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October 1, 2026

Clean Energy Coordination
Washington State Department of Ecology
PO Box 47709
Olympia, WA 98504-4709

Re: Scoping Comments on the Battery Energy Storage System Facilities Programmatic Environmental Impact Statement (Publication 26-06-017)

Dear Clean Energy Coordination Team,

The rapid proliferation of utility-scale lithium-ion BESS proposals necessitates a rigorous, impartial, and scientifically grounded analysis of the significant adverse environmental impacts these facilities pose, particularly when sited near sensitive receptors.

This PEIS is especially critical in light of the proposed Cascadia Ridge Resiliency Energy Storage project by Jupiter Power LLC, a Texas-based company. This project would place an approximately 130 MW utility-scale lithium-ion BESS on a ~45-acre parcel of unincorporated King County land south of Fisher Creek Park, directly adjacent to the City of Snoqualmie and in close proximity to Cascade View Elementary School, residential neighborhoods, and agricultural lands. Jupiter Power has announced its intention to seek approval through the state Energy Facility Site Evaluation Council (EFSEC), bypassing local King County land use authority and underscoring the vital importance of robust statewide standards established by this PEIS.

Local concerns are already significant. The Snoqualmie Valley School District Board of Directors has formally called for an expanded environmental review of the Cascadia Ridge project, citing profound concerns for student safety and emergency preparedness. These concerns are echoed in Ecology's own scoping document, which acknowledges that stand-alone BESS "could be sited in a variety of locations," including near cities—a stark contrast to the previous solar and wind PEISs, which studied facilities "not likely to be located in or near cities." The scoping document rightly identifies public concerns raised about "adequate training and equipment for local responders, the difficulty of extinguishing fires, risks of hazardous air emissions, impacts to water and fish, and cleanup."

This letter outlines critical environmental, health, and safety factors that must be comprehensively evaluated in the PEIS.

1. Thermal Runaway Fire Risks and Toxic Contamination

Lithium-ion BESS facilities present a unique and severe fire risk profile characterized by thermal runaway—a self-propagating, exothermic chain reaction where internal heat generation exceeds dissipation, causing cascading cell failure. Once initiated, this "domino effect" can spread to adjacent cells and modules, often resulting in intense, high-temperature fires that can burn for days and resist conventional extinguishment methods.

1A. Fire Behavior and Toxic Gas Emissions
The Klickitat County Utility-Scale BESS Report (May 2025) correctly summarizes the danger: "Fumes from a BESS fire contain hazardous chemicals that are toxic and dangerous resulting in necessary evacuation procedures for the surrounding neighborhood... Potentially hazardous chemicals released during the fire can pollute the water used to fight it and contaminate the surrounding soil or groundwater as it absorbs the runoff."

A primary chemical of concern is hydrogen fluoride (HF), a highly toxic gas. According to a Massachusetts state toxicology report, "The release of hydrogen fluoride from a Li-ion battery fire can therefore be a severe risk..." Upon contact with moisture in the eyes, skin, or lungs, HF forms hydrofluoric acid, an extremely corrosive substance that can cause deep tissue burns, bone damage, systemic toxicity (hypocalcemia), cardiac arrhythmia, and death. Civilians, and particularly children at nearby schools, have no protective equipment against such an exposure. The 2024 Otay Mesa fire in San Diego, which burned for 11 days, serves as a grim example; Cal Fire reported that lethal amounts of hydrogen cyanide were detected in the air within three hours of ignition.

PEIS Requirement: The PEIS must model the atmospheric dispersion of toxic gases—including hydrogen fluoride, hydrogen cyanide, and heavy metal particulates—from a catastrophic thermal runaway fire. These models must account for worst-case meteorological conditions, such as the temperature inversions common in the Snoqualmie Valley, which trap pollutants near ground level and can significantly expand the area of public health impact.

