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Comments on Staff Assessment Section 5-16 Water Resources

Please See Attached Comment Letter

Additional submitted attachment is included below.

COMMENTS ON STAFF ASSESSMENT SECTION 5.16

WATER RESOURCES

Corby Battery Energy Storage System Project (24-OPT-05)

California Energy Commission

715 P Street

Sacramento, California 95814

Re: Corby Battery Energy Storage System Project (24-OPT-05) — Comments on Staff Assessment Section 5.16, Water Resources

Commissioners:

I submit these comments regarding Section 5.16, Water Resources, of the Staff Assessment for the proposed Corby Battery Energy Storage System Project.

My concerns focus on several issues arising from Staff's own analysis: contaminated firewater and shallow groundwater; Staff's reliance upon unlined detention basins to infiltrate stormwater; deferral of important firewater-containment and drainage-design decisions; construction dewatering in an area of documented shallow and seasonally variable groundwater; uncertainty regarding the proposed construction water supply; omission from the Staff Assessment of important project-specific groundwater information; and inconsistencies in Staff's description of the applicable groundwater basin and regulatory protections.

These are not hypothetical concerns created by Project opponents. Staff itself recognizes shallow groundwater, possible construction dewatering, and the potential for contaminated water from a BESS fire to reach the groundwater aquifer. Solano County raised many of these same concerns during environmental review.

The question is whether the Staff Assessment has adequately analyzed those impacts before Project approval, or instead relies upon future plans, permits, and engineering decisions to determine how they will actually be addressed.

I respectfully submit that several important questions remain unresolved.

I. STAFF IDENTIFIES A POTENTIAL PATHWAY FROM CONTAMINATED BESS FIREWATER TO SHALLOW GROUNDWATER

Staff recognizes that groundwater beneath the Project site is shallow. Staff also acknowledges that a fire could produce contaminated water and that, because of the shallow aquifer, hazardous materials could accidentally reach groundwater.

This is a significant admission.

Solano County identified essentially this same issue before preparation of the Staff Assessment. The County specifically requested analysis of water-quality impacts resulting from thermal-runaway fire suppression and runoff, including the volume and composition of contaminated water, runoff pathways, groundwater infiltration, and containment, treatment, and disposal requirements.

The Staff Assessment recognizes the potential impact, but its principal response is Condition of Certification WATER-5.

WATER-5 requires preparation of a future Water Quality Control Plan addressing accidental releases, including battery runaway fire. That plan is not required until shortly before construction.

Consequently, the document upon which Staff relies to manage this acknowledged environmental risk does not presently exist.

II. WATER-5 DOES NOT ESTABLISH A QUANTITATIVE FIREWATER-CONTAINMENT STANDARD

There is an important distinction between requiring preparation of a future plan and establishing now the environmental performance that the future plan must achieve.

The Staff Assessment should identify, before Project approval, the basic performance requirements necessary to prevent contaminated firewater from reaching groundwater, neighboring properties, drainage facilities, or irrigation infrastructure.

Among the questions that remain unanswered are:

- What reasonably foreseeable volume of contaminated firewater must the Project be capable of containing?
- What containment capacity is required?
- Is contaminated firewater prohibited from entering the stormwater detention basins?
- What physical system isolates contaminated firewater from ordinary stormwater?
- What happens if a thermal-runaway event occurs during or immediately following a major storm, when stormwater facilities may already contain substantial water?
- Where will contaminated water be stored pending testing, treatment, or disposal?
- What water-quality standard determines when captured water may be released?
- What happens if contaminated water reaches the shallow groundwater aquifer?

These are not merely details concerning how a future contractor will implement an already-defined mitigation requirement.

They determine what the mitigation must accomplish.

The Commission should therefore explain how WATER-5 provides sufficiently specific and enforceable performance standards to support Staff's present conclusion that this acknowledged impact will be reduced to less than significant.

III. STAFF'S RELIANCE UPON UNLINED DETENTION BASINS CREATES AN INTERNAL CONFLICT THAT SHOULD BE RESOLVED

Section 5.16 contains a particularly important analytical tension.

