



ELM

ENVIRONMENTAL LEAGUE
OF MASSACHUSETTS

November 14, 2025

BY ELECTRONIC MAIL ONLY

green.communities@mass.gov

Massachusetts Department of Energy Resources
100 Cambridge St, 9th Floor
Boston, MA 02114

Subject: ELM Comments on Draft Model Bylaws for Solar and Storage Systems

Dear DOER Staff,

The Environmental League of Massachusetts (“ELM”) appreciates the opportunity to comment offered by the Department of Energy Resources (DOER) on its updated Model Bylaw for Solar Photovoltaic Systems (Solar), and its new Model Bylaw for Battery Energy Storage Systems (BESS). ELM commends DOER for its efforts to provide a model for cities and towns to adopt as-is, or with modifications, to enhance their ability to responsibly site clean energy in their communities. The debut of a model bylaw for storage, especially, will empower communities in Massachusetts to ensure storage is sited in a way that is democratic, preserves our natural and working lands, and ensures progress towards the Commonwealth’s affordability, clean energy, and climate goals.

ELM respectfully recommends that DOER include introductory language clarifying the intent behind the model bylaws. Specifically, ELM urges DOER to frame the bylaw as tools designed to simplify the process for municipalities, and that DOER did the technical, legal, and analytical groundwork so communities don’t have to. ELM also urges DOER to explain that the bylaw is a template that communities can adopt as is, or with modifications, to meet their unique needs. Emphasizing DOER’s supportive role will help ensure the bylaw is understood as guidance that eases local implementation, rather than a mandate. Highlighting this intention up front will strengthen public understanding and municipal confidence as implementation moves forward. To ensure the bylaws are as useful to communities as possible, ELM also recommends that DOER offer to help municipal leaders understand how to implement the bylaw through info sessions, office hours, or other forms of technical assistance.

We are pleased to express our support for many elements of the model bylaws and several recommended improvements.

Recommendations for both Model BESS and Solar Bylaws

3.0: Applicability

- i. **Clarify “Proposed to be Constructed” language.** The draft solar and storage bylaws both define applicability to include “all new [BESS and Solar] *proposed to be constructed* after the effective date of this section.” ELM recommends clarifying the language in both bylaws to apply to any facility that *applies for a permit* after the effective date to avoid misinterpretation that the section only includes facilities constructed after the effective date.

5.0: Pre-Filing Requirements

- i. **By-Right Projects should be exempt from Pre-Filing Requirements.** As drafted, both model bylaws apply Pre-Filing Requirements from DOER’s Siting and Permitting regulations (225 CMR 29.08) to all solar and storage projects. The purpose of By-Right zoning is to recognize uses already deemed appropriate for a given location, which is consistent with the goals of the 2024 clean energy law of advancing responsibly-sited projects to accelerate deployment in environmentally-favorable locations. Requiring these projects to complete Pre-Filing Requirements would impose unnecessary procedural burdens and single out clean energy projects for additional scrutiny not applied to other permitted uses.

225 CMR 29.08(1) currently states, “the Applicant shall complete all pre-filing requirements in 225 CMR 29.08 before submitting a Consolidated Local Permit Application to the Local Government.” ELM recommends adding the phrase “unless otherwise exempt in applicable local bylaws or zoning ordinances” at the end of this sentence in the regulatory text. Alternatively, ELM recommends revising the draft solar and storage bylaws to clarify By-Right permits are exempt from pre-filing requirements.

6.2: Required Documents

- i. **Revise 6.2.A.v to mandate notification to relevant authorities if ownership or primary contact changes.** As drafted, both solar and storage projects are required to provide contact information for the point of contact for public enquiries throughout the life of the BESS or solar project. However, ELM notes that it is not uncommon for solar or storage projects to change ownership over the life of the project. ELM recommends revising this provision to require applicants to provide current contact information during permitting, and stipulate permit conditions requiring that project owners update relevant authorities if ownership or key contact representatives change.
- ii. **Revise 6.2.H to clarify that applicants may submit updated Emergency Response Plans.** Emergency response plan details often depend on the specific equipment selected, which can vary between manufacturers. Because projects may experience extended interconnection timelines and/or respond to evolving market conditions (including federal tariff policies and Foreign Entity of Concern compliance), final



equipment choices may be made after initial permitting. As such, allowing an updated emergency response plan to be submitted with the building permit ensures accuracy, aligns with existing provisions for equipment updates, and avoids unnecessary rework or delays during earlier stages of review.

Recommendations for Model BESS Bylaw

2.0: Definitions

- i. **The definition of “Accessory Use” should include be amended to include both behind-the-meter and standalone storage.** Most BESS facilities use modular containers to house batteries. These containers are the same whether a BESS is co-located with a solar facility or if it is stand-alone. There should be no higher requirement for permitting a stand-alone BESS versus one that is co-located with solar. Any differences in municipal review based on project size (e.g. Tiers) should apply identically to co-located as well as stand-alone storage.