1B. Soil and Groundwater Contamination from Firefighting Runoff
The aftermath of a BESS fire presents a significant environmental contamination risk. Recent scientific evidence from the January 2025 Moss Landing BESS fire in California confirms this threat. Researchers from Moss Landing Marine Laboratories detected elevated levels of nickel, cobalt, and manganese in Elkhorn Slough soils following the fire. Their study estimated that approximately 25 metric tons (55,000 pounds) of heavy metals were deposited across roughly half a square mile of wetland. Critically, while surface concentrations dropped after rain events washed the toxic dust away, the researchers concluded that "the metals did not disappear," implying migration into the broader ecosystem. A separate study by the University of California Agriculture and Natural Resources evaluated the deposition of cobalt, copper, nickel, and manganese in agricultural fields, underscoring the direct threat to food production.

The Snoqualmie area's hydrogeology makes it exceptionally vulnerable. The area has two distinct aquifer systems: a shallow, unconfined aquifer in the Tokul Creek alluvial fan at depths of less than 35 feet, and a deeper aquifer at 70-170 feet. Many residents in the area rely on private wells for their drinking water.

PEIS Requirement: The PEIS must rigorously analyze the contaminant transport pathways of fire-suppression water and dissolved heavy metals from a BESS site to local groundwater, private wells, and fish-bearing streams. This analysis must account for local soil permeability, infiltration rates, and aquifer characteristics.

1C. Air Quality Impacts
The Snoqualmie Comprehensive Plan notes that "Snoqualmie is relatively free from air pollution" due to its rural setting. A BESS fire would represent an acute and catastrophic degradation of this

air quality baseline, releasing a toxic plume of particulates and hazardous gases into the community.

PEIS Requirement: The PEIS must analyze how a BESS fire would degrade local air quality, particularly under valley inversion conditions that concentrate pollutants.

1D. Failure Rate Data Limitations
Industry assurances of BESS safety often rely on flawed and incomplete data. As documented in NIST Technical Note 2365 (March 2026), "Understanding the Risk of Lithium-Ion Battery Fires," the primary incident databases (UL, Tesla, EPRI) are "built on a deeply flawed foundation" because they are compiled from media reports and other public documents rather than systematic, mandatory incident reporting. The EPRI BESS Failure Incident Database methodology explicitly states this reliance on public sources. Furthermore, 72 of the 164 incidents in the EPRI database lack a MWh value, the key parameter for calculating a meaningful failure rate based on stored energy (GWh), not simply power flow (GW).

PEIS Requirement: The PEIS must reject reliance on industry-funded or media-derived incident data. It must disclose the funding source of all datasets used, demand independent safety data, and require as mitigation compliance with the most recent safety standards (e.g., UL 9540A, NFPA 855), regardless of state adoption status.

2. Siting, Proximity, and Compounded Hazards

The core issue is that BESS facilities are industrial-scale chemical installations with inherent catastrophic failure modes, yet they are being proposed in and adjacent to residential, recreational, agricultural, and environmentally sensitive areas.

2A. Proximity to Sensitive Receptors
The proposed Cascadia Ridge site is a textbook example of inappropriate siting, located near Cascade View Elementary School, established residential neighborhoods (Snoqualmie Ridge), parks (Fisher Creek Park), and rural farms. The Washington State Department of Commerce's own *Energy Safety Resources* guide advises local governments to "Set minimum distances between a facility and nearby homes, schools, parks, waterways and property lines."

Proximity to a substation should not be the primary determinant of site suitability. While Ecology's scoping document notes it may consider proximity to existing infrastructure, this logic is dangerously flawed. In many Washington communities, that infrastructure is co-located with homes, schools, and water supplies.

PEIS Requirement: Suitability must be defined by safety criteria first. The PEIS must establish a framework that prioritizes human health and environmental safety over grid convenience, with enforceable, scaled setbacks.

2B. Critical Areas and Aquifer Protection
Local and county regulations explicitly protect the water resources threatened by the Cascadia Ridge proposal.
* **City of Snoqualmie Sensitive Areas Ordinance (SMC 19.12):** Defines a "Critical aquifer recharge area" as a source of drinking water with "no feasible alternative source" that is "susceptible

to contamination from activities on the surface" due to "high infiltration rates."
* **Snoqualmie Comprehensive Plan:** Warns, "Once ground water is contaminated it is difficult, costly and sometimes impossible to restore. Groundwater resources must be protected from contamination..."
* **King County Code (KCC):** Restricts building in Critical Areas "to protect public health and safety, and to promote environmental health." The county defines Critical Aquifer Recharge Areas as those "susceptible to groundwater contamination."