Staff explains that approximately 14 acres of the Project would become impervious surface and that Project runoff would be collected and routed through the onsite drainage system to detention basins.

In evaluating groundwater recharge, Staff relies in part upon the fact that the detention basins will be unlined, thereby allowing retained stormwater to infiltrate into the groundwater aquifer.

In other words, hydraulic communication between the basins and groundwater is treated as beneficial when Staff evaluates groundwater recharge.

But Staff separately recognizes that contaminated water from a battery fire could reach the same shallow groundwater aquifer.

Those two conclusions need to be reconciled.

If the detention basins are intentionally designed to infiltrate collected water into groundwater, what prevents contaminated firewater from entering those same basins and following the same infiltration pathway?

The answer may be that the Project will contain isolation valves, separate firewater containment, diversion structures, emergency storage, or some other physical system. If so, the Staff Assessment should identify it.

If the system has not yet been designed, Staff should explain how the Commission can presently determine that contaminated firewater will not reach the unlined basins and shallow aquifer.

Staff cannot support its present less-than-significant conclusion by leaving until after environmental review the determination of whether additional physical facilities or mitigation measures are necessary to contain contaminated water.

IV. FINAL DETENTION-BASIN DESIGN REMAINS DEFERRED EVEN THOUGH STAFF RELIES UPON BASIN PERFORMANCE

Staff concludes that the Project will not cause significant increases in runoff, overwhelm drainage capacity, cause significant offsite flooding, or substantially interfere with groundwater recharge.

Those conclusions depend substantially upon the performance of the Project drainage system and detention basins.

Yet WATER-2 requires a future Operations Drainage, Erosion and Sedimentation Control Plan containing the final design and rationale of the detention basins. That final plan is not required until shortly before Project operation.

I recognize that final construction drawings ordinarily develop after environmental review. I am not suggesting that every pipe, ditch, slope, valve, or fitting must be finally engineered before Project approval.

But there is a difference between final construction detailing and the environmental performance characteristics upon which Staff relies to reach its CEQA conclusions.

If the preliminary drainage analysis establishes sufficient basin capacity, infiltration, routing, overflow behavior, and downstream protection to support Staff's conclusions, those controlling assumptions should be clearly identified and incorporated into enforceable Conditions of Certification.

If important aspects of basin performance remain unresolved until the final WATER-2 plan is prepared, the Commission should explain how the environmental conclusions that depend upon that performance can be reached beforehand.

V. STAFF SHOULD DISCLOSE THE PROJECT-SPECIFIC GROUNDWATER DRAWDOWN ANALYSIS

The applicant prepared a project-specific Groundwater Supply Feasibility Study that included analysis of groundwater production and effects upon neighboring wells.

That is highly relevant because Staff's discussion in Section 5.16 relies prominently upon a basin-wide comparison: approximately 30 acre-feet of Project construction water compared with approximately 180,000 acre-feet of annual groundwater extraction from the basin.

That comparison may show that Project demand is small relative to total basin extraction.

It does not answer the more localized question:

What drawdown is predicted at neighboring wells if the Project pumps 30 acre-feet from a new onsite production well?

If a project-specific model exists that evaluates effects upon wells within the surrounding area, Staff should disclose and summarize the results of that analysis and explain how they support the less-than-significant conclusion.

The public should not be required to infer the absence of localized well impacts from a basin-wide ratio when a more directly relevant project-specific analysis exists.

VI. THE APPLICANT'S 1,000-FOOT WELL-SEPARATION ASSUMPTION IS NOT MADE ENFORCEABLE BY WATER-3

The applicant has stated that the proposed production-well location would be at least approximately 1,000 feet from the nearest supply well on adjacent property in order to minimize potential drawdown impacts.

That is an important factual assumption.

Yet WATER-3 requires only that production wells be installed adjacent to the proposed O&M facility and constructed in accordance with applicable well standards and permitting requirements. It does not establish a 1,000-foot separation requirement.

