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Comments on Opt-in Changes

Please see attached as formal public comments.

Additional submitted attachment is included below.

California Energy Commission

Comments on the California Energy Commission's Updated Opt-In Regulations (Docket No. 26-OIR-04)

Introduction

Keep Vacaville Safe is a community advocacy group made up of more than 3,000 Vacaville and Solano County residents. Our comments reflect a deep, well-educated technical understanding of battery energy storage system (BESS) safety, regulatory frameworks, and environmental compliance, gained through extensive experience navigating the opt-in program. We are actively engaged with two projects currently proceeding through the opt-in program in Vacaville and Solano County, and our members were directly involved in shaping the local BESS ordinances passed by both our city and county.

Executive Summary

These comments support the Commission's goal of timely clean energy deployment and express strong support for several key regulatory updates, including early termination provisions, proof of site control, BESS manufacturer failure-history disclosures covering the last 5 years, and toxic plume dispersion modeling that evaluates acute hazard indices at sensitive receptors and requires an explanation of planned mitigation if the index exceeds 1.0. To build upon these foundational provisions, we propose targeted edits to strengthen public notice and participation, interagency input, battery energy storage system (BESS) safety, public health disclosures, and emergency preparedness, including an express requirement to demonstrate that acute hazard indices do not exceed 1.0 at the sensitive boundaries specified in our proposed text. Specifically, we recommend:

1. Enhanced, multilingual, and radius-based notice and defined opportunities to be heard throughout the proceeding;

2. Structured roles and timelines for local and regional agency comments with reimbursement clarity;
3. Transparent assessment of residential and right-of-way setbacks based on site-specific noise and credible thermal runaway, fire, explosion, and toxic smoke risks;
4. Enhanced soil, water, and hydrogeologic safeguards to protect adjacent agricultural lands and water resources from potential contamination;
5. Detailed public warning/notification and evacuation communication plans to maximize safe evacuation and community coordination;
6. Operational readiness linkages requiring fire authority acknowledgement of emergency public protection plans before BESS testing or operation;
7. Explicit noise assessments and mitigation commitments at the setback interface;
8. Enhanced public access to technical modeling data and translated executive summaries; and
9. Rigorous, conservative worst-case BESS toxic plume and dispersion modeling standards under CEQA.

These edits build on and are tied to the updated provisions addressing pre-filing consultation, application content, staff assessment and public comment, outreach, BESS-specific Appendix B requirements, fire authority consultation, and approval to operate BESS. The proposed express terms include new and revised sections in Title 20, including sections 1876.5, 1877, 1877.5, 1878, 1878.1, 1879, 1879.5, 1880, 1880.5, 1881, 1881.5, and Appendix B.

Background and Context

The Commission's updated express terms refine the opt-in program by clarifying pre-filing consultation, local agency reimbursement, CEQA-integrated staff assessment and public comment windows, outreach logistics, record certification, decision standards, BESS readiness to operate, and post-certification change procedures, and by expanding Appendix B to include detailed BESS design, safety, fire, hazardous materials, air quality, biological resources, water protection, and wildfire content. Section 1876.5 requires pre-filing consultation and invites local governments and may invite other agencies and tribes. Section 1877 requires BESS applicants to document consultation with the fire authority having jurisdiction, including participants, topics, and how the project addresses them. Section 1879 provides for a Staff Assessment consisting of a CEQA environmental document with at least a 60-day public comment period, followed by an updated Staff Assessment and final environmental document

before Commission consideration. Section 1880 addresses public outreach timing and venue logistics, referencing statutory provisions on meetings near the site and remote participation capability. Section 1881.5 conditions BESS testing or operation on inspection by the fire authority or on the passage of 90 days without inspection after notice, and requires submission and CPM consideration of inspection results. Appendix B adds BESS-specific requirements including setbacks mapping, technology selection and safety mechanisms, incident history and prevention, site plans, UL 9540A testing/HMA, air quality dispersion modeling for thermal runaway, biological and water resource protections, wildfire runoff containment, and emergency response engagement and training.