3.1: BESS Installation Tiers

- i. **Tier 2 BESS Projects (250kWh - 10 MWh) in residential districts that are Primary Use should be subject to the same permit conditions as Accessory Use BESS projects of the same size.** As drafted, Tier 2 BESS projects in residential districts that are “Accessory Use” are subject to Site Plan Review, whereas the same size project in the same residential zone is subject to Special Permit if it is deemed “Primary Use.” ELM recommends imposing consistent permit conditions (i.e., Site Plan Review) to Tier 2 BESS Facilities in residential zones, regardless of whether the project is Primary Use or Accessory Use.

6.2: Required Documents

- i. **Add Clarity on Energy Storage System (ESS) Permit currently required under the State Fire Code.** As drafted in section 6.2.I, battery project owners are required to submit “a preliminary equipment specification sheet that documents that proposed BESS components and other associated electrical equipment that are to be installed...” ELM recommends incorporating, by reference, the permit required for BESS facilities under Chapter 52.1.2 of the state Fire Code, and that projects be allowed to provide this permit as a means of satisfying the required documents in Section 6.2.I. The MA Fire Code states that “to install and operate energy storage systems having a capacity greater than the quantities listed in Table 1.3 of NFPA 855,” projects must receive an Energy Storage System (ESS) permit from the Head of the Fire Department.

6.9: Safety and Environmental Standards

- i. **Cite and describe existing BESS safety and permitting requirements in the MA Fire Code and NFPA 855.** Much of Sections 6.9.1.A and 6.9.1.B are duplicative of BESS permit requirements in Chapter 52 of the MA Fire Code. However, the MA Fire Code evolves as battery safety standards improve. As such, ELM recommends removing Section



6.9.1.A and 6.9.1B to avoid any potential conflicts with the evolving MA Fire Code, and replacing them with a provision stating that “the BESS shall maintain compliance with the latest energy storage system (ESS) safety and permitting requirements as specified in the State Fire Code.”

ELM also recommends adding references and additional explanation about BESS safety provisions in the State Fire Code and NFPA 855 to the “Note” callout box. Doing so will ensure municipal leaders are clear about what minimum BESS safety requirements already exist, and reduce the likelihood of individual towns imposing duplicative or inconsistent requirements in their bylaws.

- **MA Fire Code:** At the time of this writing, Section 51.1.2 of the MA Fire Code states that “to install and operate energy storage systems having a capacity greater than the quantities listed in Table 1.3 of NFPA 855,” projects must receive an Energy Storage System (ESS) permit from the Head of the Fire Department. ELM recommends incorporating the above explanation into the Note box, but clarify that the MA Fire Code is updated regularly and that municipalities should consult the latest version of the State Fire Code for up-to-date BESS safety and permit requirements.
- **NFPA 855 Table 1.3:** Because Chapter 52 of the MA Fire Code references Table 1.3 of NFPA 855 directly, ELM recommends referencing the most recent version of NFPA 855 Table 1.3 in the Note box. However, ELM recommends clarifying, in the Note Box, that NFPA 855 standards are updated every 2-3 years, and that municipalities should consult the latest version of the MA Fire Code to understand which version of NFPA 855 is applicable. The table below is from the 2023 version of NFPA 855, but a 2026 version is forthcoming.

Table 1.3 Threshold Quantities per Each Fire Area or Outdoor Installation

ESS Technology	Aggregate Capacity ^a	
	kWh	MJ
Battery ESS		
Lead-acid, all types	70	252
Ni-Cad, Ni-MH, and Ni-Zn	70	252
Lithium-ion, all types	20	72
Sodium nickel chloride	20 (70 ^b)	72 (252 ^b)
Flow batteries ^c	20	72
Other battery technologies	10	36
Batteries in one- and two-family dwellings and townhouse units	1	3.6
Capacitor ESS		
Electrochemical double layer capacitors ^d	3	10.8
Other ESS		
All other ESS	70	252
Flywheel ESS (FESS)	0.5	1.8

^aFor ESS units rated in amp-hrs, kWh equals nominal rated voltage multiplied by amp-hr nameplate rating divided by 1000. For batteries rated in watts per cell, kWh equals the nameplate watts per cell multiplied by the number of cells divided by 1000 and multiplied by the nameplate minutes rating divided by 60.

^bFor sodium-nickel-chloride batteries that have been listed to UL 1973 and meet the cell-level performance requirements in UL 9540A.

^cIncludes vanadium, zinc-bromine, polysulfide-bromide, and other flowing electrolyte-type technologies.

^dCapacitors used for power factor correction, filtering, and reactive power flow are exempt.



