Bonnie Helms

RE: Formal Scoping Comments – PEIS for Battery Energy Storage Systems (BESS)

To the Clean Energy Coordination Team/Washington State Department of Ecology

Please accept these formal scoping comments regarding the development of the statewide BESS PEIS siting rules and code frameworks must not rely on the flawed precedent of municipal DNS for nonproject actions. As documented in municipal SEPA reviews, nonproject zoning and code updates directly dictate the siting, scale, and long-term prevalence of volatile infrastructure across Washington. Characterizing these updates as nonproject actions to evade strict impact reviews creates profound analytical gaps that violate SEPA.

To ensure future project-level reviews across Washington are legally defensible and supported by substantial evidence, the Department of Ecology must utilize this PEIS to mandate a comprehensive SEPA review that explicitly rejects generalized industry claims and incorporates the following 15 core structural, technical, and data-reporting constraints:

1. Rejection of Presumed Future Regulatory Compliance

• Analysis Requested: The PEIS must reject any code frameworks that rely on the assumption that compliance with federal, state, and local regulations is "presumed" and that noncompliance can simply be managed by post-approval enforcement. Reliance on WAC 51-54A-1207 and NFPA 855 focuses strictly on isolated system design and immediate fire containment; it completely fails to evaluate the external environmental consequences of a facility-wide BESS failure, including toxic atmospheric migration, environmental deposition, and off-site human exposure. Presuming compliance with codes that do not evaluate these pathways does not substitute for actual environmental analysis.

2. Distinction Between Fire Behavior Containment and Acceptance of Impact

• Analysis Requested: The PEIS must recognize that mandatory large-scale fire testing (such as UL 9540A frameworks) evaluates whether a fire can be physically contained—not whether the environmental consequences of that fire are acceptable. The existing code framework permits systems to vent immense columns of hazardous gas, allows active fires to burn uncontrollably under "controlled burn" strategies, and manages thermal events through containment rather than prevention. Testing standards do not evaluate toxic gas generation, emission durations, or off-site transport and environmental deposition. Siting rules must address whether the external impacts of a managed burn are acceptable at the proposed location.

3. Inclusion of Failure-Related Emissions, Venting, and Plume Behavior

• Analysis Requested: Siting reviews must mandate site-specific atmospheric plume modeling and dispersion analysis. Siting checklists routinely omit emissions associated with BESS failure events, focusing exclusively on normal operations or construction dust. Because modern lithium-ion and Lithium Iron Phosphate (LFP) installations are structurally engineered to vent highly toxic gases under thermal runaway and failure conditions, the PEIS must mandate consequence modeling for

the atmospheric transport and downwind fallout of these anticipated, catastrophic system behaviors to protect homes, schools, and transit corridors.

4. Prohibition of Post-Approval Hazard Mitigation Analysis (HMA) Deferral

• Analysis Requested: The PEIS must explicitly prohibit the "improper deferral" trap of approving project sites or municipal codes before critical safety reviews occur. Siting frameworks must require that the Hazard Mitigation Analysis (HMA) and site-specific Emergency Response Plans be completed, publicly disclosed, and formally evaluated prior to conditional land-use authorization. Allowing developers to complete core safety and risk evaluations post-approval forces decision-makers to conduct environmental reviews without knowing the actual system-specific risk profile, rendering the resulting safety determinations arbitrary and capricious.

5. Comprehensive Evaluation of Compound and Cascading Multi-Unit Failures

• Analysis Requested: Siting and risk reviews must model compound, real-world failure states rather than discrete, single failure modes. Documented battery storage failures demonstrate that modern incidents routinely involve cascading multi-unit propagation, violent chemical interactions between fire suppression systems and thermal runaway cells, and extended-duration events characterized by toxic off-gassing and sudden re-ignition weeks after initial containment.

6. Resolution of Ambiguity Between "Normal" and "Abnormal" States

• Analysis Requested: The PEIS must establish strict, non-ambiguous definitions for operational states. Relying on code frameworks that exempt standard operating or idle states from strict safety buffers creates severe vulnerabilities. Empirical data proves that catastrophic real-world battery failures frequently initiate during standard operating states, including idle and standby conditions, meaning failure pathways must be evaluated across all lifecycle states.

7. Evaluation of Passive Containment and Controlled Burn Consequences

• Analysis Requested: Siting codes must explicitly evaluate the environmental trade-offs of active versus passive fire management. Current code provisions do not mandate active fire suppression systems, allowing developers to deploy designs relying entirely on passive containment or controlled burns. The PEIS must model the severe environmental consequences of these design choices, specifically analyzing the extreme increase in fire durations and the immense cumulative volume of unmitigated toxic emissions released into the atmosphere during a prolonged passive burn.

