

Battery Energy Storage System Model Permit

Understanding the permitting requirements of residential and small commercial battery energy storage systems.



NYSERDA

Battery Energy Storage System Guidebook for Local Governments
NYSERDA 17 Columbia Circle Albany, NY 12203

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Overview

The Model Permit is intended to help local government officials and AHJs establish the minimum submittal requirements for electrical and structural plan review that are necessary when permitting residential and small commercial battery energy storage systems.

Additionally, battery energy storage systems shall comply with all applicable provisions of the codes, regulations, and industry standards as referenced in the New York State Uniform Fire Prevention and Building Code.

The Battery Energy Storage System Model Permit is based on the 14th Edition of the National Electric Code (NEC), which is anticipated to be adopted by New York State in 2020. NYSERDA will continue to update the Guidebook as these codes and standards evolve.

The workable version of this document can be found at nyserdera.ny.gov/Energy-Storage-Guidebook, under Battery Energy Storage System Model Permit tab.

PERMIT APPLICATION

Battery Energy Storage System Model Permit

Note: Language in [ALL CAPS] below indicates where local jurisdictions need to provide information specific to the jurisdiction. Language in italics indicates explanatory notes from the authors of this document that may be deleted from the distributed version.

SUBMITTAL INSTRUCTIONS

This application and the following attachments will constitute the Battery Energy Storage System Permitting Package.

- This application form, with all fields completed and bearing relevant signatures.
- Permitting fee of \$[ENTER FEE HERE], payable by [ENTER VALID PAYMENT METHODS, If checks are allowed INCLUDING WHO CHECKS SHOULD BE MADE PAYABLE TO]
- Required Construction Documents for the battery energy storage system being installed, including required attachments.

Completed permit applications can be submitted electronically to [EMAIL ADDRESS] or in person at [BUILDING DEPARTMENT ADDRESS] during business hours [INDICATE BUSINESS HOURS].

APPLICATION REVIEW TIMELINE

Permit determinations will be issued within [TIMELINE] calendar days upon receipt of complete and accurate applications. The municipality will provide feedback within [TIMELINE] calendar days of receiving incomplete or inaccurate applications.

FOR FURTHER INFORMATION

Questions about this permitting process may be directed to [MUNICIPAL CONTACT INFORMATION].

PROPERTY OWNER

Property Owner's First Name

Last Name

Title

Property Address

City

State

Zip

Section

Block

Lot Number

EXISTING USE

Residential

Commercial

PROVIDE THE TOTAL SYSTEM CAPACITY RATING

Total System Capacity Rating: _____ kWh

Power Rating: _____ kW (Select One) AC or DC

SELECT SYSTEM CONFIGURATION

AC Coupled

DC Coupled

Standalone

SELECT BATTERY TYPE

Lithium-ion, all types

Lead-acid, all types

Nickel-cadmium (Ni-Cd)

Flow batteries

Other: _____

SELECT INSTALLATION TYPE

Indoor

Outdoor

Attached/Detached/Open Garage

Rooftop

Dedicated Use Building

BATTERY ENERGY STORAGE SYSTEM INSTALLATION CONTRACTOR

Contractor Business Name

Contractor Business Address

City

State

Zip

Contractor Contact Name

Phone Number

Contractor License Number(s)

Contractor Email

Electrician Business Name

Electrician Business Address

City

State

Zip

Electrician Contact Name

Phone Number

Electrician License Number(s)

Electrician Email

Please sign below to affirm that all answers are correct and that you have met all the conditions and requirements to participate in this unified process.

Property Owner's Signature

Date

Battery Energy Storage System Company Representative Signature

Date

PERMITS AND APPROVALS REQUIRED

The following permits are the minimum requirements for battery energy storage systems installed with an aggregate energy capacity less than or equal to 600kWh and, if in a room or indoor area, where only a single energy storage system technology is provided.

1. Battery Energy Storage System Permit
2. [LIST TYPE OF PERMIT(S) REQUIRED BY THE LOCAL JURISDICTION, i.e., ELECTRICAL OR BUILDING PERMIT].

SUBMITTAL REQUIREMENTS

In order to submit a complete permit application for a new battery energy storage system, the applicant must include:

- a) Completed Application form.
- b) Construction Documents, with listed attachments. Construction Documents must be stamped and signed by a New York State Licensed Professional Engineer.

General Requirements

- Minimum plan size is 11"x17" with a minimum font of 10.
 - Include 4 full sets of plans and 2 sets of supporting documents.
- Include the applicable codes on the cover sheet for the project.
- Include the complete scope of work on the cover sheet for the project.
- 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 NYS Uniform Fire Prevention and Building Code (Uniform Code) and/or the NYS Energy Conservation Construction Code (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 [Village/Town/City] Code.

