: American National Standards Institute

BATTERY: A single Cell or a group of Cells connected together electrically in series, in parallel, or a combination of both, which can charge, discharge, and store energy electrochemically. For the purposes of this law, batteries utilized in consumer products are excluded from these requirements.

BATTERY ENERGY STORAGE MANAGEMENT SYSTEM: An electronic system that protects storage batteries from operating outside their safe operating parameters and generates an alarm and trouble signal for off normal conditions.

BATTERY ENERGY STORAGE SYSTEM: A rechargeable energy storage system consisting of electrochemical storage batteries, battery chargers, controls, power conditioning systems and associated electrical equipment designed to provide electrical power to a building. The system is typically used to provide standby or emergency power, an uninterruptible power supply, load shedding, load sharing, or similar capabilities. A small-scale battery energy storage system is classified as a Tier 1 or Tier 2 Battery Energy Storage System as follows:

- A. Tier 1 Battery Energy Storage Systems include either:
 - 1. Battery energy storage systems for one to two family residential dwellings within or outside the structure with an aggregate energy capacity that shall not exceed:
 - a) 40 kWh within utility closets and storage or utility spaces
 - b) 80 kWh in attached or detached garages and detached accessory structures
 - c) 80 kWh on exterior walls
 - d) 80 kWh outdoors on the ground
 - 2. Other battery energy storage systems with an aggregate energy capacity less than or equal to the threshold capacity listed in Table 1
- B. Tier 2 Battery Energy Storage Systems include: battery energy storage systems that are not included in Tier 1, have an aggregate energy capacity greater than the threshold capacity listed in Table 1, and have an aggregate energy capacity less than 600kWh.

Table 1: Battery Energy Storage System Tier 2 Threshold Quantities

Battery Technology	Capacity
Flow batteries	20 kWh
Lead acid, all types	70 kWh
Lithium, all types	20 kWh
Nickel cadmium (Ni-Cd)	70 kWh
Nickel metal hydride (Ni-MH)	70 kWh
Other battery technologies	10 kWh

COMMISSIONING: A systematic process that provides documented confirmation that a battery energy storage system functions according to the intended design criteria and complies with applicable code requirements.

DEDICATED-USE BUILDING: A building that is built for the primary intention of housing battery energy storage system equipment and is classified as Group F-1 occupancy as defined in the International Building Code. It is constructed in accordance with the Uniform Code, and it complies with the following:

The buildings only permitted primary use is for battery energy storage, energy generation, and other electrical grid-related operations.

- A. Occupants in the rooms and areas containing battery energy storage systems are limited to personnel that operate, maintain, service, test, and repair the battery energy storage system and other energy systems.
- B. No other occupancy types are permitted in the building.
- C. Administrative and support personnel are permitted in incidental-use areas within the buildings that do not contain battery energy storage system, provided the following:
 - 1. The areas do not occupy more than 10 percent of the building area of the story in which they are located.
 - 2. A means of egress is provided from the incidental-use areas to a public way that does not require occupants to traverse through areas containing battery energy storage systems or other energy systems.

DWELLING UNIT: One or more rooms arranged for complete, independent housekeeping purposes with space for eating, living, and sleeping; facilities for cooking; and provisions for sanitation.

ENERGY CODE: The New York State Energy Conservation Construction Code adopted pursuant to Article 11 of the Energy Law, as currently in effect and as hereafter amended from time to time.

FIRE CODE: The fire code section of the New York State Uniform Fire Prevention and Building Code adopted pursuant to Article 18 of the Executive Law, as currently in effect and as hereafter amended from time to time.

FLOW BATTERY: A type of rechargeable Battery that uses typically large, separated liquid reservoirs of electrolytes that flow through a reaction zone to store, charge, and discharge energy. These electrolytes are typically non-flammable.

LEAD-ACID BATTERY: A rechargeable Battery that is comprised of lead electrodes immersed in sulphuric acid electrolyte. These batteries may be flooded, vented, sealed, or may come in other form factors. They may produce hazardous gases during normal operations.

LITHIUM-ION BATTERY: A storage Battery with lithium ions serving as the charge carriers of the Battery. The electrolyte is typically a mixture of organic solvents with an inorganic salt and can be in a liquid or a gelled polymer form.

NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL): A U.S. Department of Labor designation recognizing a private sector organization to perform certification for certain products to ensure that they meet the requirements of both the construction and general industry OSHA electrical standards.

NEC: National Electric Code.

NFPA: National Fire Protection Association.

NICKEL-BASED BATTERY: A rechargeable Battery in which the positive active material is nickel oxide, the negative contains either cadmium (Nickel-cadmium, Ni-Cd), hydrogen ions stored in a metal-hydride structure (Nickel-metal hydride, Ni-MH), or zinc (Nickel-zinc, Ni-Zn) as the electrode and the electrolyte is potassium hydroxide.

NON-DEDICATED-USE BUILDING: All buildings that contain a battery energy storage system and do not comply with the dedicated-use building requirements, including all other occupancy types such as, but not limited to, commercial, industrial, office, and multi-family housing.

NON-PARTICIPATING PROPERTY: Any property that is not a participating property.

OCCUPIED COMMUNITY BUILDING: Any building in Occupancy Group A, B, E, I, R, as defined in the International Building Code, including but not limited to schools, colleges, daycare facilities, hospitals, correctional facilities, public libraries, theaters, stadiums, apartments, hotels, and houses of worship.

ONE-TO-TWO-FAMILY DWELLING: A building that contains not more than two dwelling units with independent cooking and bathroom facilities.