8. Water and Groundwater Contamination Analysis Under Failure Conditions

• Analysis Requested: Siting rules must mandate self-contained, impervious secondary engineering containment basins and automated containment valves. Standard stormwater regulations are structurally incapable of handling the toxic byproducts of a battery disaster. When emergency responders apply millions of gallons of water to cool a burning installation, the resulting runoff carries heavy metals and corrosive hydrofluoric acid. Siting reviews must evaluate the volume and chemical composition of this contaminated runoff, its transport through local soils, and its long-term impact on critical groundwater tables and salmon-bearing aquatic ecosystems.

9. Internal Consistency and Regional Burden in Emergency Response Analysis

• Analysis Requested: Siting frameworks must eliminate the internal inconsistency of claiming a BESS project will not generate a demand for special emergency services while simultaneously acknowledging that BESS failures must be treated as complex, multi-agency hazardous materials incidents. The PEIS must model the real-world operational strains of a BESS failure, documenting how a single localized fire requires specialized regional Hazmat capabilities, specialized PPE, and the prolonged on-site deployment of local fire district resources to monitor for sudden re-ignition.

10. Meaningful Pre-Approval Evaluation of Critical Areas

• Analysis Requested: Siting maps must actively restrict utility-scale battery installations from being placed within sensitive environmental features. Deferring to future project-level compliance does not fulfill SEPA's mandate to protect critical areas. The PEIS must evaluate whether broad siting ordinances adequately shield Critical Aquifer Recharge Areas (CARAs), geologically hazardous zones, wetlands, and sensitive wildlife habitats from toxic fallout before any project boundaries are established.

11. Siting Boundaries, Judicial Limits, and More Protective Alternatives

• The Sumner/Auburn Precedents: Siting rules must formally adopt more protective regulatory choices, recognizing that the severe environmental impacts of battery infrastructure are entirely dependent on the stringency of the adopted framework. The PEIS must look to existing Washington municipal precedents, specifically City of Sumner Ordinance No. 2899, which mandates that grid-scale BESS facilities require a Conditional Use Permit (CUP) and are strictly prohibited within 1,000 feet of residential zones due to heightened fire hazards and environmental contamination risks. Furthermore, in alignment with SMC 18.04.1065 and City of Auburn Supplemental Development Standards (ACC 18.31.240), the PEIS must require standalone utility facilities to be restricted to industrial zones, provide secondary emergency vehicle access (EVA) routes, enforce strict noise decibel limits, and require fully funded 125% decommissioning bonds to protect municipalities from abandonment liability.

• Zoning Codes Must Be Strictly Construed: Siting models within the PEIS must respect established Washington judicial limits governing administrative authority. Administrative bodies and hearing examiners are prohibited from expanding or reinterpreting code categories beyond their plain terms (Zenner v. Dubuque County). Siting frameworks must be anchored to the rule that agencies may not "read into" an ordinance provisions that do not exist (Kilburn v. City of Bellevue), that zoning codes must be strictly construed (City of Seattle v. Crispin), and that administrative bodies cannot expand their authority beyond that granted by clear statutory law (Postema v. Pollution Control Hearings Board).

12. Local-Serving Use Restrictions and Compatibility Modeling

• Analysis Requested: The PEIS must explicitly evaluate whether a proposed facility serves a defined local community need or a purely regional industrial purpose. In alignment with Washington local subarea planning guidelines, the PEIS must mandate that facilities sited near rural commercial centers or residential areas demonstrate functional and visual compatibility with local

rural character. Siting frameworks must reject the arbitrary rationale that grid connection automatically equates to "serving the local community." Siting models must mandate comprehensive, site-specific compatibility analyses supported by substantial record evidence—evaluating noise, visual buffers, and emergency staging parameters—rather than relying on generalized, boilerplate mitigation measures.

13. Critical Evaluation of Exploding Denominators, Baseline Biases, and 2026 Omissions

• The Denominator Distortion: Siting rules must reject industry-standard failure-rate graphs (such as the EPRI database charts) that divide reported failures by cumulative deployed Gigawatt-hours (GWh). When cumulative global deployment explodes exponentially, the failure rate per GWh mathematically plummets even if the actual number of individual facility fires rises or remains stubbornly persistent year after year. A global denominator creates an optical illusion of safety that fails to answer localized, site-specific community risks.