If the applicant's proposed 1,000-foot separation is part of the factual basis supporting Staff's conclusion that neighboring wells will not be adversely affected, that protection should appear in an enforceable Condition of Certification.

Otherwise, an important assumption used to minimize drawdown remains merely descriptive rather than mandatory.

WATER-4 likewise controls total water use and reporting, but does not establish a neighboring-well drawdown limit or mandatory separation distance.

VII. STAFF RELIES UPON AN EXECUTIVE-ORDER WELL PROTECTION THAT IS NO LONGER OPERATIVE

Section 5.16 describes Executive Order N-7-22 as prohibiting approval of certain new groundwater wells unless the applicable Groundwater Sustainability Agency verifies consistency with the groundwater sustainability plan and the permitting agency determines that the proposed pumping will not interfere with nearby wells or cause damaging subsidence.

Staff then states that if a groundwater well is required for the Corby Project, those Executive Order requirements would apply.

That regulatory discussion is outdated.

The emergency well-permitting requirements did not remain in force. Executive Order N-7-22, paragraph 9, was superseded by Executive Order N-3-23, paragraph 4, and the well-permitting provisions were rescinded by Executive Order N-3-24 on September 5, 2024. The California Department of Water Resources now expressly describes those provisions as rescinded. Staff's 2026 discussion therefore should not present the N-7-22/N-3-23 emergency well-permitting requirements as an existing regulatory safeguard.

That matters because Staff expressly relies on those emergency requirements when explaining how a potential Corby production well would be reviewed for consistency with groundwater sustainability planning and interference with nearby wells. If those provisions were rescinded before publication of the Staff Assessment, the Commission should identify the current enforceable state, County, GSA, or well-permitting requirement that supplies the protection Staff attributes to the former Executive Order.

If that safeguard is no longer operative, the Commission should identify what current, enforceable requirement replaces it.

In particular, the Commission should explain what presently requires a project-specific determination, before Corby pumping begins, that the production well will not interfere with existing nearby domestic or agricultural wells or cause damaging subsidence, and make any project-specific protection on which Staff relies enforceable in the Conditions of Certification.

VIII. THE STAFF ASSESSMENT IDENTIFIES THE PROJECT AS BEING IN TWO DIFFERENT GROUNDWATER BASINS WITH DIFFERENT PRIORITY CLASSIFICATIONS

The inconsistency in Section 5.16 is unusually clear.

At the beginning of its groundwater discussion, Staff identifies the Project as being within the Solano Subbasin and describes that basin as a medium-priority basin. Staff also states that the Project falls under the authority of the Solano Irrigation District GSA.

Only two pages later, however, Staff states that the Executive Order would apply because the 'Westland Subbasin' is a high-priority groundwater basin and says that the GSA would need to verify consistency with the Westland Subbasin GSP. Staff then returns elsewhere to the Solano Basin/Solano Subbasin framework. Those statements cannot all describe the same project site and regulatory basis.

Those statements cannot both describe the Project site.

This should not simply be dismissed as a typographical error without explanation because the inconsistency involves the identity of the groundwater basin, the priority classification of the basin, the applicable Groundwater Sustainability Plan, and the regulatory assumptions Staff uses when discussing the potential Project well.

The Commission should correct the error and confirm explicitly which groundwater basin, GSP, priority classification, and groundwater data were actually used to support the Water Resources analysis.

IX. SHALLOW AND SEASONALLY VARIABLE GROUNDWATER REQUIRES A MORE COMPLETE DEWATERING ANALYSIS

Staff recognizes groundwater beneath the Project site at depths as shallow as approximately 7.5 feet and acknowledges that Project excavation may require construction dewatering.

That is consistent with other evidence from the immediate area.

A professional geotechnical investigation conducted on my nearby property encountered groundwater at approximately 12.5 and 17.5 feet and expressly cautioned that groundwater elevations could fluctuate because of seasonal rainfall and irrigation.

A historical soil investigation of the former 162.31-acre parent property documented standing water and soil mottling at substantially shallower depths in numerous excavations.