Site Plan and Floor Plan Requirements

- Include a legend or key for the site and floor plan with equipment symbols.
- The site plan shall include:
 - The location of the structure and the location where the system is to be installed.
 - Show conduit/cable routing of battery energy storage system.
 - Include underground trench detail, if applicable.
 - Show overhead runs, if applicable.
 - Show method and location of required ventilation equipment (if required) for indoor installations.
- Identify the total number of batteries.
- The floor plan shall include:
 - New equipment for the battery energy storage system.
 - Existing equipment for interconnection.
 - Show required working clearances for all existing/new electrical equipment.
 - Show whether the equipment is to be installed indoors or outdoors.
 - Show method and location of requirement ventilation equipment (if required) for indoor installations.
 - Show method of protection from physical damage for the battery energy storage system.
 - Show means of access to battery energy storage system.
 - Denote whether conductors are routed indoors or outdoors.
- Provide an elevation drawing of the system equipment and specify elevation in relation to flood plains.
 - If the building is in a flood zone, it shall be above base flood elevation.
- Provide supporting documents from manufacturer if equipment is subject to physical damage.

Electrical

- Installations shall be in compliance with the Battery Energy Storage System Electrical Checklist. The Battery Energy Storage System Electrical Checklist provides an overview of common points of inspection for which the applicant should be prepared to show compliance.
- One or Three-Line Diagram
 - Show grounding and bonding for the battery energy storage system, including the ground return path.
 - Show method of interconnection.
 - Show overcurrent protection method and rating when required.
 - Include detailed wiring information for all new circuits, including:
 - > Conductor size/type
 - > Number of conductors
 - > Conduit size
 - > Conduit type
 - Show all disconnection means.
 - Show ratings (voltage, ampacity, environmental, etc) for new and existing service equipment.

- Specifications and installation instructions
 - Provide specification sheets and installation instructions for the following equipment:
 - > Batteries
 - > Inverter
 - > Transformer or autotransformer
 - > Transfer switch(es)
 - > ESS support or racking
 - > Converters
 - > Interconnecting cables and connectors
 - > Management system, including charge controller(s)
 - > Panelboards
 - > HVAC/thermal management system
 - > Fire rated material
 - An approved energy storage management system shall be provided for battery technologies other than lead-acid and nickel cadmium for monitoring and balancing cell voltages, currents, and temperatures within the manufacturer's specifications. The system shall transmit an alarm signal to an approved location if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage are detected.

Fire Requirements

- All battery energy storage systems must be designed and installed in accordance with all applicable provisions of the New York State Uniform Code. Provide documentation on how this system will meet these requirements.
 - - Most one-to-two family residential systems will be subject to Section R327 (Energy Storage Systems) of the 2020 Residential Code of New York State. . All other systems are subject to Section 1206 (Electrical Energy Storage Systems) of the 2020 Fire Code of New York State.

PLAN REVIEW

Permit applications can be submitted to [DEPARTMENT NAME] in person at [ADDRESS] and electronically through: [WEBSITE/EMAIL/FAX CONTACT INFORMATION, IF APPLICABLE].

FEES

[PROVIDE CLEAR FEE SCHEDULE]

DEPARTMENTAL CONTACT INFORMATION

Once all permits to construct the battery energy storage system installation have been issued and the system has been installed, it must be inspected before final approval is granted for the battery energy storage system. On-site inspections can be scheduled by contacting [DEPARTMENT] by telephone at [PHONE NUMBER] or electronically at [WEBSITE OR EMAIL ADDRESS].

Inspection requests received within business hours are typically scheduled for the next business day. If next business day is not available, inspection should happen within a five-day window. [IF MUNICIPALITY ACCEPTS THIRD PARTY INSPECTIONS, INDICATE THIS AND PROVIDE A LIST OF APPROVED INSPECTORS].

In order to receive final approval, the following inspection is required:

[FINAL INSPECTION] The applicant must contact [INSERT CONTACT INFORMATION] when ready for a final inspection. During this inspection, the inspector will review the complete installation to ensure compliance with codes and standards, as well as confirming that the installation matches the records included with the permit application. The applicant must have ready, at the time of inspection, the following materials and make them available to the inspector:

- Copies of as-built drawings and equipment specifications, if different than the materials provided with the application.
- Photographs of key hard to access equipment.

[MUNICIPALITY NAME] has adopted a standardized “Battery Energy Storage System Electrical Checklist”, which can be found here: [WEBSITE ADDRESS].

DEPARTMENTAL CONTACT INFORMATION

For additional information regarding this permit process, please consult our departmental website at [WEBSITE] or contact [DIVISION NAME] at [PHONE NUMBER].

Questions?

If you have any questions about the Battery Energy Storage System Model Permit, please email questions to cleanenergyhelp@nyserda.ny.gov or request free technical assistance at nyserda.ny.gov/Energy-Storage-Guidebook. The NYSERDA team looks forward to partnering with communities across the State.