DOCKETED	
Docket Number:	24-OPT-05
Project Title:	Corby Battery Energy Storage System Project
TN #:	266087
Document Title:	Sarah Dunn Comments - MISSING AND INACCURATE INFO UNDER ALTERNNATIVES
Description:	N/A
Filer:	System
Organization:	Sarah Dunn
Submitter Role:	Public
Submission Date:	9/20/2025 12:51:12 PM
Docketed Date:	9/22/2025

Comment Received From: Sarah Dunn
Submitted On: 9/20/2025
Docket Number: 24-OPT-05

MISSING AND INACCURATE INFO UNDER ALTERNNATIVES

Additional submitted attachment is included below.

September 19, 2025

California Energy Commission
715 P Street
Sacramento, CA 95814

RE: Corby Battery Energy Storage System Docket: 24-OPT-05

Dear Commissioners,

In reviewing NextEra's submission: "Data request response #3" I have found **inaccurate** and **missing** information in the information provided in the section "alternatives." It's important that the information in this public process be as transparent, complete and as truthful as possible, especially when it pertains to why the applicant is choosing lithium-ion batteries for their project. Lithium-ion batteries have inherent risk of thermal runaway and this battery type is one of the main reasons for the large community opposition to the project due to this risk.

1. **The applicant did not address CECs request for data on feasibility Iron air batteries for the Corby Project. Instead, information on lead acid batteries was provided. Please ask the applicant again to address iron-air batteries.**

2. **Some information on flow batteries provided was inaccurate and did not give a complete analysis. As referenced below:**

Flow batteries require more space-intensive infrastructure as compared to lithium-ion:
Rebuttal: While this is true, the current layout of the Corby Project has very large setbacks that take up a large portion of the parcel. I'm assuming these setbacks are to minimize public safety risks of thermal runaway and provide adequate fire access roads. None of which would be necessary with a flow battery system, (since there is no thermal runaway risks) allowing plenty of space to use flow batteries on the project site.

Lower round trip efficiency and higher costs:
Rebuttal: It is true that lithium batteries are a little more efficient in the short term. But over a long lifespan, that doesn't matter much. Because flow batteries don't degrade, they maintain their efficiency for their whole 30-year life. A lithium battery starts losing capacity almost immediately, so you lose out on usable energy and money over time. LFP systems typically need augmentation every 7-10 years adding significant costs

over 25-30 years. Because flow batteries do not degrade, have no cycling limitations and require no mid-life augmentation, flow batteries could be more cost effective over the life of the project. Flow batteries are much safer than lithium-ion. They don't catch fire or explode, which is a big deal, especially when you're installing them in cities or near neighborhoods. This also means you don't need to spend extra money on expensive battery monitoring software and temperature control systems.

Lower voltage range, cannot use standard inverters:
This is **inaccurate**. While the voltage range of a single flow battery cell is lower than a lithium-ion cell, flow batteries are typically connected in series to achieve the necessary high voltage for utility-scale applications. They can and do use **standard power conversion systems** (inverters and converters) similar to those used in other battery systems. I have personally confirmed this fact by outreach to a reputable manufacturer of flow battery systems and can provide this reference upon request.

Not a proven technology, infeasible for large-scale storage:
This is **inaccurate**. Flow batteries are a **proven and viable technology** for large-scale, energy storage. Companies around the world are deploying these systems for grid-level applications. They are particularly well-suited for long-duration storage (8+ hours) where their unique characteristics, like decoupled energy and power, are a significant advantage.

Here are some examples of large-scale flow battery projects in the USA, categorized by chemistry:

- **Iron Flow Batteries:**

  •Sacramento Municipal Utility District (SMUD) Project (California): SMUD is working with ESS Inc. to deploy up to 200 MW / 2 GWh of iron flow battery storage. This project is a key part of SMUD's plan to achieve a carbon-free power portfolio by 2030 and demonstrates the technology's ability to provide long-duration storage (up to 12 hours) for a major utility.
  • **Marine Corps Air Station Miramar (California):** This project, funded by the Department of Energy's ARPA-E program, uses a 25 kW / 125 kWh iron flow battery from a company called Primus Power. It's a key part of a larger microgrid system that integrates solar PV to provide secure, reliable power to the base.

- **Zinc-Bromine Flow Batteries:**

    - **Paskenta Band of Nomlaki Indians (California):** This project, funded by the California Energy Commission, is a large-scale microgrid using a 20 MWh zinc-bromine flow battery from the company Redflow. The goal is to create a resilient energy supply for the community that is protected from grid disruptions.
    - **Urban Green Energy (UGE) Project (New York):** UGE has deployed zinc-bromine batteries in several microgrid projects, often in conjunction with solar power. These systems are used for load shifting and to provide backup power for commercial and industrial customers.

- **Vanadium Redox Flow Batteries:**

    - **Snohomish County PUD (Washington):** This utility has a 2 MW / 8 MWh VRFB that has been in operation since 2017. It is part of a larger test bed to evaluate different energy storage technologies for grid modernization.
    - **Fort Carson Army Base (Colorado):** The U.S. Department of Defense has a 1 MW / 10 MWh VRFB from a company called Invinity Energy Systems. This is a crucial system for enhancing the base's energy resilience and providing backup power.
    - The **Viejas Project** (15 MW solar + 70 MWh storage) is being financed by **U.S. Bancorp Impact Finance and DOE**, with Starbucks joining as a co-investor—clear evidence of institutional confidence in the bankability and scalability of flow batteries.

Please ask applicant to correct information in application that is inaccurate regarding flow batteries as an alternative and provide a complete analysis of why this battery chemistry isn't being used in their project. Additionally, please ask the applicant to provide the data you requested on feasibility of iron-air battery chemistry as an alternative.

Thank you,

Sarah Dunn