General Support for Core Regulatory Framework

We strongly support the majority of the Commission's updated express terms, which represent significant progress toward ensuring rigorous, transparent, and efficient review of opt-in energy projects. In particular, we express explicit support for the following provisions:

1. **Early Termination and Application Withdrawal Framework (20 CCR § 1877.5):** Establishing clear procedural mechanisms and substantive criteria—such as loss of site control, grid connection impediments, or technical unviability—for early suspension or termination of unviable opt-in applications protects public resources, prevents speculative docketing, and ensures Commission staff focus on viable clean energy proposals.
2. **Mandatory Real Property Site Control Requirements (Appendix B(a)(4)(i)):** Requiring applicants to demonstrate direct, current legal rights to access, construct, and operate the proposed project site, gen-tie lines, and appurtenant facilities prevents speculative filings and establishes baseline operational legitimacy before full regulatory review.
3. **Five-Year Manufacturer Failure History Disclosures (Appendix B(b)(1)(E)(iii)):** Requiring full disclosure of any enclosure-level failure incidents involving the selected BESS battery manufacturer across all facilities within the past 5 years, along with detailed preventative measures, ensures that equipment selection is informed by real-world operational safety records.
4. **Thermal Runaway Dispersion Modeling & Hazard Index Thresholds (Appendix B(b)(9)(F)):** Requiring comprehensive air quality dispersion modeling for worst-case thermal runaway events—specifically mandating that toxic constituent exposures do not exceed an acute Hazard Index (HI) greater than 1.0 at off-site property lines—establishes a necessary, health-protective threshold for public health and safety.

The targeted comments and proposed redlines below build upon these supported provisions to ensure thorough operationalization and public transparency.

Comments and Proposed Regulatory Text

Comment 1: Strengthen Public Notice and Opportunity to Be Heard

Proposed edits to Section 1880 (Public Outreach)

1. **Redline to 20 CCR § 1880:**
    - **a. Add new subsection (d):** "(d) For each public meeting, informational workshop, scoping workshop, and business meeting at which the opt-in application will be considered, staff and the applicant shall provide mailed notice to all postal addresses within 2 miles of the project site boundary, and emailed notice to persons on the project listserv, at least 21 days in advance. Notice shall be provided in English and in the two most prevalent non-English languages spoken in the census tracts within 2 miles of the site, based on the most recent American Community Survey."
    - **b. Add new subsection (e):** "(e) The applicant shall maintain a project website with meeting dates, agendas, recordings, translation availability, key docket filings, and a plain-language project overview, updated within 3 business days of any filing or scheduling change."
    - **c. Add new subsection (f):** "(f) Each public event shall include a defined oral public comment period of no less than 60 minutes, with procedures for remote testimony and language access, including real-time interpretation in the languages identified in subsection (d)."
    - **d. Add new subsection (g):** "(g) Staff shall accept written public comments on the Staff Assessment for not less than 60 days and on the updated Staff Assessment for not less than 30 days before Commission consideration, and shall publish responses to significant environmental comments as part of the final environmental document."

Rationale

Ensuring timely, multilingual, and radius-based notice and meaningful oral and written comment opportunities is essential to public safety, environmental justice, CEQA transparency, and meaningful participation. The proposed edits formalize robust notice and hearing practices aligned with the updated schedule and CEQA-integrated review. Section 1879(b) already provides for at least a 60-day public comment period on the

Staff Assessment and requires filing the updated Staff Assessment no sooner than 30 days before Commission consideration. The additions operationalize access and define minimum comment windows.