PEIS Requirement: The PEIS must explicitly screen out Critical Aquifer Recharge Areas, areas dependent on private wells, floodplains, and seismic hazard zones from the geographic scope of "suitable" BESS sites.

2C. Seismic Hazards
The Snoqualmie Comprehensive Plan states, "Most of the upper Snoqualmie Valley... is a seismic hazard area," with saturated sandy soils on the Snoqualmie River floodplain that may be "susceptible to liquefaction." An earthquake is a critical initiating event that is not captured by standard operational failure rates. A seismic event could damage multiple battery enclosures simultaneously while disabling the grid, cooling systems, monitoring equipment, and fire suppression systems. This represents a common-cause failure scenario where emergency crews would be overwhelmed and access routes compromised.

PEIS Requirement: The PEIS must analyze earthquakes as a common-cause failure scenario, evaluating the simultaneous failure of containment, cooling, and suppression systems, as well as the impairment of emergency response.

2D. Flooding
The Snoqualmie River experiences the largest peak flows of any river in King County. Flooding could compromise containment systems, mobilize and spread contaminated runoff across a wide area, and render emergency response impossible.

2E. Evacuation Capacity
The Snoqualmie Ridge community has notoriously limited access routes. The landslide on December 10, 2025, that closed eastbound I-90 demonstrated how a single event can paralyze the local road network for hours.

PEIS Requirement: The PEIS must evaluate evacuation capacity as a critical aspect of public health and safety. It should require modeled evacuation time estimates for surrounding populations and recommend against siting BESS where a timely evacuation cannot be assured.

3. Insurance, Financial Assurance, and Liability Gaps

A significant policy gap exists regarding financial responsibility for a catastrophic BESS incident. Washington's battery stewardship law (Chapter 70A.555 RCW) explicitly excludes BESS batteries, leaving no dedicated program for their end-of-life management or post-incident cleanup. There are currently no specific BESS insurance, cleanup bond, or decommissioning financial assurance requirements in Washington state law.

PEIS Requirement: The PEIS must analyze the profound question of liability: Who is

responsible for environmental cleanup after a fire? What insurance limits are adequate for a multi-week fire and widespread contamination event? What happens if the operator is a limited liability entity that declares bankruptcy, leaving local communities and property owners to bear the cost? The PEIS should recommend mandatory, robust financial assurance requirements, including:
* Developer-funded environmental monitoring programs.
* Cleanup guarantees and bonds funded *before* operation begins.
* Decommissioning bonds sufficient to cover full site restoration, including soil and groundwater remediation.
* Pollution liability insurance with limits adequate for catastrophic contamination events.

4. Noise Impacts

As confirmed in Table 1 of the scoping document and prior Ecology PEISs, BESS operation "within 1,000 feet of people in quiet rural areas may affect nearby residents." The Klickitat County report notes that noise levels can exceed 70 dB at homes 100 feet away, far above the 45 dBA nighttime limit in most municipal codes.

PEIS Requirement: The PEIS must require that noise impacts be measured and mitigated at the property line of the nearest residence, not the facility fence line, with a focus on low-frequency noise and nighttime levels.

5. Alternatives Analysis — Technology and Siting

Per SEPA, a robust alternatives analysis is required. This must include safer technologies and more appropriate locations.

5A. Alternative Technologies
The PEIS must evaluate non-lithium-ion and non-chemical energy storage alternatives that eliminate thermal runaway risk entirely. These include:
* **Flow Batteries:** Non-flammable, no explosion risk, longer duration, and use less environmentally damaging materials.
* **Sodium-ion Batteries:** A safer chemistry expected to be commercially available by 2028.
* **Mechanical Energy Storage:** Technologies like Pumped Hydro Storage, gravity-based systems, and Compressed Air Energy Storage (CAES), which the Southwest Research Institute notes are "robust alternatives to electro-chemical battery storage."

PEIS Requirement: The PEIS must analyze each battery chemistry separately, as their failure modes, toxic byproducts, and mitigation requirements differ significantly.

