



March 16, 2026

City of Goodyear  
Development Services Department  
1900 N. Civic Square  
Goodyear, AZ 85395

RE: Comments on Proposed Battery Energy Storage System Ordinance (3.5.40)

Dear Mayor, Councilmembers, Commissioners, and Staff,

The Arizona Solar Energy Industries Association (AriSEIA) appreciates the opportunity to provide comments on the proposed Battery Energy Storage System (BESS) ordinance. AriSEIA is the statewide trade association representing the solar and energy storage industries and regularly engages with Arizona jurisdictions regarding renewable energy and energy storage land use regulations. AriSEIA has previously provided comments on renewable energy and energy storage ordinances in Maricopa County and several Arizona municipalities, including Buckeye. Many of our comments have been incorporated into those ordinances to improve regulatory efficiency and ensure appropriate flexibility is provided so that commercially viable BESS projects can be move forward without redundant regulatory structures or excess costs that are often passed on to ratepayers.

Battery energy storage systems are critical electric infrastructure that improve grid reliability, support renewable energy integration, and provide resilience benefits to communities and utilities. Modern BESS facilities are subject to comprehensive national safety standards, including the National Fire Protection Association Standard for the Installation of Stationary Energy Storage Systems (NFPA 855),<sup>1</sup> the National Electrical Code (NFPA 70),<sup>2</sup> and Underwriters Laboratories certification standards such as UL 9540<sup>3</sup> and UL 9540A.<sup>4</sup> These standards govern system design, fire safety, hazard mitigation, and emergency response planning. NFPA 855 establishes nationally recognized requirements for the design, installation, and operation of stationary energy storage systems and is widely adopted by jurisdictions across the United States.

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<sup>1</sup> *NFPA 855: Standard for the Installation of Stationary Energy Storage Systems* (2023 ed.).  
<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=855>.

<sup>2</sup> *NFPA 70: National Electrical Code* (2023 ed.).  
<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=70>.

<sup>3</sup> *UL 9540: Energy Storage Systems and Equipment*.  
[https://standardscatalog.ul.com/standards/en/standard\\_9540](https://standardscatalog.ul.com/standards/en/standard_9540).

<sup>4</sup> *UL 9540A: Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems*.  
[https://standardscatalog.ul.com/standards/en/standard\\_9540A](https://standardscatalog.ul.com/standards/en/standard_9540A).

The American Clean Power Association (ACP) has also developed a model BESS ordinance<sup>5</sup> intended to guide local governments in regulating energy storage facilities while relying on established national safety frameworks rather than imposing duplicative local requirements.

AriSEIA appreciates the City of Goodyear's effort to develop a regulatory framework for battery storage facilities and to add use permissions into the zoning ordinance that permit development of this critical infrastructure. The comments below are intended to ensure that the ordinance reflects nationally recognized safety standards, aligns with regulatory approaches adopted in other Arizona jurisdictions, and avoids provisions that may unintentionally prevent appropriate siting of energy storage infrastructure.

### 1. Residential Separation Requirement

The proposed ordinance requires a minimum separation distance of 500 feet between BESS facilities and residential or sensitive uses. This separation distance significantly exceeds national norms and is inconsistent with setbacks typically adopted in jurisdictions regulating battery storage facilities. A study published by the American Planning Association reviewing BESS ordinances nationwide found that typical separation distances range between approximately 50 and 150 feet depending on system configuration and surrounding land use conditions.<sup>6</sup>

Several Arizona jurisdictions fall within this range or rely on similar engineering based standards. The Buckeye BESS ordinance requires approximately 150 feet of separation from residential uses.<sup>7</sup> Similarly, the Maricopa County renewable energy ordinance draft relies on NFPA safety standards and setback distances closer to 100 feet from property lines rather than large separation requirements.<sup>8</sup>

The City of Mesa ordinance includes a larger separation distance. However, that provision should not be viewed as a precedent for this proposal. Mesa adopted its BESS ordinance under unusual circumstances when the City had no regulatory framework in place and projects could not move forward without some form of interim ordinance. During that policy process it was acknowledged that the setback provision was not based on industry data or national best practices and that the City would likely need to revisit the ordinance in a future update. As a result, the Mesa ordinance is widely understood to be an anomalous interim policy rather than a best practice regulatory framework.