Comment 2: Enhance Local and Regional Agency Participation and Reimbursement Clarity

Proposed edits to Section 1876.5, Section 1878, and Section 1878.1

1. **Redline to 20 CCR § 1876.5(b):**
    - Replace “may invite other relevant state and federal agencies, and California Native American tribes” with “shall invite relevant state and federal agencies, regional agencies (including MPOs and air districts), and California Native American tribes with geographic or subject-matter nexus to the project.”
2. **Redline to 20 CCR § 1878(a):**
    - Add at end: “Requests for additional information may be based on issues raised by local governments, regional planning agencies, air districts, water boards, and California Native American tribes, and shall include reasonable timeframes to allow those agencies to review and comment.”
3. **Redline to 20 CCR § 1878.1(a)(1):**
    - Add: “The notice shall also be sent to regional transportation planning agencies, MPOs, air districts, water quality control boards, and county agricultural commissioners for projects on or adjacent to agricultural land.”
4. **Proposed new subsection to 20 CCR § 1878.1:**
    - “(g) Staff shall schedule at least one interagency technical session within [45] days after completeness to resolve site-specific standards, thresholds, or design concerns raised by local and regional agencies, and the applicant shall attend.”

Rationale

Formal invitations and structured technical engagement promote early resolution of site-specific standards and ensure agency expertise informs the record. The reimbursement framework remains intact while clarifying scope and schedule for productive participation. Section 1878.1 already establishes a notice to local agencies, solicits technical comments including local thresholds and noise requirements, and sets

reimbursement procedures. Requiring invitations to regional bodies and a technical session enhances meaningful interagency input.

Comment 3: Site-Specific Setback Justification and Analysis

Proposed additions to Appendix B and cross-reference in Section 1877

1. **Redline to Appendix B(b)(1)(E)(i):**
    - Replace text with: “(i) Clearly state and depict on a map the setback distance from the nearest BESS enclosure to: a. the property line of the nearest residential receptor; b. the nearest shoulder of a public roadway; and c. the nearest passenger rail line. The application shall include a site-specific evaluation demonstrating that the proposed setbacks provide adequate protection against noise and credible thermal runaway, fire, explosion, and toxic smoke risks, supported by technical evidence, barrier modeling, or location-specific conditions.”
2. **Proposed new subsection to 20 CCR § 1877:**
    - “(j) For applications including BESS, the application shall demonstrate compliance with Appendix B(b)(1)(E)(i) setbacks and demonstrate that proposed distance buffers or alternative physical mitigation provide adequate protection for nearby residential receptors and public rights-of-way.”

Rationale

Setbacks reduce exposure to operational noise and credible risks associated with thermal runaway, fire, explosion, and toxic smoke. Appendix B currently requires mapping of setbacks to residences and roadways but does not explicitly require an evidentiary demonstration that the proposed spacing is sufficient to protect public health and safety. Grounding setback proposals in site-specific risk data and engineering controls advances public safety while maintaining project flexibility.

Comment 4: Soil, Water, and Agricultural Protections and Mitigation Safeguards

Proposed additions to Appendix B and Section 1877

1. **Proposed new subsection to 20 CCR § 1877:**
    - “(k) Protection of Agricultural Lands and Water Resources. For BESS proposed on or adjacent to agricultural lands, the application shall

incorporate protective measures ensuring long-term preservation of soil productivity, groundwater quality, and adjacent agricultural uses."

2. **Proposed new subsection (ix) to Appendix B(b)(1)(E):**
    - "For BESS proposed on or within 1,000 feet of Prime Farmland or Farmland of Statewide Importance:
        - a. Provide a soils and hydrogeologic assessment identifying potential contaminant migration pathways and attenuation;
        - b. Establish appropriate vegetated or engineered buffers between any BESS enclosure and active agricultural land boundaries;
        - c. Provide secondary containment and stormwater isolation sized for worst-case firefighting runoff volumes;
        - d. Provide a soil and groundwater monitoring plan with baseline sampling and post-incident confirmatory testing triggers; and
        - e. Provide a remediation and restoration plan and financial assurance mechanism adequate to address potential contamination."

Rationale

Prime and statewide-significant agricultural lands are valuable resources susceptible to potential soil and water contamination from BESS fire runoff and off-gas deposition. Establishing clear buffer analysis, containment, baseline testing, and financial assurances protects soil health, water quality, and agricultural operations consistent with CEQA principles. Appendix B already requires a water quality protection plan for BESS fire events and discussion of biological impacts including soil, surface water, and groundwater contamination. The proposed additions create practical risk-assessment standards to implement these protective aims.