5B. Alternative Siting
State and local policies mandate the protection of environmental and community health.
* **RCW 80.50.010:** Requires that energy facilities "produce minimal adverse effects on the environment."
* **City of Snoqualmie Comprehensive Plan (Snoqualmie 2044):** Sets a goal to ensure "potential hazards to citizen health, welfare and property are minimized" and prioritizes "preservation of surface and groundwater quality, air quality." The plan recognizes the area's natural setting as one of its "most precious, assets."

If energy storage is deemed necessary, it must be sited in locations that do not externalize risk onto residential communities.

PEIS Requirement: The PEIS must identify and prioritize alternative sites such as industrial zones, brownfields, or other previously disturbed lands with robust emergency infrastructure, adequate water supply, multiple evacuation routes, and no proximity to sensitive receptors.

6. SEPA Legal Requirements

Under RCW 43.21C.030(2)(c), an EIS is required for any major action with a "probable significant, adverse environmental impact." As established in *PT Air Watchers v. Department of Ecology*, SEPA requires "actual consideration of environmental factors" based on "information reasonably sufficient to evaluate the environmental impact." Furthermore, as held in *Columbia Riverkeeper v. Port of Vancouver USA*, project design must "benefit from information revealed by environmental review." A PEIS that pre-ordains BESS as safe or suitable for semi-rural siting would violate these core SEPA principles.

PEIS Requirement: The PEIS must provide a transparent, impartial discussion of all significant environmental impacts and reasonable alternatives, including the No Action Alternative. It must analyze direct, indirect, and cumulative impacts.

7. Necessity and Interests Served

The PEIS must not accept the necessity of utility-scale lithium-ion BESS as a given. Washington's clean energy goals can be met "using a variety of clean energy resources," as the scoping document states. These goals do not override SEPA's mandate for environmental protection.

PEIS Requirement: The PEIS must critically evaluate who bears the risk versus who receives the benefit of these facilities. Siting industrial hazards in rural communities to serve urban load centers is a classic environmental justice problem that must be analyzed.

8. Specific Recommendations for the PEIS Scope

Based on the foregoing analysis, the PEIS must:
1. **Define "suitable" areas by safety criteria first**—prohibiting siting near homes, schools, hospitals, drinking-water wells, the wildland-urban interface, seismic hazard zones, floodplains, and communities with limited evacuation routes. Proximity to infrastructure must be a secondary factor.
2. **Analyze each battery chemistry separately**, including failure modes and required mitigation.
3. **Model smoke dispersion from thermal runaway fires** under adverse conditions like temperature inversions.
4. **Analyze contaminated fire-suppression water pathways** to groundwater, private wells, and streams.
5. **Require UL 9540A testing and compliance with the current edition of NFPA 855** as a minimum standard.
6. **Recommend developer-funded emergency-response plans, training, and equipment** for local fire districts before operation.
7. **Require facility-specific emergency and evacuation plans** as a condition of any permit.
8. **Recommend enforceable nighttime noise limits** measured at the nearest residence.

9. **Require ongoing monitoring, cleanup guarantees, decommissioning bonds, and pollution liability insurance** with limits sufficient for a catastrophic event.
10. **Analyze earthquakes as common-cause failure scenarios.**
11. **Identify which impacts cannot be mitigated below a level of significance** and state this plainly.
12. **Evaluate non-lithium and non-chemical energy storage alternatives.**
13. **Establish minimum, scaled setbacks** (based on MWh) from homes, schools, hospitals, wells, floodplains, and fish-bearing streams.
14. **Require the use of independent safety experts** with no financial ties to BESS developers for all reviews.
15. **State that local governments may require stronger protections** than state minimums—state standards must be a floor, not a ceiling.

Conclusion

The siting of utility-scale BESS facilities represents a new and significant environmental threat to Washington communities. I respectfully request that Ecology treat proximity to residents, farms, schools, and sensitive ecosystems as a defining condition of its analysis. The Draft PEIS must state plainly which of the severe impacts outlined above cannot be mitigated below a level of significance. This PEIS should establish a protective framework for Washington residents, not become a tool for accelerating BESS permitting at the expense of the communities asked to live beside these hazardous facilities.

Please include this comment in the official scoping record for the BESS PEIS.

Sincerely,

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