- **NFPA 855, Chapter 1 Sections 1.1, 1.2, and 1.3.** ELM also recommends explaining how Table 1.3 applies to energy storage facilities in the MA Fire Code. Sections 1.1 through 1.3 of Chapter 1 of NFPA 855 describe the Scope, Purpose, and Application of Table 1.3 and are important to incorporate by reference and describe in the “Notes” box:
 - **1.1 - Scope:** “This standard applies to the design, construction, installation, commissioning, operation, maintenance, and decommissioning of stationary energy storage systems (ESS).”
 - **1.2 - Purpose:** “This standard provides the minimum requirements for mitigating the hazards associated with ESS and the storage of lithium metal or lithium-ion batteries.”
 - **1.3 - Application:** “This standard shall apply to ESS installations exceeding the values shown in Table 1.3 and the storage of lithium metal or lithium-ion batteries.”
- ii. **Align language and requirements with MA Fire Code.** As drafted, Section 6.9.1.B requires Tier 2 and 3 BESS systems to make their UL9540A test report available to “the fire marshal and building officials.” Further, Section 6.9.2 requires the BESS owner to provide a project summary, electrical schematics, and site plan to “the local fire chief.” ELM recommends replacing these terms to be consistent with the MA Fire Code, which uses the term “Head of Fire Department” instead of “fire marshal” or “local fire chief.” ELM also recommends, in Section 6.9.3, deferring to the MA Fire Code instead of setting a 10-foot vegetation removal requirement.

6.11: Abandonment or Decommissioning

- i. **Clarify that decommissioning must occur no more than 150 days after the “date of abandonment.”** As defined in section 6.11.2, the BESS bylaw considers a project to be abandoned “when it ceases to operate consistently for more than twelve (12) months.” However, language in section 6.11.1 around decommissioning is inconsistent with this definition, which states that project owners shall remove the installation no more than 150 days after the date of “discontinued operations.” ELM recommends replacing the term “discontinued operations” with “abandonment” in section 6.11.1. Further, ELM notes that the definition of “abandonment” is defined slightly differently for solar systems compared to BESS systems. ELM recommends harmonizing the definitions of abandonment across the two bylaws.
- ii. **Require 100% surety for abandonment or decommissioning.** As drafted, Section 6.11.3 requires BESS project owners to provide a surety of 125% of the estimated costs of removing the project in the event the project is abandoned and the municipality is tasked with removing the installation and remediating the landscape. ELM recommends that the surety requirement be lowered from 125% to 100% of a fully inclusive estimate.
- iii. **Prevailing wages should be used in decommissioning activities.** ELM recommends that, should a municipality have to fund decommissioning activities, that they be required to use prevailing wage rates. Such wage rates should be included in any estimated surety fee assessed on the project owner.



Recommendations for Model Solar Bylaw

2.0: Definitions

- i. **The definition of “Accessory Use” should be amended to include both behind-the-meter and standalone solar.** As an example, a solar canopy on a parking lot may opt to interconnect to the grid directly instead of developing an arrangement with a parking lot tenant. The current definition of accessory use may prohibit standalone solar projects that want to avoid attaching themselves to a tenant.

3.1: Solar Photovoltaic Installation Classes

- i. **Large solar projects (1,000 - 25,000 kW) projects in Commercial and Industrial zones should be subject to Site Plan Review rather than Special Permit.** As drafted, Large II solar projects are required to receive a special permit to construct in all zones (residential, commercial, industrial, and agricultural). ELM recommends that Large II projects in commercial and industrial zones be subject to Site Plan Review instead of required to obtain a special permit. The existence of such zones in a community means a town has determined, in their bylaw, that those areas are appropriate for commercial and industrial activities like solar and storage. Amending the installation classes will incentivize solar development in zones where it will have minimal impact on surrounding areas relative to other zones, while ensuring progress towards state clean energy goals.

6.10: Abandonment or Decommissioning

- i. **Clarify that decommissioning must occur no more than 150 days after the “date of abandonment.”** As defined in section 6.10.2, a solar installation is considered abandoned if it “ceases operation for over twelve (12) months.” However, language in section 6.10.1 around decommissioning is inconsistent with this definition, which states that project owners shall remove the installation no more than 150 days after the date of “discontinued operations.” ELM recommends replacing the term “discontinued operations” with “abandonment” in section 6.10.1. Further, ELM notes that the definition of “abandonment” is defined slightly differently for BESS systems than solar systems. BESS systems are defined abandoned if they cease operations “consistently” for over twelve months. ELM recommends harmonizing the definitions of abandonment across the two bylaws.
- ii. **Require 100% surety for abandonment or decommissioning.** As drafted, Section 6.10.3 requires solar project owners to provide a surety of 125% of the estimated costs of removing the project in the event the project is abandoned and the municipality is tasked with removing the installation and remediating the landscape. ELM recommends that the surety requirement be lowered from 125% to 100% of a fully inclusive estimate.
- iii. **Prevailing wages should be used in decommissioning activities.** ELM recommends that, should a municipality have to fund decommissioning activities, that they be required to use prevailing wage rates. Such wage rates should be included in any estimated surety fee assessed on the project owner.