<u>Comment 5: Require Detailed Warning and Evacuation Communications Plans</u>

Proposed additions to Appendix B and Section 1877

1. **Proposed new subsection to Appendix B(g)(9) Public Health:**
    - "(G) BESS Emergency Public Protection Plans. The application shall include:
        - (i) A Public Warning and Evacuation Communications Plan describing alert and warning tools (e.g., Wireless Emergency Alerts,

reverse-911, sirens, social media, multilingual messaging), notification decision trees, clearance time assumptions, transportation support for those with limited mobility, and roles of the applicant, local emergency management, and the authority having jurisdiction over fire suppression; and

- (ii) A commitment to conduct at least annual joint exercises with local responders and to update plans based on after-action findings."

2. **Cross-reference in 20 CCR § 1877:**
    - Add to subsection (i) after existing text: "The consultation summary shall address agreement on public protection measures, including public warning and evacuation communications."

Rationale

Given credible risks of thermal runaway, toxic smoke, and fast-moving hazards, communities need advance, plain-language notification frameworks and clear interagency coordination. Tying plan elements to the applicant's dispersion modeling ensures technical coherence and facilitates coordination with fire authorities and emergency managers. Appendix B requires dispersion modeling for worst-case BESS thermal runaway, comparison to acute exposure thresholds, and mitigation if acute hazard index exceeds 1.0. Building public protection plans on that modeling aligns with CEQA transparency and public safety.

Comment 6: Clarify Fire Authority Consultation and Operational Readiness Linkages

Proposed edits to Section 1877(i) and Section 1881.5

1. **Redline to 20 CCR § 1877(i):**
    - Add: "The applicant shall provide draft emergency response and public warning/evacuation communications materials to the authority having jurisdiction over fire suppression not less than 30 days prior to consultation and summarize the authority's feedback and applicant responses."
2. **Redline to 20 CCR § 1881.5(e):**
    - Add at end: "Approval to commence testing or operation shall be conditioned on submittal to the CPM of finalized emergency response

pre-plans and public warning/evacuation communications plans acknowledged by the authority having jurisdiction over fire suppression."

Rationale

Consultation must include concrete, reviewable emergency materials, and the CPM's operational approval should be contingent on finalized, coordinated plans. Section 1877(i) already requires documented consultation with the fire authority, and Section 1881.5 ties BESS operation to inspection and CPM consideration of results. These edits ensure that emergency public protection plans are integrated into readiness to operate.

Comment 7: Noise Transparency and Mitigation Commitment at Setback Interface

Proposed addition to Appendix B(b)(1)(E)

1. **Proposed new subsection:**
    - "(x) Provide a project-specific noise assessment for BESS operations at the nearest residential property line and public right-of-way shoulder, including tonal and low-frequency components, and identify mitigation to meet applicable local noise standards or, where none apply, to achieve community-protective levels at the setback interface."

Rationale

Operational BESS equipment can produce tonal and low-frequency noise affecting nearby residences. Transparency and mitigation at the setback interface support public health and community acceptance. Section 1878.1(a)(1) contemplates solicitation of local noise requirements and thresholds of significance from local agencies. This addition ensures those standards are analyzed and met.

Comment 8: Strengthen Record Integrity and Public Access

Proposed edits to Section 1880.5

1. **Redline to 20 CCR § 1880.5(a) and (b):**
    - **a. Add:** "Staff shall provide public web links to any modeling files or datasets referenced in the environmental document that cannot be hosted in the docket, or provide access instructions within [5] business days of filing."
    - **b. Add:** "Any person may request language access accommodations to review the record, and staff shall provide translated executive summaries

of the Staff Assessment and updated Staff Assessment in the languages identified in § 1880(d)."