I recognize the limitations of that evidence and do not represent that any individual historical soil profile establishes the groundwater elevation on today's Corby parcel.

I also have firsthand experience with unusually shallow subsurface water in this immediate area.

In February 2013, before constructing my barn, I made an approximately three-foot-deep posthole on my property and left it overnight. When I returned the following morning, water had risen to within four inches of the top of the hole.

Approximately twenty-five years ago, I also personally observed construction of the PG&E natural-gas transmission pipeline across the property immediately adjacent to mine on the east, which now includes the Corby Project site. The pipeline was installed to serve the Vaca-Dixon peaker plant. Based upon my firsthand observation at the time, the pipeline was approximately 36 inches in diameter and the construction trench was approximately ten feet deep. Water accumulated in that trench during construction. The current Corby Project Description independently confirms the existence of an onsite PG&E gas-transmission-line easement.

I do not claim that either observation establishes the permanent groundwater table. They demonstrate that excavations in this immediate area can encounter substantial subsurface water at shallow depths.

Staff explains generally how groundwater encountered during excavation could be permitted and discharged. But identifying a regulatory permit is not the same as analyzing the reasonably foreseeable scale of the dewatering activity.

The Staff Assessment should disclose, to the extent reasonably foreseeable, the excavation depths likely to encounter groundwater; the seasonal groundwater elevation used in the analysis; anticipated pumping rate; duration of dewatering; approximate volume removed; proposed discharge or disposal location; and potential effects upon surrounding groundwater and drainage conditions.

X. AGRICULTURAL IRRIGATION COMPLICATES ANY ASSUMPTION OF A SIMPLE WINTER HIGH-WATER CONDITION

The Project lies within an intensively irrigated agricultural landscape.

Solano Irrigation District supplies surface water from Lake Berryessa to agricultural users in this area, and SID recognizes that deep percolation of applied irrigation water and seepage from irrigation canals and drains contribute to groundwater recharge.

This complicates any simple assumption that groundwater reaches its maximum elevation during the winter rainy season and declines continuously through summer.

In October 2025, a septic contractor working on my property advised me that, in his experience, groundwater in this area may become particularly high during agricultural irrigation season because of the amount of SID water applied to surrounding orchards.

I do not offer that statement as proof that the annual groundwater maximum at the Corby site occurs during summer.

I ask the Commission to determine the answer.

Staff should identify the seasonal high groundwater elevation applicable to the Project site and explain whether that determination accounts for agricultural irrigation, canal seepage, rainfall, and other local sources of groundwater recharge.

XI. STAFF'S OWN GENERAL PLAN DISCUSSION REINFORCES THE NEED TO RESOLVE THESE WATER-RESOURCE QUESTIONS

Staff's applicable-laws discussion identifies a series of Solano County General Plan policies directed specifically to the protection of water resources. These include policies to protect and enhance surface and groundwater quality, protect natural watercourses, evaluate watersheds and preserve open space to protect groundwater quality, reduce pollution, support watershed-based stormwater management, increase infiltration and groundwater recharge, and promote sustainable management and efficient use of agricultural water resources.

Those policies do not by themselves determine the CEQA significance of every Corby water impact. They do, however, reinforce why the unresolved questions in this section are material. The project is proposed in an agricultural landscape with shallow groundwater, irrigation-related recharge, existing drainage features, and downstream receiving waters. Staff should not invoke the County's water-resource framework as evidence of conformance while leaving the controlling firewater-containment, dewatering, infiltration, and groundwater-protection measures to future plans.

In particular, Policies RS.P-64, RS.P-65, RS.P-70, RS.P-73, RS.P-75 and RS.P-76 provide a useful local-policy cross-check on Staff's conclusions concerning groundwater quality, natural watercourses, watershed management, stormwater infiltration and recharge, and sustainable agricultural water resources. The final assessment should explain how the project's enforceable design and operating requirements—not merely future planning documents—are consistent with those protections.