• The 33 Proprietary Incidents and OOBBBA PFE Supply Chain Crisis: Siting rules must not be built on data hidden from public examination. The state cannot declare that BESS transparency is improving while simultaneously asking the public to trust an analytical database containing 33 non-public incidents hidden from view. Siting rules must be evaluated against the profound regulatory and supply-chain realities introduced under the One Big Beautiful Bill Act (OBBBA) enacted on July 4, 2025. The OBBBA implemented highly complex, Foreign Entity of Concern (FEOC / PFE) rules, detailed in IRS Notice 2026-15, forcing developers seeking Section 48E commercial investment tax credits to calculate a strict Material Assistance Cost Ratio (MACR). Because foreign entities dominate the global processing of battery-grade lithium, graphite, and cobalt, standalone storage technology starting construction in 2026 must satisfy a minimum 55% non-PFE manufactured component cost threshold (escalating to 75% by 2030) or face total credit disallowance. Siting frameworks must evaluate how these extreme supply chain pressures and unresolved audit definitions create severe project volatility, delivery defaults, and data verification gaps across the state.

• The Chronological 2026 Failure Record: The distinction between incidents contained within an industry database and incidents occurring in the real world matters. Independent multilingual research utilizing local-language media, emergency response reports, and utility announcements reveals that industry-standard databases systematically omit a major ongoing pattern of verified stationary lithium BESS fires. To establish a legally defensible baseline under SEPA, the PEIS must evaluate and account for the following real-world 2026 BESS failure events:

• January 20, 2026 (Roodepoort, South South Africa): Fire involving a containerized lithium BESS integrated with solar.
• January 21, 2026 (San Marcos, CA): Fire in a containerized lithium BESS integrated at a commercial EV charging station.
• February 19, 2026 (Taebaek, South Korea): Frictional structural fire in a dedicated BESS battery room co-located with a solar array.
• March 16, 2026 (Valley Center, CA): Deflagration and fire in a grid-scale containerized lithium BESS.
• March 28, 2026 (Brekuso, Ghana): Complete failure and fire of a containerized lithium BESS paired with solar infrastructure.
• May 1, 2026 (Rainworth, UK): Thermal runaway event in a stacked NMC lithium battery energy

storage facility.
• May 7, 2026 (Czajków, Poland): Structural containment fire in a containerized lithium BESS facility.
• May 14, 2026 (Nová Paka, Czech Republic): Siting failure resulting in a containerized lithium BESS thermal runaway fire.
• May 26, 2026 (Iririki Island, Vanuatu): Catastrophic lithium BESS fire in a dedicated utility building paired with solar arrays.
• June 12, 2026 (Shenzhen, China): Grid-scale containerized lithium BESS thermal runaway and failure.
• June 22, 2026 (Exeter, UK): Major failure resulting in a containerized lithium BESS fire.
• July 21, 2026 (Bautzen, Germany): Thermal runaway and structural containment failure of a containerized lithium BESS.
• August 4, 2026 (Douglas, Massachusetts): High-voltage containerized lithium battery energy storage system fire.
• August 26, 2026 (Buzau County, Romania): Containment breach and fire involving a containerized lithium BESS.
• September 7–21, 2026 (Summerside, Prince Edward Island, Canada): A massive, facility-wide thermal runaway event at the municipally owned Sunbank 20-MWh storage installation. The volatile chemical cells burned, smoldered, and flared uncontrollably for 14 straight days, physically resisting traditional water suppression. The incident forced localized shelter-in-place orders, a 500-meter voluntary evacuation perimeter, and localized emergency school closures due to toxic particulate plume exposure.
• September 18, 2026 (Moss Landing, CA): Re-ignition and fire at one of the world's largest lithium storage structures, where roughly 1,500 fully charged battery modules surviving a prior blaze spontaneously combusted during cleanup, prompting multi-agency evacuations, highway closures, and local shelter-in-place orders.
• September 22, 2026 (La Verne, CA): Severe BESS container explosion at a Southern California water treatment plant that blew the heavy steel doors entirely off the vault, creating an unstoppable thermal runaway cascade that completely breached and ignited a second adjacent BESS container overnight, resulting in multi-day regional hazardous material enforcement, a state of emergency declaration, the emergency closure of Grace Miller Elementary, and the evacuation of 500 nearby homes.

Because the industry's primary database excludes clearly identifiable stationary systems, the PEIS cannot treat it as an authoritative global count, and must assume real-world fire occurrence is underreported.

14. Material Sourcing, Transport Hazards, and Chemistry Alternatives

• The Myth of LFP Safety vs. Available Alternatives: Siting standards within the PEIS must reject the industry marketing narrative that Lithium Iron Phosphate (LFP) chemistry eliminates safety risks. Peer-reviewed adiabatic testing demonstrates that while LFP cathodes offer a threshold buffer over traditional NMC cells, LFP thermal runaway severity escalates aggressively with a high State of Charge (SOC), triggering massive, sustained heat generation rates up to 953.2°C/min. The PEIS must analyze alternative, inherently stable technologies—such as UL-listed sodium-ion batteries (e.g., Natron Energy architectures), zinc-based chemistries, iron-air systems, gravity batteries, or small-scale nuclear options—which physically cannot undergo thermal runaway.