The proposed 500 foot separation requirement therefore represents a significant departure from both national planning research and the regulatory approaches adopted by other Arizona jurisdictions. A setback of that magnitude may unnecessarily eliminate otherwise appropriate industrial sites and could effectively prohibit BESS deployment in areas where industrial land is

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<sup>5</sup> *Utility-Scale Battery Energy Storage Systems Model Ordinance* (2023).

<https://cleanpower.org/resources/battery-energy-storage-system-bess-model-ordinance/>.

<sup>6</sup> American Planning Association. *Battery Energy Storage Systems in Local Zoning Ordinances*. Zoning Practice, Issue No. 3 (Mar. 2024). <https://www.planning.org/publications/document/9255100/>.

<sup>7</sup> Buckeye Zoning Ordinance § 3.2.2 — *Battery Energy Storage System Use-Specific Standards*. [https://library.municode.com/az/buckeye/codes/code\\_of\\_ordinances](https://library.municode.com/az/buckeye/codes/code_of_ordinances).

<sup>8</sup> Maricopa County Zoning Ordinance Amendments — Renewable Energy / Battery Energy Storage Systems Draft Regulations (2025). <https://www.maricopa.gov/DocumentCenter>.

located near residential zoning districts. AriSEIA recommends aligning the separation requirement with national best practices by limiting setbacks to no more than 150 feet and measuring setbacks from BESS equipment rather than from the project boundary.

## 2. Extensive Technical Study Requirements

The ordinance requires numerous technical studies, including plume modeling, toxic gas dispersion analysis, environmental hazard analysis, groundwater contamination modeling, and extreme weather scenario modeling. These requirements exceed the regulatory frameworks typically applied to comparable energy infrastructure and may create unnecessary cost and permitting barriers for projects.

Modern BESS facilities already undergo extensive safety certification through UL 9540 and UL 9540A testing and must comply with NFPA 855 requirements addressing system design, fire safety, hazard mitigation, and emergency response planning. NFPA 855 provides comprehensive requirements governing system design, commissioning, hazard mitigation analysis, emergency response planning, and operational safety.<sup>9</sup>

The American Clean Power Association Model BESS Ordinance specifically recommends that local governments rely on NFPA 855 compliance as the primary safety benchmark rather than requiring additional technical studies beyond nationally recognized safety standards. AriSEIA recommends that the ordinance rely on compliance with NFPA 855, UL 9540, and UL 9540A testing requirements rather than imposing additional technical study requirements that are not widely adopted in other jurisdictions.

In addition, the draft ordinance pushes many of the technical study requirements to the time of SUP application, which is much earlier than NFPA typically requires them. Generally, NFPA requires technical studies to be performed at the time of building permit application when more information is known about design and technology procurement. For this reason, technical studies pursuant to NFPA and preliminary emergency plans should be required at the time of building permit application, not zoning approval.

## 3. Mandatory Undergrounding of Electrical Infrastructure

The ordinance requires BESS developers to bear the full cost of undergrounding adjacent or nearby electrical infrastructure as determined by the Development Services Department. This requirement introduces uncertainty and may impose costs outside the control of project developers.