XII. STAFF SHOULD EXPLAIN WHETHER THE STORMWATER DESIGN ACCOUNTS FOR REASONABLY FORESEEABLE EXTREME PRECIPITATION

The Staff Assessment states that the detention basins are intended to retain stormwater associated with the 100-year, 24-hour storm.

I do not presently contend that the applicant's hydrologic calculations are technically incorrect.

However, the Commission should identify the precipitation dataset and intensity assumptions used in the design and explain whether those assumptions remain appropriate over the operating life of the Project.

This is particularly important because the Project will replace agricultural land with approximately 14 acres of impervious surface and will reorganize the site's existing drainage through grading, roads, equipment areas, drainage ditches, and detention basins.

Staff should explain whether the design-storm analysis accounts for reasonably foreseeable changes in extreme precipitation during the Project's useful life and whether adequate freeboard, emergency overflow capacity, and downstream protection are required if storms exceed the design event.

XIII. STAFF'S DESCRIPTION OF EXISTING SHEET FLOW SHOULD BE RECONCILED WITH POST-PROJECT DRAINAGE CONDITIONS

Staff describes the existing site as very flat and states that runoff would “likely” occur as sheet flow rather than channelized flow.

That may accurately describe portions of the existing agricultural site.

But post-Project drainage will be different.

The Project will introduce grading, equipment pads, access roads, impervious areas, drainage ditches, and detention basins specifically intended to collect and redirect runoff.

Accordingly, Staff should distinguish between existing sheet-flow behavior and the post-construction drainage system upon which its flooding and runoff conclusions depend.

The relevant environmental question is not simply how water presently crosses a flat agricultural field. It is how the completed Project will collect, concentrate, route, retain, infiltrate, and, if necessary, overflow stormwater.

XIV. THE ZONE AE PORTION OF THE UTILITY SWITCHYARD WARRANTS CLARIFICATION

Staff states that approximately five percent of the utility switchyard parcel lies within FEMA Zone AE, the 100-year floodplain, and further notes that no base flood elevation has been established for that area.

Staff nevertheless concludes that flood impacts associated with the existing PG&E switchyard are adequately addressed because that facility was designed and constructed in accordance with applicable standards.

The Commission should clarify whether any new Corby-related equipment, foundations, transmission structures, grading, or other improvements will be located within the Zone AE portion of the parcel.

If so, the Staff Assessment should identify the elevation, floodproofing, or other design basis supporting its conclusion that those facilities will not be exposed to significant flood risk or redirect floodwaters.

XV. THE CUMULATIVE WATER-SUPPLY ANALYSIS CONTAINS AN ACKNOWLEDGED INFORMATION GAP

Staff identifies several nearby projects that may contribute to future water demand.

Staff candidly acknowledges, however, that environmental documents for some of those projects did not quantify their anticipated water usage and instead merely concluded that their water-supply impacts would be less than significant. Staff nevertheless reaches a less-than-significant cumulative conclusion.

I do not contend that every cumulative analysis must contain a precise mathematical calculation.

But where Staff acknowledges that it does not know the anticipated water consumption of several projects included in its cumulative setting, the Commission should explain what factual or analytical basis supports the conclusion that their combined groundwater demand will not be cumulatively significant.

Repeating the less-than-significant conclusions reached in other environmental documents is not itself an evaluation of the combined effect.

XVI. REQUESTED COMMISSION ACTION

I respectfully request that the California Energy Commission revise or clarify Section 5.16 and the applicable Conditions of Certification to:

1. Disclose the reasonably foreseeable volume and management of contaminated water resulting from a BESS thermal-runaway event and establish minimum containment performance requirements.
2. Explain what physical mechanism prevents contaminated firewater from entering the unlined detention basins and infiltrating into the shallow groundwater aquifer.

