

Battery Energy Storage Systems (BESS)

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Mary Kopaskie-Brown, Planning Director
John Sheffer, Building Official

Shawn Alexander, Fire Marshal
Rachel Phillips, Assistant Planning Director





Background

- Battery Energy Storage System (BESS) and BESS Facilities are not defined uses within the Mesa Zoning Ordinance (MZO)
- BESS are electrochemical devices that:
 - Charge or collect energy from the grid or generation facility
 - Store that energy so that it can be discharged later
 - Provide electricity or other grid services
- BESS includes battery cells; thermal, battery, and energy management systems; inverters; and related control and safety components
- BESS Facilities are the physical sites that store BESS and all associated equipment and infrastructure

Background

- BESS and BESS Facilities are an emerging and increasingly prominent land use
 - Provide grid stability by storing excess power for use during peak demand periods, outages, or emergencies
- They have unique public health and safety considerations, including but not limited to:
 - Fire and explosion risk
 - Electric shock hazard
 - Environmental impacts if improperly managed or disposed of
 - Emergency response challenges





Purpose

- City of Mesa's Planning Division, Building Division, Fire & Medical, and Energy Resources Department are proposing Zoning and Fire Code amendments to:
 - Mitigate potential health, safety, and environmental impacts
 - Ensure land use compatibility and appropriate siting of BESS and BESS Facilities
 - Ensure high-quality design and address visual impacts
 - Support electric capacity and economic development in the city



Proposed MZO Amendments

- Create land use definitions for BESS and BESS Facility
- Establish criteria for BESS and BESS Facility as either a principal or accessory use:
 - Principal Use - Nameplate capacity $\geq 1,000$ kilowatts
 - Accessory Use - Nameplate capacity $\leq 1,000$ kilowatts and exclusively serves the subject property
- Principal use permitted in the GI and HI Districts with approval of a Planned Area Development (PAD) Overlay District
 - Must comply with all BESS and BESS Facility standards
- Accessory use permitted in Agricultural, Residential, Commercial, Employment, and Downtown Districts
 - Does not have to comply with BESS and BESS Facilities standards



Proposed MZO Amendments

Additional Application Requirements

- Operational Plan which includes:
 - Compliance Statement - evidence of compliance with all applicable zoning, building, fire, and federal, state and local environmental laws
 - Preliminary Emergency Response Plan - procedures for safe shutdown, de-energizing, or isolation of equipment and systems under emergency conditions
 - Preliminary Decommissioning Plan - steps required for the complete physical removal of all BESS components
- Good Neighbor Policy - compliant response procedures
- Initial Sound Study - establish baseline levels at nearest residential zoning district, residential use, church, park, school, or other sensitive use

Proposed MZO Amendments

Development Standards

- Separation Requirements
 - 400 ft. from residential zoning district and uses, churches, parks, school, and other sensitive uses
 - 150 ft. from commercial or industrial buildings
- Underground Utilities – if deemed necessary by the Development Services Department or the utility provider
- Site Screening
 - 1-ft above tallest piece of equipment
 - Opaque wall or fence with high quality materials
 - Articulated every 40 ft. with an offset or landscape pocket





Proposed MZO Amendments

- Substation Screening
 - 1-ft above the tallest piece of ground-mounted equipment
 - Opaque wall that matches the site wall
 - When 10-ft. tall or less - articulated every 40 ft. with an offset or landscape pocket
 - When greater than 10-ft. tall, consist of:
 - A 10-ft. masonry wall that matches the site wall; and
 - A decorate louvre, slated, or perforated upper screen, no more than 75% opaque, mounted on the masonry wall
 - When located internal to the site
 - Combination of 10-ft. masonry wall and louvres, slats, etc.; or
 - Fully decorate louvre, slated, or perforated screen



Proposed MZO Amendments

Operational Requirements

- On-Going Sound Studies
 - Within 30-days of receiving a Certificate of Occupancy
 - Annual Sound Study for 5 years thereafter
- Ownership or Operator Changes
 - Must notify the Development Services Department within 30 days
 - Approval remains in effect – new owner/operator assume all obligations
- Augmentation permitted if it complies with the approved Site Plan and Phasing Plan
 - Site Plan Modification or modification to phasing plan follows procedures in Ch. 69: Site Plan Review
 - Increase in Nameplate Capacity requires City Council approval



Proposed Fire Code Amendments

- BESS Equipment Location
 - Minimum 100 ft. from internal property lines buildings, public ways, and other hazards
- Fire Access
 - Battery arrays: Maximum 300 ft. in length or depth
 - Arrays over 150 ft. in length or depth: 26 ft. access road on one side
 - 10 ft. between each BESS
- Permit Requirements
 - Augmentation Plan
 - Decommissioning Plan

Questions?





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