Electrical interconnection infrastructure is typically owned and controlled by the applicable utility provider and must be designed in accordance with utility engineering standards and state regulatory requirements. Local zoning ordinances generally do not require developers to modify infrastructure that is owned or controlled by utilities or other third parties. The Arizona Corporation Commission has likewise recognized the substantial cost implications of

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<sup>9</sup> See National Fire Protection Association, NFPA 855: Standard for the Installation of Stationary Energy Storage Systems §§ 4.1, 4.2, 4.3, 9.1–9.6 (2023 ed.).

undergrounding electrical infrastructure and has adopted a policy statement addressing underground transmission lines and cost allocation.<sup>10</sup> The Commission emphasized that undergrounding decisions primarily involve cost allocation considerations and that requiring undergrounding can substantially increase infrastructure costs.

AriSEIA recommends clarifying that electrical infrastructure requirements associated with BESS projects will be determined through the utility interconnection process rather than through discretionary municipal requirements.

#### 4. Screening Requirements

The ordinance requires BESS modules and substations to be fully screened with opaque barriers sufficient to conceal all equipment from public view with a specific height requirement to be over and above any structure on site. While screening may be appropriate in certain contexts, rigid screening requirements may impose unnecessary costs and may not be appropriate for projects located in industrial or remote areas.

Other jurisdictions have adopted more flexible approaches that allow screening requirements to be tailored to site conditions and surrounding land uses. The Buckeye BESS ordinance, for example, allows flexibility in screening design based on site context. AriSEIA recommends allowing administrative flexibility for screening requirements and permitting alternative screening approaches where visual impacts are minimal.

In particular, the draft ordinance's screen height requirements are overly burdensome and unnecessary. Often the utilities purchasing the power have their own screening requirements that could conflict with local ordinance requirements, so flexibility is important in this regard. Eight to ten foot heights are often sufficient. In addition, components of on-site substations can reach up to 30' in height, and a requirement for a screen wall to exceed that height is untenable. Such untenable screen height requirements are not applied to other uses.

#### 5. Public Art Requirement

The ordinance requires the installation of at least one public art element at each BESS facility. That requirement appears to be anomalous to BESS and does not reflect how other jurisdictions regulate battery storage or other forms of energy infrastructure. AriSEIA is not aware of comparable public art mandates imposed specifically on BESS facilities in other Arizona jurisdictions, including in the City of Buckeye or Maricopa County.

Public art requirements are generally associated with urban commercial, mixed-use, civic, or large residential development where members of the public regularly access and interact with the built environment. By contrast, BESS facilities are functional utility infrastructure. They are typically regulated through standards addressing safety, setbacks, screening, lighting, noise,

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<sup>10</sup> See Arizona Corporation Commission, *Policy Statement Regarding Undergrounding of Electric Transmission Lines*, Docket No. ALS-00000A-22-0320 (Oct. 2023).  
<https://docket.images.azcc.gov/0000209995.pdf?i=1773425880820>.

access, and emergency response rather than through project-specific aesthetic mandates such as public art.

The same is true for other energy infrastructure. AriSEIA is not aware of public art mandates that are uniquely imposed on substations, transmission facilities, pipelines, or other comparable utility uses. If the City does not require public art for other utility or industrial infrastructure, there is no apparent land use basis for singling out BESS for a requirement of that kind.

This requirement does not address land use impacts related to BESS facilities and may increase project costs without improving safety or compatibility with surrounding land uses. If the City determines that additional aesthetic treatment is warranted in certain locations, those concerns can be addressed through screening, landscaping, or other neutral design standards applied consistently across comparable land use types rather than through a requirement unique to BESS. AriSEIA recommends removing the public art requirement from the ordinance.

#### 6. Definition of Battery Energy Storage System

The proposed definition of BESS may inadvertently capture distributed or behind the meter storage systems installed by residential, commercial, or industrial customers. Distributed energy storage systems primarily serving on site load operate under different regulatory frameworks and serve different purposes than utility scale BESS facilities designed to participate in wholesale electricity markets or provide grid services.

The ordinance should clearly limit applicability to utility scale BESS facilities and explicitly exempt residential, commercial, and industrial storage systems installed behind the customer meter.