PARTICIPATING PROPERTY: A battery energy storage system host property or any real property that is the subject of an agreement that provides for the payment of monetary compensation to the landowner from the battery energy storage system owner (or affiliate) regardless of whether any part of a battery energy storage system is constructed on the property.

SMALL-SCALE BATTERY ENERGY STORAGE SYSTEM: A small-scale battery energy storage system includes both Tier 1 and 2 systems for residential, business or farm use.

SPECIAL FLOOD HAZARD AREA: The land area covered by the floodwaters of the base flood is the Special Flood Hazard Area (SFHA) on NFIP maps. The SFHA is the area where the National Flood Insurance Program's (NFIP's) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.

UNIFORM CODE: the New York State Uniform Fire Prevention and Building Code adopted pursuant to Article 18 of the Executive Law, as currently in effect and as here after amended from time to time.

158-5. Applicability

The requirements of this Local Law shall apply to all battery energy storage systems permitted, installed, or modified in Town of Berne after the effective date of this Local Law, excluding general maintenance and repair.

- A. Battery energy storage systems constructed or installed prior to the effective date of this Local Law shall not be required to meet the requirements of this Local Law with the exception of requirements detailed in Section 158.10 Safety.
- B. Modifications to, retrofits or replacements of an existing battery energy storage system that increase the total battery energy storage system designed discharge duration or power rating shall be subject to this Local Law.

158-6. General Requirements

- A. A Battery Energy Storage Systems Permit, a Building Permit, and an Electrical Permit shall be required for installation of all battery energy storage systems.
- B. All battery energy storage systems, all Dedicated Use Buildings, and all other buildings or structures that (1) contain or are otherwise associated with a battery energy storage system and (2) subject to the Uniform Code (19 NYCRR Parts 1220, 1221, 1225 and 1227) or the Energy Code shall be designed, erected, and installed in accordance with all applicable provisions of the Uniform Code, all applicable provisions of the Energy Code, and all applicable provisions of the codes, regulations, and industry standards as referenced in the Uniform Code, the Energy Code and the Town of Berne Code.

158-7. Permitting Requirements for Tier 1 Battery Energy Storage Systems

- A. Tier 1 Battery Energy Storage Systems shall be permitted in all zoning districts and shall be subject to the “Battery Energy Storage System Permit,” a completed Inspection Checklist (Appendix 1 of Permit and exempt from site plan review).

158-8. Permitting Requirements for Tier 2 Battery Energy Storage Systems

- A. Tier 2 Battery Energy Storage Systems shall be permitted in all zoning districts, shall be subject to the Uniform Code (19 NYCRR Parts 1220, 1221, 1225 and 1227) and the “Battery Energy Storage System Permit,” a completed Inspection Checklist (Appendix 1 of Permit, and exempt from site plan review).
- B. Signage
 - 1. The signage shall be in compliance with ANSI Z535 and shall include the type of technology associated with the battery energy storage systems, any special hazards associated, the type of fire suppression system if installed in the area of battery energy storage systems, and 24-hour emergency contact information, including a reach-back phone number.

2. As required by the NEC, disconnect and other emergency shutoff information shall be clearly displayed on a light reflective surface including clearly visible warning sign concerning voltage.

158-9. Safety

A. System Certification. Battery energy storage systems and Equipment shall be listed by a Nationally Recognized Testing Laboratory to UL 9540 or CAN 9540 (Standard for battery energy storage systems and Equipment) with sub-components meeting each of the following standards that are applicable based on the storage type (electrochemical, thermal, mechanical):

1. UL 1973 (Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail Applications),
2. UL 1642 (Standard for Lithium Batteries),
3. UL 1741 or UL 62109 (inverters and power converters),
4. Certified under the applicable electrical, building, and fire prevention codes as required.
5. Alternatively, field evaluation by an approved testing laboratory for compliance with UL 9540 and applicable codes, regulations and safety standards may be used to meet system certification requirements.

Lead-acid and nickel-cadmium battery systems installed in facilities under the exclusive control of communications utilities and operating at less than 50 VAC and 60 VDC in accordance with NFPA 76 are not required to be listed.

- B. Signage to be consistent with most current guidance from NFPA and/or Uniform Code.
- C. Site Access. Battery energy storage systems shall be maintained in good working order and in accordance with industry standards. Site access shall be maintained, including snow removal at a level acceptable to the local fire department and the local ambulance corps.
- D. Battery energy storage systems, components, and associated ancillary equipment shall have required working space clearances, and electrical circuitry shall be within weatherproof enclosures marked with the environmental rating suitable for the type of exposure in compliance with NFPA70.

158-10. Permit Time Frame and Abandonment

A. Battery Energy Storage System Permit shall be valid for a period of 24 months, provided that a building permit is issued for construction and/or construction is commenced. In the event construction is not completed in accordance with the final site plan, as may have been amended and approved, as required by the Planning Board, within 24 months after approval, the Applicant or the Town of Berne may extend the time to complete construction for 180 days. If the owner and/or operator fails to perform substantial construction after 36 months, the approvals shall expire.

158-11. Enforcement

Any violation of this Battery Energy Storage System Law shall be subject to the same enforcement requirements, including the civil and criminal penalties, provided for in the zoning or land use regulations of Town of Berne.

158-12. Severability

The invalidity or unenforceability of any section, subsection, paragraph, sentence, clause, provision, or phrase of the aforementioned sections, as declared by the valid judgment of any court of competent jurisdiction to be unconstitutional, shall not affect the validity or enforceability of any other section, subsection, paragraph, sentence, clause, provision, or phrase, which shall remain in full force and effect.