Rationale

Accessible records and language access are essential to meaningful participation and CEQA transparency. Section 1880.5 defines the record of proceedings and provides a process to request modification without delaying certification. The proposed edits improve practical access to technical materials.

Comment 9: Require Rigorous Worst-Case BESS Toxic Plume Modeling Parameters

Proposed additions to Appendix B(b)(9) and Section 1877

1. **Proposed new subsection to Appendix B(b)(9):**
    - "(H) Parameters for Worst-Case BESS Toxic Plume & Dispersion Modeling. Any air quality or toxic dispersion modeling submitted for a Battery Energy Storage System (BESS) facility pursuant to this section shall model a worst-case foreseeable thermal runaway event utilizing conservative meteorology, source term, and chemical composition parameters. The analysis shall satisfy the following minimum standards:
        - **Source Term & Failure Scale Assumptions.** (a) The modeling source term shall evaluate plausible multi-container cascading thermal runaway based on facility layout and barrier design. (b) Credit for active fire suppression, water injection, or nitrogen purge systems shall be supported by empirical testing or verified manufacturer specifications under multi-container conditions.
        - **Meteorological Parameters.** (a) Dispersion modeling shall utilize AERMOD, SCIPUFF, or validated Computational Fluid Dynamics (CFD) software evaluated under conservative atmospheric dispersion conditions. (b) Modeling shall incorporate low ground-level wind speeds and stable atmospheric conditions (such as Pasquill-Gifford Stability Class F) representative of local worst-case site meteorology.
        - **Chemical Species & Toxicity Thresholds.** (a) Emission estimates shall incorporate cell-level off-gas generation rates derived from UL 9540A testing data or representative literature for the proposed battery chemistry. (b) The dispersion analysis shall quantify ambient

ground-level concentrations for key off-gassing constituents, including Hydrofluoric Acid (HF), Hydrogen Cyanide (HCN), Carbon Monoxide (CO), Phosphoryl Fluoride (POF3), and respirable heavy metal particulate matter (PM2.5). (c) The Hazard Index (HI) calculated for acute chemical exposures shall be evaluated against applicable health-protective exposure standards to ensure acute impacts do not exceed HI = 1.0 at off-site sensitive receptors and mapped agricultural land boundaries.

- **Mapping, Deposition & Technical Submittal Requirements.** (a) The applicant shall submit high-resolution isopleth maps depicting the maximum geographical extent of modeled acute toxic plume contours (HI >= 1.0), overlaid onto local aerial imagery, residential property boundaries, public roads, passenger rail lines, and mapped agricultural lands within the modeling domain. (b) The analysis shall include deposition modeling evaluating potential post-incident soil, crop, and surface water accumulation rates for fluorides and heavy metals. (c) The applicant shall submit all executable digital input files to the public docket concurrently with the application filing."

2. **Proposed new subsection to 20 CCR § 1877:**
    - "(l) BESS Plume Modeling and Emergency Response Coordination. For applications including BESS, the application shall demonstrate compliance with Appendix B(b)(9)(H). The geographic reach of the modeled toxic plume contour (HI >= 1.0) shall be utilized to inform the applicant's Public Warning and Evacuation Communications Plan required under Appendix B(b)(9)(G)."

Rationale

Under CEQA, public health risk assessments and toxic air contaminant evaluations must be grounded in realistic yet conservative worst-case modeling supported by substantial evidence. Specifying clear meteorological, source-term, and chemical parameters ensures that dispersion modeling provides a transparent, scientifically sound basis for evaluating off-site environmental impacts and enforcing the requirement that thermal runaway events do not exceed an acute Hazard Index of 1.0 at sensitive boundaries.

Conclusion

The proposed edits advance public safety, environmental justice, CEQA transparency, and meaningful participation without undermining timely review. They build on the

Commission’s updated framework by specifying transparent setback evaluations, agricultural land safeguards, robust emergency public protection planning, and conservative toxic plume modeling, while enhancing public and agency engagement. We respectfully request that the Commission adopt the proposed regulatory text changes and associated rationale set forth above.

Respectfully submitted,

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