• Corridor Transit Hazards: The PEIS must explicitly study and account for recent critical logistics failures across transit corridors, including the Interstate 90 battery transport fire in Issaquah, WA, the Interstate 15 lithium battery transport fire near Barstow, CA (which forced an absolute highway closure), and the Genius Star XI ocean transport failure offshore Alaska, where an industrial vessel carrying lithium-ion batteries suffered a massive hold fire that forced an extended offshore isolation zone to protect fisheries and local public health.

15. Hydrological Conduits, EFSEC Jurisdiction, and Macroeconomic Supply Shifting

• The Open-Excavation Fallout Pathway: Siting reviews must map and mandate analysis of specific contaminant pathways—such as thermal-runaway plume deposition and toxic firewater runoff dropping directly into open excavations, pits, or quarries that serve as direct vertical conduits straight to shallow groundwater tables within Category I Critical Aquifer Recharge Areas (CARAs). This must be cross-analyzed with post-incident research frameworks—such as the San Jose State University Moss Landing Marine Laboratories EMBER study—to evaluate how heavy metals (nickel, manganese, cobalt) released during a fire migrate via stormwater runoff into porewater, soils, and salmon-bearing aquatic ecosystems.

• Erosion of Local Authority via EFSEC and Loper Bright: The PEIS must address the profound institutional shift created by independent state authorities (such as EFSEC), deliberately designed to streamline state-selected energy projects by overriding local city codes, county comprehensive plans, and tribal treaty-reserved rights. This centralization has repeatedly disregarded vital local protections, mirroring the Yakama Nation's formal objections regarding the desecration of cultural landscapes in the Horse Heaven Hills project, and the sweeping opposition to the Goldeneye BESS project by the Sedro-Woolley City Council, Skagit County Commissioners, and the Upper Skagit Indian Tribe to protect the sensitive Hansen Creek salmon recovery watershed. Siting rules must be re-anchored to robust local determination, particularly given the U.S. Supreme Court's landmark ruling overturning Chevron deference in Loper Bright Enterprises v. Raimondo. Federal courts will no longer defer to broad, ambiguous administrative rules on environmental and climate policies; consequently, the state cannot shield developers under arbitrary public utility classifications, and must allow local jurisdictions to enforce strict home-rule protections to preserve the health, safety, and water security of Washington communities.

• The EV Supply-Overcapacity Dump and Consolidated AI Drivers: The PEIS must mandate a complete evaluation of the supply-side market distortion forcing the mass deployment of BESS projects across rural Washington. Siting trends demonstrate that this rapid expansion is not a response to local community utility demand, but rather a speculative capital redirection. Due to the termination of consumer residential EV credits under the OBBBA, global automakers and battery suppliers are experiencing catastrophic manufacturing overcapacity and multi-billion dollar program write-downs (such as Ford's $8.5 billion EV program rationalization and F-150 Lightning production freezes). Consequently, suppliers (such as LG Energy Solution) are aggressively redirecting excess EV-era battery manufacturing capacity into the stationary storage market to artificially maximize the utilization of existing factory lines. This manufacturing oversupply has triggered intense pricing compression, causing stationary pack prices to plummet 45% year-over-year (dropping imported Chinese systems to ~$95/kWh before tariffs). Private developers are weaponizing these cheap, imported overcapacity battery inventories, alongside the protected commercial tax equity of Section 48E, to build high-risk lithium installations en masse across Washington—principally to feed the unmitigated, skyrocketing infrastructure demands of corporate

Artificial Intelligence (AI) data centers. Siting codes must explicitly require clear demonstration of direct local public demand to ensure Washington municipalities do not act as uncompensated hazard-containment zones for private data-center arbitrage at the expense of local public safety, critical habitat, and municipal groundwater—a threat exponentially amplified by massive utility consolidation, such as the proposed $67 billion NextEra Energy and Dominion merger, which is deliberately scaling a 130+ GW "large load pipeline" that treats local communities and sensitive ecosystems as mere sacrifice zones for centralized energy infrastructure.

The honest takeaway is not to "trust the graph." A global failure-rate line is not a fire protection plan, it is not proof of adequate setbacks, and it is not proof of local fire department readiness. Washington communities deserve rigorous, project-specific safety and environmental reviews before any facilities are approved.

Respectfully submitted,
Bonnie Helms