#### 7. Lack of Alternative Compliance or Waiver Provision

The ordinance currently states that development standards may not be modified. While regulatory certainty is important, the absence of a waiver or alternative compliance provision removes flexibility for site specific engineering solutions that could provide equivalent or superior safety outcomes.

Many jurisdictions include waiver provisions allowing applicants to demonstrate that alternative designs provide equivalent safety performance through engineering analysis. AriSEIA recommends adding a similar alternative compliance provision to the Goodyear ordinance.

#### 8. Airport Hazard Analysis Requirements

The ordinance requires plume modeling and toxic gas dispersion analysis for facilities located near airports. Federal Aviation Administration regulations already govern development near airports and include review processes for potential aviation hazards. Requiring additional municipal studies may duplicate existing federal oversight processes and create unnecessary regulatory complexity.

## 9. Noise Monitoring Requirements

The ordinance requires baseline sound studies, post construction verification studies, and annual monitoring for five years. While noise monitoring may be appropriate in certain circumstances, annual studies are not typically required for other types of energy infrastructure. AriSEIA recommends limiting noise monitoring requirements to baseline analysis and post construction verification rather than ongoing annual studies.

## 10. Augmentation Restrictions

Battery storage systems frequently undergo augmentation during their operating life as battery modules are replaced or upgraded. The ordinance requires City Council approval for certain augmentation activities. Routine augmentation that occurs within the approved project footprint and safety parameters should be allowed through administrative review rather than requiring legislative approval.

## 11. Solar Plus Storage Facilities

The ordinance does not clearly address whether BESS may be installed as an accessory use to approved solar energy facilities. Storage systems are commonly paired with solar generation and are often an integral part of project design.

Battery energy storage systems are frequently co-located with solar generation facilities and are often designed as integrated projects that share electrical infrastructure, interconnection facilities, and site access. Because energy storage is commonly an operational component of solar facilities, many jurisdictions allow battery storage as an accessory use to approved solar projects rather than requiring a separate conditional use permit.

Clarifying that BESS may be installed as an accessory use to approved solar facilities would provide regulatory certainty and ensure that solar-plus-storage projects can be developed efficiently without creating unnecessary procedural barriers.

## 12. Zoning Districts

Requiring underlying industrial zoning for BESS projects is impractical and has unintended consequences. Many jurisdictions allow BESS in rural or agricultural zoning districts, in addition to PADs. If a remote BESS site is rezoned to an industrial district, then upon project completion in approximately 30 years, the City could be left with industrially zoned land in a remote location that is incompatible with the surrounding area. The SUP process is in place to allow the City to evaluate each location, and an additional rezoning application should not be required. Further, it is unclear if this industrial zoning requirement would apply to BESS that is accessory to a solar project, which would pose even further unnecessary complications.

## 13. Human Machine Interface Requirements

Human machine interface technology should not be required as part of the zoning ordinance. BESS operators have various options to ensure timely notification and operational capability in the event of an incident, which may be provided as part of preliminary emergency response planning at the appropriate time. Human machine interface technology can pose network security issues, and adds costs and complexity when more efficient alternatives are available.

#### 14. Regulatory Reference

Section D.2.g references “CFC.” This appears to be an inadvertent reference to the California Fire Code, which should be removed.

#### Conclusion

Battery energy storage systems are an increasingly important component of modern electric infrastructure. When designed and operated in accordance with national standards such as NFPA 855 and UL 9540, these systems provide reliable, safe, and flexible energy storage that enhances grid resilience and supports economic development.

AriSEIA appreciates the City of Goodyear’s efforts to develop a regulatory framework for BESS facilities and encourages the City to align the ordinance with nationally recognized safety standards and regulatory approaches adopted by peer jurisdictions in Arizona. AriSEIA looks forward to continuing to work with the City to ensure that the final ordinance protects public safety while allowing responsible deployment of energy storage infrastructure.

Respectfully,  
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