3. Establish enforceable firewater-containment performance standards in WATER-5 rather than leaving substantive requirements entirely to a future Water Quality Control Plan.
4. Identify the controlling capacity, infiltration, routing, overflow, and downstream-protection assumptions for the detention basins upon which Staff's present environmental conclusions depend.
5. Summarize the applicant's project-specific groundwater drawdown analysis and disclose the modeled effects upon neighboring wells.
6. Incorporate into the Conditions of Certification any well-separation or drawdown assumptions upon which Staff relies, including the applicant's stated 1,000-foot separation from neighboring supply wells.
7. Correct Staff's reliance upon the rescinded N-7-22/N-3-23 emergency well-permitting provisions and identify the current enforceable protection against interference with nearby wells and damaging subsidence.
8. Correct the inconsistent identification of the Solano and "Westland" Subbasins and confirm which basin, priority classification, GSP, and groundwater data actually support Staff's conclusions.
9. Determine and disclose the seasonal high groundwater elevation at the Project site, including consideration of agricultural irrigation and canal seepage.
10. Quantify, to the extent reasonably foreseeable, construction dewatering requirements and identify the anticipated management and discharge of extracted groundwater.
11. Identify the precipitation dataset and design assumptions underlying the stormwater analysis and explain whether they remain adequate for reasonably foreseeable extreme precipitation during the Project's operating life.
12. Clarify how post-Project drainage differs from existing sheet-flow conditions.
13. Identify whether new Project facilities will occupy the Zone AE portion of the utility switchyard parcel and, if so, disclose the flood-protection basis for those facilities.

Explain how the final enforceable project requirements conform to the County water-resource policies Staff itself identifies, including RS.P-64, RS.P-65, RS.P-70, RS.P-73, RS.P-75 and RS.P-76, rather than relying on future plans to establish the protections those policies contemplate.

14. Explain the factual basis for Staff's cumulative water-supply conclusion where Staff acknowledges that water-demand information for several cumulative projects was unavailable.

XVII. CONCLUSION

Section 5.16 recognizes the central facts that make these questions important.

Groundwater beneath the Corby site is shallow. Construction may require dewatering. The Project will create substantial new impervious surface. Stormwater will be directed to detention basins designed in part to infiltrate water into the groundwater aquifer. Staff recognizes that contaminated water resulting from a battery thermal-runaway event could potentially reach that same shallow aquifer.

The problem is not a lack of awareness.

The problem is that several of the measures upon which Staff relies to conclude that these impacts will be less than significant remain dependent upon plans and design decisions to be completed after Project approval.

This is especially troubling with respect to contaminated firewater.

Solano County specifically requested analysis of the volume and composition of contaminated firewater, its runoff pathways, groundwater infiltration, and containment, treatment, and disposal. Those questions deserve answers in the environmental review - not merely a promise that a future plan will address them.

There is also a basic question that Section 5.16 should answer plainly:

If Staff relies upon unlined detention basins specifically because they allow water to infiltrate into the groundwater aquifer, what prevents contaminated BESS firewater from following that same pathway?

The same principle applies to drainage design, construction dewatering, seasonal groundwater conditions, and the potential construction well. Final engineering details may appropriately be completed later. The environmental consequences upon which the Commission's CEQA findings depend must be adequately analyzed now.

The Staff Assessment also needs to resolve several factual problems that now appear in its own record: its reliance upon an obsolete Executive Order, its contradictory identification of the applicable groundwater basin, its omission of the results of a project-specific well-drawdown analysis, and its failure to make the applicant's stated 1,000-foot well-separation assumption enforceable.

These are not minor drafting matters where they form part of the factual or regulatory basis for Staff's less-than-significant conclusions.

For these reasons, I do not support approval of the Corby BESS at the proposed Kilkenny Road location on the present Water Resources record. Section 5.16 should resolve these issues before the Commission acts on certification. The unresolved questions are especially consequential because they arise from placing a large BESS on an agricultural site with shallow groundwater, active irrigation and drainage systems, nearby wells, and receiving waters. Where an appropriate industrial alternative is available, these water-resource risks should not be accepted or deferred merely to preserve the applicant's preferred location.

In addition to these comments, I formally incorporate by reference and fully support the technical comment letter submitted by Keep Vacaville Safe.

Respectfully submitted,

Michael Geller

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